Download From: AghaLibrary.com

Anatomy

Upper Limb

Bones of upper extremity

1. Largest carpal bone is the Capitate bone.
2. Ossification centre for lunate appears at 4 years.
3. The ossification centre of pisiform bone appears at the age of 12-13 years.
4. Third metacarpal has epiphysis at head.

Joints of upper limb

1. The term "Dynamic stabilizer of shoulder joint" is used for Rotator cuff.
2. Subscapular bursa communicates with the shoulder joint.
3. Pectoralis minor has no action at shoulder joint. The main action of the pectoralis minor muscle is to move the scapula or shoulder blade.
4. Metacarpophalangeal joint is a synovial joint of the condylar variety.
5. Upward rotation of the glenoid cavity during overhead abduction of shoulder occurs by Trapezius and Serratus anterior.
6. Rupture of supraspinatus manifests as difficulty in initiation of abduction.
7. Wrist joint is an ellipsoid joint.
8. Wrist joint is formed by articulation of the lower end of radius, articular disc and carpal bones.
9. Adduction of hand at wrist is done by Flexor carpi ulnaris and extensor carpi ulnaris!
10. The weight of the upper limb is transmitted to the axial skeleton by the coracoclavicular ligament.

Download From: AghaLibrary.com

Nerves of Upper Limb

1. Suprascapular nerve is a branch from the upper trunk of the brachial plexus.
2. Root value of thoracodorsal nerve(middle subscapular nerve) is C6,C7,C8.
3. Median nerve carries fibres from all the roots of brachial plexus.
4. Erb's point is at the junction of C5, C6.
5. Klumpke's paralysis involves C8 and Tl.

Median Nerve

1. Median nerve is also known as the "laborer's nerve".
2. Median nerve injury at wrist, is commonly tested by the contraction of abductor pollicis brevis.
3. Median nerve injury at the wrist causes loss of opposition of thumb.
4. Compression of a nerve within the carpal tunnel produces inability to oppose the thumb.
5. Pointing index sign is seen in Median nerve palsy.
6. Ape thumb deformity is seen in involvement of the Median nerve.
7. Nerve damaged due to lunate dislocation (in carpal tunnel) is the Median Nerve.
8. Median nerve injury at elbow affects flexion at DIP joints of2nd finger, flexion at PIP joints of 3rd finger and flexion at DIP of 1st fingers.

Ulnar Nerve

1. Deep branch of ulnar nerve supplies the Adductor pollicis .
2. Loss of extension of little and ring finger, along with hypothenar atrophy is seen in injury of Ulnar nerve.
3. Froment's sign is characteristically seen in Ulnar nerve injury.
4. Claw hand is caused by lesion of the Ulnar nerve.
5. Low ulnar nerve palsy is characterized by increase in severity of claw hand (Ulnar Paradox).
6. injury to the Ulnar nerve at the wrist causes paralysis of Adduction of the thumb.
7. A cut injury of the ulnar nerve results in the loss of all interossei.
8. Wasting of the intrinsic muscles of the hand can be expected to follow injury of the Ulnar nerve.
9. Adduction of thumb is lost in ulnar nerve injury.
10. The term "Guyon's canal" is in relation to the Ulnar nerve.

Download From: AghaLibrary.com

Radial nerve

1. Damage to the radial nerve in the spiral groove spares Long head of triceps.
2. Injury to radial nerve in lower part of spiral groove leaves extensions at elbow joint intact.
3. ECRL will be paralyzed when radial nerve is injured just below the spiral groove.
4. Wrist drop is due to injury of Radial nerve.
5. The thumb action that is totally affected in radial nerve trauma is extension.
6. Lower lateral cutaneous nerve of arm is a branch of the Radial nerve.

Other Nerves

1. Axillary nerve supplies the Deltoid + Teres minor.
2. Carpel tunnel syndrome is due to compression of the Median nerve.
3. The nerve supply of nail bed of index finger is the Median nerve.

Muscles of upper limb

1. Perforating branch of internal thoracic artery supplies the Pectoralis Major.
2. Serratus anterior muscle helps in forced inspiration.
3. Winging of scapula is due to paralysis of Serratus anterior.
4. Teres major muscle is supplied by the Lower subscapular nerve.
5. Latissimus dorsi is inserted into the floor of the intertubercular sulcus or bicipital groove of the humerus.
6. Anatomically a muscle of upper limb, but functionally related to the trunk is the Latissimus dorsi.
7. The muscle that crosses both the shoulder and elbow joint is Biceps brachii.
8. Biceps brachii is supplied by Musculocutaneous nerve.
9. Coracobrachialis is pierced by Musculocutaneous Nerve.
10. Lumbricals originate from the tendons of Flexor Digitorum Profundus muscle.

Download From: AghaLibrary.com

Vessels of upper limb

1. Occlusion occurs at the 2nd part of axillary artery, blood flow is maintained by anastomosis between the deep branch of the transverse cervical artery and the subscapular artery.
2. Arteries forming anastomosis around surgical neck of humerus take origin from the 3rd part of axillary artery (ie. Anterior & Posterior Circumflex Humeral Artery)
3. Anastomosis around the shoulder is for connection of the 1st part of subclavian artery with 3rd part of axillary artery.
4. Nerve running along with Profunda brachii artery, in spiral groove is the Radial Nerve.
5. Interosseous membrane of forearm is pierced by the Anterior interosseous artery.
6. Recurrent interosseous artery is a branch of the Posterior Interosseous Artery.

Important spaces and structures

1. Lateral border of cubital fossa is formed by Brachioradialis.
2. Abductor pollicis longus and Extensor pollicis brevis form the lateral boundary of the anatomical snuff box.
3. Radial Artery is a content of anatomical snuffbox are.
4. Nerve related to anatomical snuff box is the Superficial branch of radial nerve(Present in roof).
5. Radial bursa is the synovial sheath covering the tendon of FPL.
6. Infection of index finger spread to the thenar space.

Breast & Axilla

1. Level 3 axillary lymph nodes is the Apical.
2. Clavipectoral fascia is derived from Costocoracoid membrane.
3. Lymphatic drainage of upper outer quadrant of breast anterior axillary lymph nodes.

Download From: AghaLibrary.com

Lower Limb

Bones of Lower Extremity

1. Angle of the neck of femur to shaft is 125°.
2. Linea aspera continues as gluteal tuberosity.
3. Lower end of femur is ossified from 1 ossification center.
4. The nutrient artery to the femur is the Profunda femoris artery.
5. Ligament supporting the talus is the Spring ligament.

Vessels of lower limb

1. Femoral artery begins at the mid-inguinal point.
2. Femoral artery lies midway between the ASIS & pubic symphysis.
3. The superficial external pudendal artery is a branch of the Femoral artery.
4. Popliteal artery is difficult to palpate because it is not superficial & does not pass over prominent bony structure.
5. Dorsalis pedis artery is the continuation of the Anterior tibial artery.
6. Line from mid inguinal point to adductor tubercle represent Femoral artery.
7. Main blood supply to the head and neck of femur comes from the Medial circumflex femoral Artery.
8. The blood supply to femoral head is mostly by the Profunda femoris.
9. Peroneal artery is a branch of the Posterior tibial artery.
10. Nutrient artery arises to fibula from the Peroneal artery.

Venous Drainage

1. The Great saphenous vein starts as a continuation of medial marginal vein.
2. The Saphenous opening is covered by cribriform fascia.
3. Hunterian perforators are seen in mid-thigh.

Muscles of Lower Extremity

1. Gluteus maximus is inserted on Iliotibial Tract.
2. Gluteus medius is supplied by the Superior Gluteal Nerve.
3. Gluteus maximus is supplied by the Inferior gluteal nerve.

Download From: AghaLibrary.com

4. Gluteus medius muscle is supplied by the Superior gluteal artery.
5. Gluteus Medius is attached to lateral surface of greater trochanter.
6. Gluteus maximus is involved in movements from sitting to standing position.
7. Rectus femoris attaches to capsule of hip joint.
8. Tibialis posterior originates from both tibia and fibula and interosseous membrane.
9. Extensor hallucis longus is supplied by the Deep peroneal nerve.
10. First layer of sole has Abductor hallucis .
11. Popliteus is an intra-articular tendon.
12. Site of injection in gluteus is superolateral.
13. Longest muscle in the body is Sartorius.
14. Plantaris is more likely to rupture during violent dorsiflexion of the foot.
15. The sacrotuberous ligament represents the origin of Long head of biceps femoris.
16. Flexor hallucis longus passes below the sustentaculum Tali.
17. Tibialis Posterior has attachments on sustentaculum Tali.
18. Gastro-soleus is known as 'Triceps surae".

Femoral triangle

1. In femoral triangle the most medial structure seen is Lymphatics.
2. Adductor canal lies beneath the Sartorius.
3. Structure passing deep to flexor retinaculum is Post tibial artery.
4. Gluteofemoral bursa is in between gluteus maximus and Vastus lateralis.

Joints of the lower extremity

1. Iliofemoral ligament arise from the anterior inferior iliac spine.
2. Iliofemoral ligament prevents hyperextension of hip.
3. Capsule of the hip joint is attached to the intertrochanteric line.
4. Femoral nerve supplies the hip joint.
5. Trendelenburg sign is due to paralysis of the Gluteus medius.
6. Major extensor of the thigh is Gluteus maximus.
7. Strongest flexor of the hip is Iliopsoas muscle.

Download From: AghaLibrary.com
Download From: AghaLibrary.com

Knee joint

1. Coronary ligament is present between Menisci and tibial condyle
2. Oblique popliteal ligament is pierced by the Middle genicular branch of popliteal artery.
3. Posterior cruciate ligament prevents posterior dislocation of tibia.
4. The blood supply of anterior cruciate ligament (ACL) is primarily derived from Middle genicular artery.
5. Anterior cruciate ligament prevents anterior dislocation of tibia.
6. Synovial membrane of knee joint is invaginated posteriorly by cruciate ligament.
7. Physiological locking is internal rotation of femur over stabilized tibia.
8. Physiological unlocking is caused by Popliteus.
9. Medial rotation of tibia in flexed leg is brought about by Popliteus.
10. Flexion of knee joint is caused by Hamstrings.
11. Chief extensor of knee joint in hip flexion is Rectus femoris.

Ankle joint

1. Stability of ankle joint is maintained by
    a. Collateral ligaments
    b. Tendons muscles attached
    c. Close approximation of articular surfaces
    d. Fibrous capsule
    e. Syndesmotic ligaments
2. Deltoid ligament is attached to medial malleus, Navicular tuberosity, sustentaculum tali. Spring ligament &talus (medial tubercle).
3. Ankle joint is hinge joint & is more stable at dorsiflexed position.
4. Ankle movements
    a. Dorsiflexors - Tibialis anterior, EDL, EHL, Peroneus tertius.
    b. Plantar flexors - Gastrocnemius, soleus, FHL, FDL

Joints of the foot

1. Inversion is sole of the foot inward.
2. Eversion occurs at the Subtalar joint.
3. Inversion is by Tibialis anterior & posterior.
4. Eversion is by Peroneus longus & brevis.

Download From: AghaLibrary.com

Nerves of Lower Limb

1. Adductor compartment is supplied by obturator nerve.
2. Obturator nerve enters thigh at the Obturator canal.

Common peroneal nerve

1. Dermatomal supply of the perianal skin is S4.
2. Root value of sciatic nerve is L4, L5, SI, S2, S3.
3. Nerve root of pudendal nerve is S2, S3, S4.
4. Common peroneal nerve is related to neck of fibula.
5. Deep peroneal nerve doesn't supply the Peroneus brevis.
6. Deep peroneal nerve supplies the first web space of foot.

Thorax and Back

Lungs & Pleura

1. Visceral pleura is pain insensitive & develops from splanchnopleuric mesoderm.
2. Normal narrowing in the middle of the esophagus is caused by left main stem bronchus.
3. Right lower lobe (secondary) bronchus is most vertical, nearly continues in the direction of trachea.
4. Level of lower border of lung at mid-axillary line is 8^{th} rib.
5. Bronchial arteries supply the bronchopulmonary tree till respiratory bronchioles.
6. Surface marking of oblique fissure of lung include, 5^{th} rib 6^{th} costal cartilage & T3.
7. Structure which arch over the hilum of right lung is azygous vein.
8. Structure which arch over the hilum of left lung is arch of aorta.

Heart and pericardium

1. In case of chest pain with pericarditis & pericardial effusion, pain is referred by phrenic nerve.
2. Base of heart is formed by left atrium at the level of T5-T8.

3. Koch's triangle boundaries:-
    a. Tricuspid valve ring.
    b. Coronary sinus
    c. Tendon of Todaro
4. AV node lies at interatrial septum in Koch's triangle.
5. The interior of right atrium is partially divided into two parts by crista terminalis.

Arterial supply

1. Right coronary artery supplies - Right atrium, right ventricle, part of left ventricle, part of left atrium , posterior 1/3 of inter ventricular septum, SA node(65%), AV node, AV bundle.
2. Left coronary artery supplies - Most of left atrium & left ventricle. Anterior 2/3 of ventricular septum, RBB, LBB & SA node (35%).
3. Anterior inter ventricular artery is a branch of left coronary artery.
4. Koch's triangle has blood supply from right coronary artery.
5. Artery which gives the posterior inter ventricular branch is the dominant artery in cardiac dominance.
6. LAD (Anterior interventricular) artery is most commonly involved in thrombotic occlusion.
7. In Right cardiac dominance, Posterior interventricular artery is a branch of Right Coronary artery in 90%

Venous drainage

1. Coronary sinus is guarded by Thebesian valve.
2. Anterior cardiac vein directly opens in the right atrium.
3. Tributaries of coronary sinus are:- Great cardiac vein, middle cardiac vein, posterior vein of left ventricle, small cardiac vein, oblique vein of left atrium.

Nerve supply

1. Sympathetic innervations of heart is by T1-T5.
2. Surface marking of the aortic valve is sternal end of left 3rd costal cartilage.
3. Surface marking of the mitral valve is behind sternal end of left 4th costal cartilage.
4. SA node is located at the right border of the ascending aorta.

Mediastinal structures

1. Arch of aorta lies in the superior mediastinum.
2. Heart with pericardium lies in the middle mediastinum.
3. Ascending aorta lies in the middle & descending aorta lies in the posterior mediastinum.
4. Right recurrent laryngeal nerve is not a content of superior mediastinum
5. Contents of posterior mediastinum include esophagus, descending aorta, azygous vein & sympathetic trunk.

Oesophagus

1. Constrictions of esophagus are at C6, T3, T6, T10 vertebral levels.
2. Distance of lower oesophageal sphincter from upper incisors is 37.5 cm
3. Trachea extends from cricoids cartilage (lower border) to T4 (lower border) or T5 (upper border).

Thoracic duct

1. Thoracic duct does not drain:- Right upper part of body.
2. Tributaries of thoracic duct.
   a. Right & left lumbar trunk.
   b. Posterior mediastinal nodes.
   c. Small intercostals lymph nodes
3. Additional tributaries include the:
   a. Left angular trunk
   b. Left subclavian trunk
   c. Left bronchomediastinal trunk.

Blood vessels

1. Superior vena cava opens into right atrium at the level of T5.
2. Left superior vena cava drains into coronary sinus.
3. Arch of aorta begins and ends at T4 level.
4. Hemiazygos vein crosses left to right at T8 level.

Phrenic nerve

1. Right phrenic nerve is shorter and more vertical.
2. Phrenic nerve is formed by anterior rami of C3, C4 & C5. (C4 being major contributor).

Head & Neck

Bones of Head & Neck

1. Vidian nerve passes through pterygoid canal.
2. Vertebral artery passes through foramen magnum
3. Dorello's canal transmits abducent nerve.

Scalp and face

1. Skin around the angle of mandible is supplied by greater auricular nerve.
2. Tip of nose is supplied by Ext. Nasal branch of ophthalmic nerve.
3. Lymphatic drainage of central part of the lip is submental nodes.

Triangles of Neck

1. Carotid sheath encloses
   a. Common carotid artery &Internal carotid artery
   b. Vagus
   c. Internal Jugular vein
2. Oral diaphragm is formed by mylohyoid.
3. Lateral pterygoid is depressor of mandible.

Temporomandibular Joint

1. In TM joint, least vascular part of articular disc is central part.
2. Mental foramen is located near Istpremolor of mandible.

Important Blood Vessels of Head and Neck

1. Common carotid artery divides at the superior border of thyroid cartilage.
2. Chassaignac's tubercle is carotid tubercle on C6 vertebra.

3. Central artery of Retina is a branch of ophthalmic artery.
4. Thyro cervical trunk is a branch of 1st part of subclavian artery.

Cavernous Sinus

1. Draining channels of cavernous sinus are:-
    a. Superior petrosal sinus
    b. Inferior petrosal sinus
    c. Superior ophthalmic vein
2. Abducent nerve& Internal carotid artery are the direct contents of the cavernous sinus
3. Structures related to the lateral wall of cavernous sinus are Oculomotor nerve, trochlear nerve, ophthalmic nerve & maxillary nerve (from above downwards).

Lymphatics

1. Submental lymph nodes drain - tip of tongue, central part of lower lip, adjoining gums, Ant. Part of the floor of the month & superficial tissue below chin.
2. Tonsils drained by in jugulodigastric lymph nodes.
3. Lymph node of tongue is jugulo-omohyoid lymph nodes.

Glands of Head and Neck

1. Inferior thyroid vein drains into brachiocephalic vein.
2. Isthmus of the thyroid gland lies across 2nd to 4th tracheal ring.
3. Parathyroid glands are supplied by inferior thyroid artery.
4. Herring bodies are seen in Neurohypophysis.
5. Corpora arenacea is seen in pineal gland.
6. Parotid duct opens opposite upper 2nd molar.
7. Otic ganglion supplies parotid gland.

Pharynx

1. Fossa of Rosenmuller corresponds to the ICA.
2. Killian dehiscence is in inferior constrictor.
3. Passavant tonsil is tubal tonsil.
4. Rouviere's nodes are situated in Retropharynx.

Tonsils (Palatine Tonsil or Faucial Tonsil)

1. Plica triangularis is present in antero-inferior part of tonsil.
2. Bed of tonsil is formed by superior constrictor.
3. Tonsil is mainly supplied by tonsillar branch of facial artery.

Larynx

1. Larynx extends from C3-C6
2. Cricoid cartilage lies at C6 level.
3. Abductor of vocal cord-posterior cricoarytenoid.
4. Safety muscle of larynx is posterior cricoarytenoid
5. Tensor of vocal cord is cricothyroid
6. Cricothyroid is supplied by External laryngeal nerve.
7. Sensory supply of larynx below vocal cord is recurrent laryngeal nerve.

Tongue

1. Palsy of right genioglossus causes deviation of tongue to right.
2. Safety muscle of tongue is genioglossus.
3. Taste sensations from Ant. 2/3rd of tongue is carried by chorda tympani.
4. Tip of tongue drains into submental lymph nodes.
5. Posterior l/3rd of tongue develops from hypobranchial eminence
6. Tongue muscles are derived from occipital somites.

Palate

1. Sensory fibres from the taste buds in the hard & soft palate travel along facial nerve.
2. Soft palate is supplied by cranial accessory nerve.
3. All muscles of soft palate are supplied by Vagoaccessory complex except tensor veli palatini.

Cranial Nerve;

1. Smallest cranial nerve is trochlear nerve.
2. Cranial nerve with longest intracranial course- trochlear.
3. Middle superior alveolar nerve is a branch of maxillary nerve.
4. Nucleus of masseteric reflex is mesencephalic nucleus of trigeminal nerve.
5. 1st branch of facial nerve in greater petrosal nerve.

6. Stapedius is supplied by 7th nerve.
7. Alderman's nerve is auricular branch of vagus nerve.
8. Jacobson's nerve is tympanic branch of Glossopharyngeal nerve.
9. Vidian nerve is nerve to pterygoid canal.
10. Galen's anastomosis is between RLN & Internal laryngeal nerve.

Parasympathetic Ganglia of Head & Neck

1. Otic ganglion is anatomically related to mandibular nerve
2. Lesser petrosal nerve derives preganglionic fibers from tympanic nerve.
3. Pterygopalatine ganglion supplies lacrimal gland.
4. Deep petrosal nerve is formed from sympathetic plexus around carotid
5. Parasympathetic secretomotor nerve supply to the nose is via vidian nerve.
6. Largest ganglion in the neck is superior cervical ganglion.

Ear, Nose & Eye

1. Cartilaginous part of external auditory canal is lateral 1/3.
2. Lateral surface of pinna is supplied by great auricular nerve, facial nerve & auriculotemporal nerve.

The Middle Ear (Tympanic Cavity)

1. Narrowest part of middle ear is mesotympanum
2. Middle ear is separated from cerebrum by tegmen
3. Eustachian tube opens in the anterior wall of middle ear.
4. Sensory nerve supply of middle ear cavity is glossopharyngeal nerve.

Eustachian tube

1. Length of Eustachian tube is 36 mm.
2. Tensor veli palatine causes opening of Eustachian tube

Inner ear

1. Cochlear aqueduct connects internal ear with subarachnoid space.
2. In carcinoma base of tongue, pain is referred to the ear through glossopharyngeal nerve.
3. Tympanic membrane is derived from all the 3 germ layers.

Nose

1. Uncinate process arises from middle meatus.
2. Largest turbinate is inferior.
3. Inferior turbinate is a separate bone.
4. Woodruff's plexus is seen at posterior part of inferior turbinate.

Eye Ball and Related Structures

1. Lamina papyracea separates nose from orbit.
2. Primary action of superior oblique is intortion.
3. Muller's muscle is found in eyelid.

Eyeball

1. Cornea is supplied by nasociliary brands of ophthalmic.
2. Sclera is thinnest at posterior to attachment of superior rectus.
3. Pigmented layer of retina is continuation of inner layer of choroid.

Neuroanatomy

Meninges

1. Falx cerebri contains straight sinus.
2. Dura is supplied by all cranial nerves except 4^{th} cranial nerve.
3. Diencephalon represents 3^{rd} ventricle.

Forebrain (Prosencephalon)

1. The lunate sulcus is an example of operculated sulcus
2. Broca's area is present in inferior frontal area.

White Matter

1. Cortico nuclear tract is carried by genu of internal capsule.
2. Corpus callosum is an example of commissural fibres.

Diencephalon

1. Reticular thalamic nuclei do not project to neocortex.
2. Optic tract is related to lateral geniculate body.

Brain Stem

1. Olive is seen in medulla
2. Nucleus fasciculata is seen in medulla.
3. Inter peduncular fossa contains mammillary body, posterior perforated substance& oculomotor nerve.

Cerebellum

1. Cerebellar connection to other parts of the brain is projected through deep cerebellar nuclei.
2. Pontocerebellar pathway is transmitted by middle cerebellar peduncle.

Blood Supply of Brain

1. Chief artery of lateral surface of cerebral hemisphere is middle cerebral artery.
2. Visual area of cortex is supplied by posterior cerebral artery.

Venous drainage of brain

1. Great cerebral vein is formed by fusion of 2 internal cerebral veins.
2. Superior cerebral veins drain into superior sagittal sinus.
3. The great vein of Galen drains into straight sinus.

Ventricles of Brain

1. Pineal gland forms posterior wall of 3rd ventricle.
2. Facial colliculus is seen in pons.

Other important parts of brain

1. Limen insulae lies immediately lateral to the anterior perforating substance.
2. Choroid plexus is pain insensitive structure in brain.

Spinal Cord

1. Subarachnoid space ends at S2.
2. The spinal lord in infants ends at the level of L3
3. Lateral spinothalamic tract is concerned with pain and temperature.
4. Rubrospinal tract is a extrapyramidal tract.

Abdomen, Pelvis & Perineum

Anterior Abdominal Wall

1. Scarpa's fascia is attached to Fascia lata of thigh.
2. In patients with penile injury, Colles' fascia prevents extravasation of urine in Ischiorectal fossa.
3. The nerve supply to the skin around the umbilicus is 10th thoracic ventral ramus.
4. Highest level of the iliac crest is at the level of L4.
5. In rectus sheath, inferior epigastric artery (Branch of External iliac artery) makes anastomosis with superior epigastric artery.
6. Conjoint tendon is formed by internal oblique, transversus abdominis.
7. Pyramidalis is supplied by the Subcostal nerve.
8. Rectus abdominis is inserted into the xiphoid process.
9. The efferent limb of the cremaster reflex is provided the genital branch of the genitofemoral nerve.
10. Afferent of cremasteric reflex is Genitofemoral nerve(femoral branch).
11. Cremasteric muscle is supplied by genital branch of genitofemoral nerve.

Inguinal Canal

1. Length of inguinal canal is 4 cm.
2. Inguinal canal is an intermuscular canal.
3. Deep inguinal ring is a deficiency in the Transversalis fascia.
4. A common structure in the Hesselbach's triangle and femoral triangle is the inguinal ligament.
5. Inferior epigastric artery forms the lateral boundary of Hesselbach's triangle.

Posterior Abdominal Wall

1. Ovarian artery is a branch of Abdominal aorta
2. Superior Pancreaticoduodenal artery is a branch of Gastroduodenal artery
3. The gastroduodenal artery is derived from the Hepatic artery
4. The right suprarenal vein drains into the Inferior vena cava
5. Hepatic vein drains directly into IVC
6. Obstruction of Inferior vena cava' presents in the thoracoepigastric dilatation
7. Left testicular vein drains into left renal vein.

Miscellaneous

1. The cisterna chyli are situated in the abdomen.
2. Lymphatic drainage of cervix is to the iliac lymph nodes.
3. Anterior or anterolateral to Aorta positions best describes the location of celiac plexus.
4. Greater splanchnic Nerve supplies the celiac plexus .

Male Reproductive Organs

1. Lymph from glans penis drains into the deep inguinal lymph nodes.
2. The correct order of pathway for a sperm is Straight tubules ~ Rete testis ~ Efferent tubules.
3. The lymphatic drainage of testes is the Paraaortic lymph nodes.
4. The artery to the ductus deferens is a branch of the Superior vesical artery.
5. The artery of the ductus deferens arises from the inferior vesical artery.
6. Helicine arteries are branches of Deep artery of penis.
7. In fracture of penis involving rupture of tunica albuginea with intact Buck's hematoma involving only shaft of penis can be seen.
8. After herniotomy loss of sensation of the scrotum, root of penis is due to injury of Ilioinguinal nerve.
9. Internal spermatic fascia is derived from Fascia transversalis.
10. The intricately and prodigiously looped system of veins and arteries that lie on the surface of the epididymis is known as Pampiniform plexus.
11. Location of testis is higher on the right side.
12. Corpora amylacea is seen in prostate.

Ovary & Fallopian Tubes

1. Pain of ovarian pathology is referred to medial thigh.
2. Para aortic lymph nodes drain the ovary.
3. Ovarian artery is a branch of abdominal aorta.
4. Lining epithelium of fallopian tube is ciliated columnar.
5. Parts of fallopian tube from lateral to medial is infundibulum-Ampulla-Isthmus-lnterstitial.
6. Part of the fallopian tube that acts as functional/ anatomical sphincter is the intramural part.
7. The sensory supply of the fallopian tube and ovary is from the spinal nerves T10 to TI2.
8. Normal anteflexion of uterus is 125 degrees.
9. Weakest support of uterus is the broad ligament.
10. Lining epithelium of the uterine cavity is ciliated columnar epithelium.
11. Lymphatic drainage of cervix is to Iliac lymph nodes.
12. Gartner's duct is present in the broad ligament of uterus.
13. Length of Female adult cervical canal is 2-5 cms.
14. Ratio of connective tissue : smooth muscle in cervix is 8: 1.
15. Length of Posterior vaginal wall is more than anterior vaginal wall.
16. Blood supply of upper part of vagina cervicovaginal branch of uterine artery.
17. Bartholin gland are related to the lateral wall of the vagina.
18. Mucous glands are absent in the vagina.
19. Lining epithelium of vagina is non keratinized stratified squamous epithelium.

Pelvis and Perineum

1. Deep perineal pouch contains the membranous urethra.
2. Superficial perineal muscles include Bulbospongiosus.
3. Superficial muscle of perineum is the Ischio Cavernous.
4. Ischiorectal fossa communicates with the other side posteriorly.
5. Injury to the male urethra below the perineal membrane causes urine to accumulate in the superficial perineal pouch.
6. Pudendal canal is a part of obturator fascia.
7. Nerve supply to the perineum is the Pudendal nerve

Chapter-1 Anatomy

Pelvis

1. Branch of internal iliac artery is the superior vesical artery.
2. Branch of posterior division of internal iliac artery is superior gluteal artery.
3. In case of aberrant obturator artery, it arises most commonly from inferior epigastric artery.
4. Pain is mediated by Autonomic nerves.
5. Pelvic splanchnic nerve is formed by Anterior rami of S2, S3, S4.
6. The inferior hypogastric plexus is located on the side of rectum.
7. The Superior Hypogastric plexus is located at the anterior aspect of the aortic bifurcation and fifth lumbar vertebra.
8. Hypogastric Sheath is a condensation of Pelvic fascia.
9. Sacral promontory is the landmark for the termination of presacral nerve.

Urinary Bladder and Urethra

1. The cave of Retzius is presents in front of the bladder.
2. Bladder develops from endoderm(except trigone).
3. In bladder injury, pain is referred to upper part of thigh, lower abdominal wall & penis.

Urinary Bladder and Urethra

1. Bulbourethral glands open into the spongy part of urethra.
2. Cowper glands are found in membranous part of urethra.
3. Shortest part of male urethra is membranous.
4. Sphincter urethrae is present in membranous urethra.
5. Ejaculatory duct opens into the prostatic urethra.
6. Urethral Crest is situated in Prostatic Urethra.
7. Lymphatics from the spongy urethra drain into the deep inguinal nodes.
8. Length of female urethra 4cm.
9. Length of male adult urethra is 20 cm.
10. Support of prostate is pubococcygeus.

Kidney and Ureter

1. Left renal vein crosses aorta anteriorly below the superior mesenteric artery.

2. Renal papilla opens into minor calyx.
3. Nerve supply of kidney is from the coeliac plexus .
4. Correct relationship of structures at hilum of kidney from anterior to posterior is the renal vein, renal artery and renal pelvis.
5. Structure that does not cross the midline is the Left gonadal vein.
6. Renal angle lies between 12th rib & lateral border of sacrospinalis.
7. Left renal vein is posterior and inferior to sup. mesenteric artery.
8. Transitional epithelium is present in renal pelvis.
9. Most medially located renal structure is renal pelvis.

Ureters

1. The narrowest part of the ureter is at the uretero-vesicle junction.
2. Ureters are identified during surgery by peristalsis d/t flow of urine.

Suprarenal Gland

1. Para-aortic lymph nodes drain the supra renal gland.
2. The right adrenal vein drains into the inferior vena cava.

Peritoneum & Peritoneal Cavity

1. Root of mesentery is crossed by the horizontal part of duodenum.
2. A posteriorly perforating ulcer in the pyloric antrum of the stomach is likely to produce initial localized peritonitis or abscess formation in the omental bursa.
3. Epiploic foramen has bile duct anteriorly.
4. Omental Bursa is located in the sub hepatic quadrant.
5. Pouch of Douglas is situated between uterus and rectum.
6. Subdiaphragmatic right posterior intraperitoneal space is the Morrison's pouch.
7. Inferior mesenteric vein is found in relation to the paraduodenal fossa.
8. Intersigmoid recess is constantly present in infants.
9. Left Ureter lies in the Intersigmoid recess.
10. Fascia of Denonvilliers is the fascia between the rectal ampulla and the prostate and the seminal vesicles.

Chapter-1 Anatomy

Blood Vessels of The Gut

1. Superior Pancreaticoduodenal artery is a branch of Gastroduodenal artery.
2. The gastroduodenal artery is derived from Hepatic artery.
3. Right gastroepiploic artery is a direct branch of the gastroduodenal artery.
4. Lt. gastric artery is the direct branch of celiac trunk.
5. Cystic artery is usually a branch of the Right hepatic artery.
6. Left colic artery is a branch of inferior mesenteric artery.
7. Appendicular artery is a branch of Ileocolic artery.
8. Inferior mesenteric artery takes part in formation of marginal artery.
9. Arterial supply of the duodenum is by both superior mesenteric & celiac arteries.
10. Splenic artery gives short gastric arteries along the fundus.
11. Short gastric artery is a branch of splenic artery.
12. Posterior gastric artery is a branch of Splenic artery.
13. Inferior mesenteric vein drains into Splenic vein.
14. Portal vein supplies the liver.
15. Portal vein is formed by the union of the splenic and superior mesenteric veins.
16. Portal vein is formed behind the neck of pancreas .
17. The whole portal venous system is valveless .

Stomach

1. Nerve of Grassi is the branch of Right vagus Nerve.
2. Nerve of later jet of vagus is seen in stomach.
3. Most important blood supply to stomach is the Left gastric artery .

Small Intestine

1. Brunner's glands are seen in the duodenum.
2. Superior mesenteric vein is related to third part of duodenum.
3. Minor duodenal papilla is opening of the accessory pancreatic duct.
4. In the ileum the lymphatic patch is along antimesenteric border.
5. Valvulae conniventes are seen in the jejunum.
6. On Contrast radiography the proximal part of duodenum has a cap.

Large Intestine **5**

1. The shortest part of colon is the ascending colon.
2. The terminal group of lymph node for colon is the pre aortic.
3. Appendix epiploicae is present in the sigmoid colon.
4. The commonest anatomical position of appendix is the retrocecal.
5. Length of anal canal is 35 - 40 mm.
6. The upper half anal canal is insensitive to pain.
7. 'Valves of Houston' disappear after mobilization of the rectum.
8. Puborectalis is essential to maintain continence of the anal canal.
9. Referred pain in external hemorrhoids is due to Inferior rectal nerve (branch of pudendal nerve).
10. Waldeyer's fascia lies behind the rectum.
11. External anal sphincter is innervated by S2, S3, S4.

Hepatobiliary System

1. Weight of liver is between 1400-1600gm.
2. Space of Disse is seen in the liver.
3. The Cournand's segmental nomenclature is based on the position of the Hepatic veins and the Portal vein.
4. The right lobe of liver consists of V, VI, VII and VIII.
5. Relation of caudate lobe of liver is the anterior to right inferior phrenic artery.
6. Venous blood of liver is drained by the Hepatic veins.
7. Ligamentum teres of the liver is remnant of the Left umbilical vein.
8. Blood supply of liver is 20% from the hepatic artery and 80% from the portal vein.

Extrahepatic Biliary System

1. Lymph node lies between cystic duct and common hepatic duct.
2. Spiral valve is seen in cystic duct.
3. Valve of heister is seen in Cystic duct.
4. Fibromuscular wall is seen in Gall bladder.
5. Sphincter of Oddi consists of 3 sphincters.
6. Pancreatic & bile duct open into duodenum at ampulla of Vater.

Chapter -1 Anatomy

Spleen And Pancreas

1. Spleen extends from 9th to 11th rib.
2. Downward displacement of enlarged spleen is prevented by phrenicocolic ligament.
3. Anterior end of the spleen is held up by the Phrenicocolic ligament.
4. Spleen projects into the Greater Sac.
5. Stave cells are seen in the spleen.

Pancreas

1. Structure immediately posterior to pancreatic head is the Right renal vein.
2. The neck of pancreas is related on its posterior surface to the Superior mesenteric vein.
3. Tail of pancreas related with the splenorenal ligament.
4. Most common congenital anomaly of the pancreas is Pancreas divisum.
5. Pancreas divisum indicates failure of fusion of dorsal & ventral pancreatic buds.

Embryology

Spermatogenesis

1. Haploid number of chromosomes is seen in secondary spermatocyte.
2. Meiosis in spermatogenesis occurs in during the process of conversion of Primary spermatocyte to secondary spermatocyte.
3. One primary oocyte forms 1 ovum.
4. Meiosis occurs in human males in the seminiferous tubules.
5. Spermatogenesis occurs at the temperature lower than core body temperature.
6. Sperm acquires motility in the epididymis.
7. Sperm maturation (capacitation) takes place in the female genital tract.
8. After first meiotic division, the primary oocyte remains arrested in the diplotene stage of Prophase I.
9. In a female child at birth oocyte is in a stage of Prophase (1st meiotic).
10. Polar bodies are formed during Oogenesis.

Pre-Embryo Phase

1. Fertilized ovum reaches the uterus in 3-4 days.
2. Implantation occurs at 6-7 days.
3. Implantation occurs at the stage of blastocyst.
4. The outer layer of the blastocyst forms the trophoblast.
5. Morula is a 16 celled stage .
6. During the third week of human embryo development primitive streak formation takes place.
7. Disc with three germ layers are formed at 3 weeks of gestation.
8. Notochord develops in 3rd week.
9. Indicator of start of gastrulation is the formation of the primitive streak.
10. Gastrulation establishes all the three germ layers .
11. Development of peritoneal cavity is from ectoderm.
12. Pericardial cavity is an intra embryonic coelomic cavity.
13. Somites initially form at the cervical level .
14. Regarding the vertebral development, the sclerotome surrounds the notochord and the neural tube .
15. Lumbar hemivertebra results due to the abnormal development of the ventral sclerotome.
16. Embryological development of the human vertebra is from the somite.
17. Paraxial mesoderm contributes to the development of the Skeletal muscles.
18. Closure of Neural Tube begins at the cervical region.
19. Nodal gene has important role in initiation and maintenance of primitive streak.
20. First to be developed is Primitive streak.
21. Remnant of notochord is Nucleus pulposus.

Embryonic Phase of Development (4-8 Weeks)

1. Embryonic period of development is up to 8 weeks.
2. Internal organs in the foetus develop at 6 weeks.
3. Paraxial mesoderm develops into somites.
4. Lymph nodes are derived from mesoderm.
5. Muscular component of dorsal aorta develops from the lateral plate mesoderm.

6. Crystalline lens develops from the surface ectoderm.
7. Microglial cells are mesodermal in origin.
8. Structure which develop from neural crest is the adrenal medulla.
9. Auerbach's plexus and Meissner's ganglion cell are derived from the Neural Crest.
10. Melanoblast are derived from the neural crest cells.
11. Corneal stroma is derived from the Lateral plate mesoderm.
12. Ameloblast in teeth are derived from the ectoderm.
13. Sphincter and dilator pupillae develop from the neuroectoderm.

Placenta & Fetal Membranes

1. Placenta develops from the decidua basalis and chorion frondosum.
2. Amnion is present on the fetal surface.
3. Right vein disappears in the umbilical cord .
4. Umbilical cord has 2 arteries and 1 vein.
5. Cytotrophoblast invades the decidua basalis .

Systematic Embryology

1. Maxillary prominence develops in the 1^{st} pharyngeal arch.
2. The endoderm and ectoderm approach each other in the head & neck, region during the 4th week in the Pharyngeal membrane.
3. Tympanic membrane represents all the 3 components of the embryonic disc.
4. Artery of 2nd pharyngeal arch is the Stapedial artery.
5. Nerve of 6th arch is the Recurrent laryngeal nerve.
6. Palatine tonsil develop from Second pharyngeal pouch.
7. Gland derived from foramen Caecum is the Thyroid.
8. Parafollicular 'C' cells of thyroid develop from the Neural crest cells >ultimobranchial body.
9. Skeletal derivative of 2nd pharyngeal arch is the Stapes.
10. Foot plate of stapes is developed from the Otic capsule.
11. Reichert's cartilage is the cartilage of the second arch.
12. Greater cornu of hyoid is derived from cartilage of the third arch.
13. Thymus develops from the 3rd pouch.
14. Nerve of VI pharyngeal arch is the Vagus.

15. Posterior one-third of the tongue develops from the hypobranchial eminence.
16. Tongue muscles are derived from the occipital somites/ myotomes.
17. The Glossopharyngeal nerve supplies the posterior part of the tongue, because it develops from the Hypobranchial eminence.
18. Epiglottis is derived from the 4th arch.

Cardiovascular System

1. Jelly formed around the heart tube during early development, contributes to the formation of the myocardium.
2. Unequal division of the conus cordis resulting from anterior displacement of the con truncal septum gives rise to Tetralogy of Fallot.
3. Heart is fully developed at 3rd month of intrauterine life.
4. Right horn of Sinus venosus forms smooth wall of right atrium.
5. Coronary sinus develops from left horn of Sinus venosus.
6. Foramen ovale closes because of fusion of the Septum primum + Septum secundum.
7. Fossa ovalis is a remnant of septum primum.
8. Double aorta occurs due to persistence of distal portion of the right dorsal aorta.
9. The commonest variation in the arteries arising from the arch of aorta is the Left common carotid artery arising from brachiocephalic trunk.
10. Ductus venosus connects the Portal vein and IVC.
11. The most important structure involved in development of inferior vena cava are Supracardinal vein & Subcardinal vein.
12. The structure derived from the right forth aortic arch is the Right subclavian artery.
13. Left sided superior vena cava drains into the Coronary sinus.
14. Double inferior vena cava is formed due to persistence of subcardinal veins.

Gastrointestinal System Development

1. Primitive gut is a derivative of yolk sac.
2. The duodenum is derived from the foregut and midgut.
3. Rectum develops from the hind gut.

4. Small intestine develops from midgut.
5. Anal membrane lies at proximal part of proctodaeum.
6. Artery of hindgut is the Inferior mesenteric Artery.
7. Before formation of head and tail folds, the most cranial part of embryo is the Septum transversum.
8. Ligamentum teres of liver is a remnant of the Left umbilical vein.
9. Most common site of ectopic pancreatic tissue is stomach.

Genitourinary System

1. Collecting tubules of kidney develop from the ureteric bud.
2. Epithelium of ureter develops from the mesonephros.
3. Proximal convoluted tubules develops from the metanephric tubules.
4. Uro-rectal septum separates the Cloaca into rectum and urogenital sinus.
5. Bladder develops from endoderm(except trigone).
6. Urachal fistula is patent allantois.
7. Differentiation of genital ridge takes place at 2 months.
8. Primordial germ cells are derived from the yolk sac endoderm.
9. Germ cells in the ovary develop from the Yolk sac.
10. Number of primordial follicles in ovary at birth are 2 million.
11. Development of labia majora is from genital swelling.
12. Scrotum is analogues to Labia majora.
13. Genital swellings in male differentiate into scrotum.
14. Clitoris develops from the genital tubercle.
15. Leydig cells are derived embryo logically from the mesoderm of gonadal ridge.
16. Origin of ovary is from the genital ridge.
17. Mullerian ducts mainly forms female genital organ.
18. Appendix of epididymis is derived from Wolffian duct.
19. Vaginal wall is derived from the endoderm (of urogenital sinus) and mesoderm (of Mullerian duct).
20. The upper 2/3rd of vagina develops from the Mullerian duct.
21. Vaginal epithelium develops from the endoderm of urogenital sinus.
22. Uterus and cervix develop from the Mullerian duct.

Nervous system

1. Spinal cord develops from the neural tube.
2. Myelination is completed by the age of 2 years.
3. The retina is an outgrowth of the diencephalon.
4. First commissure to develop is the anterior commissure.

Miscellaneous

1. Pinna develops from the 1st and 2nd pharyngeal arch .
2. Eustachian tube develops from the 1st pharyngeal pouch.
3. Ear ossicles attains adult size before birth.
4. Myoblast of diaphragm develops from the somites, cervical 3-5.
5. Facial skeleton develops from the neural crest.
6. A midline cleft lip is due to the failure of fusion between Medial Nasal Processes
7. Supernumerary renal artery is the most common renal vascular anomaly.
8. Y chromosome is acrocentric.
9. A person showing two cell lines derived from two different zygotes is known as mosaicism.
10. Barr body appears in female fetus at 10 weeks.
11. Right isomerism is asplenia.
12. Melanoblast cells appear in basal layer of epidermis during 3rd month of intrauterine life.
13. Umbilical vesicle attains full development in 4 weeks.
14. If there is absence of precursor cell of an organ with the subsequent non development of the organ, the condition is called as agenesis.

Histology

Cell Membrane or Plasmalemma

1. GALT is present in lamina propria.
2. Chief cells are found in fundus.
3. Collecting ducts are not lined by urothelium.
4. Stereocilia are seen in epididymis.

5. Clara cells are found in bronchioles.
6. Ceruminous glands presents in ear are modified apocrine glands.
7. Cartilage of epiglottis is elastic.
8. Brain, internal ear & eye have no lymphatics.
9. Correct sequence of cell cycle is GO -G1 -S -G2 -M.
10. Barr body is found in Interphase of the cell cycle.
11. Type 1 collagen is present in skin.
12. Thyroid follicles are lined by simple cuboidal epithelium.

Recent & High Yield Updated L'MRPs

1. Preganglionic autonomic axons from Edinger-Westphal nucleus travel via nerve to inferior oblique to the ciliary ganglion.
2. Wallenberg syndrome is caused due to obstruction of PICA
3. Ipsilateral loss of temperature is not seen in Brown Sequard syndrome
4. Broca's area is present in Inferior frontal gyrus of brain (cerebrum)
5. Tumour which does not occur in anterior mediastinum is Neurogenic tumour
6. The nerve associated with the pharyngeal cleft, is derived from Neural crest cells
7. Umbilical cord has a special connective tissue called Wharton's jelly
8. Derivatives of dorsal mesentery are greater omentum, gastrophrenic ligament, gastrosplenic & splenorenal ligament.
9. First heart beat in a foetus occurs at 21-22 days
10. Anterior layer of thoracolumbar fascia covers the anterior surface of quadratus lumborum (quadratus lumborum lie between the anterior and middle layer of thoracolumbar fascia)
11. Epithelium lining hard palate is Keratinised stratified squamous epithelium
12. Aortic opening of diaphragm gives passage to aorta, thoracic duct and azygous vein.
13. 7th and 8th ribs are attached to each other by Synovial joint.
14. Iliolumbar ligament is continuous above with the anterior & middle layer of thoracolumbar fascia.
15. Sibson's fascia is an extension of scalenus minimus
16. Special visceral efferent doesn't include Dorsal nucleus of 10th Nerve

17. Lacrimation is lost in lesion of Greater Petrosal nerve
18. Venous drainage of the esophagus is by Azygos vein, inferior thyroid vein and left gastric vein
19. Most important blood supply to stomach is Left gastric artery
20. Type I Collagen is not present in Cartilage
21. Compartment of leg without neurovascular bundle is Superficial posterior compartment
22. Spinal cord ends at the level of LI in adults
23. Inferior thyroid artery is a branch of Thyrocervical trunk
24. Proprioception sensation is not perceived by spinal nucleus of trigeminal nerve
25. Purkinje fibres relay into Dentate nucleus
26. Preganglionic fibres from lower thoracic and lumbar and lumbar vertebra come via sympathetic chain to supply adrenals
27. Mandibular foramen transmits inferior alveolar nerve & vessels
28. Submandibular gland is supplied by Lingual nerve
29. In Frey syndrome, the nerve involved is trigeminal nerve (auriculotemporal nerve)
30. Right coronary artery takes origin from right aortic sinus
31. Anterior belly of digastric is derived from First pharyngeal arch
32. Dermatomeof umbilicus is T10
33. Internal capsule is a type of projection fibres
34. Uvula vesicae is due to median lobe of prostate
35. Derivatives of external oblique aponeurosis are inguinal ligament, lacunar ligament Spectineal ligament
36. Left posterior second Intercostal Vein Drains into Left Brachiocephalic vein
37. The muscles which cause inversion of the foot are Tibialis anterior & Tibialis posterior.
38. The muscles which cause eversion of the foot are Peroneus longus& Peroneus brevis.
39. Ligamentum flavum consist of Elastin.
40. The temporalis muscle elevates the mandible and so shuts the mouth and approximates the teeth.
41. Ophthalmic Artery is not a branch of External carotid artery.
42. Ulna is not involved in the formation of wrist joint.

43. Level 6 lymph node extend from hyoid to clavicle
44. Golgi apparatus in serous acinar cell is at Supranuclear position
45. The thyroid gland receives its blood supply from inferior thyroid artery which takes origin from Subclavian artery
46. Paracentral lobule is responsible for control of defecation and urination.
47. Syphilis patient walks with closed eyes and stamps hard on the ground. The tract affected is Dorsal column tract
48. Fibres arising from Inferior olivary nucleus reach Purkinje cells directly.
49. Lordosis is normally seen in lumbar spine
50. The structure that divides the liver anatomically based on Couinaud classification system is Portal vein
51. After parotidectomy, patient complains of loss of sensation while shaving. The nerve most likely affected is Great auricular nerve
52. Middle finger has attachment of two dorsal interossei muscle
53. Duct of Bellini are present in kidney
54. Skin over anatomical snuff box is supplied by radial nerve
55. Joint involved in movement of head from left to right is Atlantoaxial joint.
56. Boundary of Calots triangle is formed by common hepatic duct, cystic artery and cystic duct
57. Contralateral loss of pain and temperature is due to injury to Lateral spinothalamic tract
58. Foot drop is due to injury of Peroneal nerve
59. Gitter cells are modified macrophages in CNS
60. Space of disse is found in liver
61. Cholecyst caval line separates Right & Left liver lobe

Physiology

Basic Concepts

Cell Membrane

1. ECF is 33% of the total body water.
2. 1 mole of NaCl is58.5gmsof NaCl.
3. Ammonia transport in the kidney is Non-ionic diffusion.
4. Isoelectric potential is given by Nernst equation.
5. RMP of a neuron is approximately -70 mV.
6. 70 percentage of ECF sodium is exchangeable(100% K+ is exchangeable).
7. Phosphate is the most abundant intracellular anion.
8. RMP is mostly due to K+diffusion.
9. Iodide transport in the thyroid cell is an example of Secondary active transport.
10. Lead is a non essential mineral.
11. Glucose transporter in myocyte is GLUT4.
12. Pseudohyponatremia is seen in dyslipidemia.
13. First change seen with salicylate poisoning is Metabolic acidosis.
14. D2O is used in determination of Total body water.
15. Auto-regulation is not seen in Cutaneous circulation.
16. pH of extracellular fluid is 7.4
17. Auto-regulation maintains the blood flow.
18. Skeletal muscle has the maximum oxygen consumption after liver followed by brain.
19. Na+ symport transports glucose in GIT and PCT.
20. Basal metabolic rate is dependent on the amount of lean body mass.
21. Ketone bodies produced by Liver.
22. Maximum triglycerides are in Chylomicron.

23. Triple helix structure is seen in Collagen.
24. EDRF simulates the action of nitric oxide.
25. Dynein is the force generating protein.
26. After chloride ions, Bicarbonates is the most abundant anion in blood plasma.
27. Nitric oxide is released from Endothelial cells.
28. The cell junctions allowing exchange of cytoplasmic molecules between the 2 cells are called as Gap junctions.
29. Second messenger mediates intracellular activities of enzymes and hormones.
30. Carrier proteins meditates the transport of chemicals across cell membrane against the gradient.
31. Sodium-potassium-ATPase helps in the maintenance of Cell surface charge, Cell volume and RMP
32. Albumin acts as a co-transport for Fatty acids
33. Barr body is found in the Interphase phase of the cell cycle.
34. Oral rehydration mixture contains glucose and sodium because both of them facilitate the transport of each other from the intestinal mucosa to blood.
35. The endothelial cells produce thrombomodulin, except those found in Cerebral microcirculation.
36. " Non constitutive exocytosis is the example of "Regulated pathway
37. The poison cyanide inhibits the reaction between Cytochrome oxidase and molecular oxygen.
38. Cyclic AMP is Intraneural secondary messenger.
39. Number of bonds broken in protein synthesis is Four.
40. Earliest definite sign of death is Absent brain stem reflexes.
41. 7 cal of energy is yielded by one ml of alcohol (per gram) in the body.
42. Various cells respond differentially to a second messenger (such as increased cAMP) because they have different Enzymatic composition.
43. Adenylate cyclase is a membrane bound enzyme that catalyzes the formation of cyclic AMP from ATP.
44. Inositol triphosphate increases the release of Ca++ from endoplasmic reticulum.
45. The most abundant glycoprotein present in basement membrane is Laminin.

46. Sweating is mediated through Sympathetic Cholinergic.
47. In Brain ischemia the level of creatinine kinase I Increases.
48. Acetyl choline is not therapeutic because as it is rapidly metabolized.
49. The first physiological used response to high environmental temperature is Vasodilatation.
50. Kidney has the most permeable capillaries due to fenestration.
51. Muscle phosphorylase is activated by Calmodulin.
52. RBC rouleaux formation is due to increased blood viscosity and slow circulation.
53. Content of Na+ in ringer lactate is 130meq/L.
54. Androgen receptors are coded in Long arm of X chromosome.
55. Extra cellular fluid has the majority of body sodium.
56. Nissl's substance is composed of rough endoplasmic reticulum.
57. K+ is the most diffusible ion in excitable tissue.
58. Fe++ is state of Iron responsible for 02 transport.
59. Troponin & Calmodulin are the calcium ion binding protein.
60. Compound action potential is seen in Mixed nerve.
61. Chronaxie is minimum in Myelinated Nerve.
62. Amplitude of action potential can be increased maximally by increased no. of open Na+ channel.
63. Increasing lipid solubility of the membrane increases particle diffusion across the cell membrane.
64. Thin filament are made up of Actin, Troponin and tropomyosin
65. Relaxation protein is tropomyosin.
66. The term Milieu interior was coined by Claude Bernard (Father of Physiology).
67. In Preload, there is Isotonic contraction with shortening of muscle fibres.
68. Van't Hoff gave the Osmotic principle.
69. ECF is measured by Inulin .
70. Evans blue dye is used to measure the Plasma volume.
71. Facilitated diffusion does not require energy

Nerve - Muscle Physiology

Membrane Potentials

1. Presynaptic inhibition occurs due to hyperpolarization of presynaptic membrane.
2. End plate potential follows Depolarization law.
3. Continuous sub-threshold stimulus leading to sustained response and increase in threshold for action potential is known as Accommodation.
4. Rheobase is an indicator of Magnitude of current.
5. Antidromic conduction is seen in Axon reflex.
6. Synaptic conduction is mostly orthodromic because Chemical mediator is located only in the presynaptic terminal.
7. Action potential is produced because of Na+ influx.
8. The permeability of Na+ ions increases during depolarization of a nerve fiber.
9. Mg+is not associated with nerve transmission.
10. Nerve impulse is initiated at axon hillock because it has lower threshold than the rest of axon.
11. In a motor nerve fiber, lower threshold potential is seen in Axon hillock.
12. Initiation of impulse starts in Axon hillock + initial segment.
13. EPSP is due to Na+influx.
14. Excitatory postsynaptic potentials (EPSP) Are proportional to the amount of transmitter released by the presynaptic neuron.
15. A traveling nerve impulse does not depolarize the area immediately behind it, because it is refractory.
16. Renshaw cell inhibition is an example of bio feedback inhibition.
17. Concentration of Potassium determines the resting membrane potential(RMP) on nerve.
18. Nerve action potential conduction requires a threshold stimulus to be activated.
19. Synaptic potentials can be recorded by Microelectrode.
20. Neuronal degeneration is not seen in Neuropraxia.

21. Saltatory conduction in myelinated axons results from the fact that Voltage-gated sodium channels are concentrated at the nodes of Ranvier.
22. Tetanus toxin and botulinum toxin exert their effects by disrupting the function of SNARES, inhibiting the docking and binding of synaptic vesicles to the presynaptic membrane.
23. A high membrane resistance of the postsynaptic neuron would optimize the effectiveness of two closely spaced axodendritic synapses.
24. The action potential in a nerve is the action potential occurs due to sudden opening of Na+ channels.
25. An increase in the action potential frequency in a sensory nerve usually signifies increased intensity of the stimulus.
26. Sensory receptors that adapt rapidly are well suited to sensing the rate at which an extremity is being moved.
27. Adaptation in a sensory receptor is associated with decline in the amplitude of the generator potential.

Muscle

1. Muscle's blood supply increases during exercise due to Accumulation of active metabolites.
2. Ca2+ binding troponin C triggers muscle contraction.
3. The motor unit consists of motor nerve and muscle fibers that it supplies.
4. Intercalated disks are found in Cardiac muscles.
5. Myasthenia gravis is a disorder of Neuromuscular junction.
6. Contraction of covering binding sites on actin is prevented by Troponin.
7. Tropomyosin covers myosin and prevents attachments of actin and myosin.
8. Muscle contraction dependent on calcium.
9. Amongst the muscles, skeletal muscle is the most excitable tissue because there are two "T tubules per sarcomere and has well developed sarcoplasmic reticulum.
10. Duchenne Muscular dystrophy is a disease of Sarcolemmal proteins.
11. In severe exercise muscle spasm occurs due to Accumulation of K+.
12. Golgi tendon organ determines Muscle tension.
13. Many signaling pathways involve the generation of inositol triphosphate (IP3) and diacylglycerol (DAG). These molecules are derived from PIP2.

Kidney

Nephron, Blood flow and Glomerular Filtration

1. Juxtaglomerular apparatus is absent in the medulla.
2. Glomerular filtration rate is best estimated by Inulin clearance.
3. Relaxation of mesangial cells of kidney is brought about by cAMP.
4. GFR increases if afferent arteriole dilates or Efferent arteriole constricts.
5. In renal disease albumin is first to appear in urine because it has molecular weight slightly greater than the molecules normally getting filtered.
6. Mesangium does not form filtration barrier in nephrons.

Transport of various substance

1. The status of fluid in distal convoluted tubule is Always hypotonic.
2. Maximum absorption of HCO3 occurs is PCT.
3. Creatinine is least absorbed in tubules.
4. Even in the presence of vasopressin the greatest fraction(-10%) of filtrated water is re-absorbed in Proximal tubule.
5. Potassium is either reabsorbed or secreted in DCT.
6. Active potassium secretion occurs at Distal convoluted tubule.
7. Maximum reabsorption of Mg2+ occurs in PCT in thick ascending limb.
8. Na absorption is maximum at PCT.
9. In Proximal segment by active reabsorption of Na+, the major portion of glomerular filtrate is reabsorbed.
10. The urine/plasma ratio of sodium ion is 0.6
11. The amount of protein normally excreted in urine per day is up to 150mg.
12. TmG for glucose is 375 mg/min
13. Transport maximum (Tm) means Maximum reabsorption & secretion.
14. 60 to 70% of glomerular filtrate is reabsorbed in proximal tubule.
15. Potassium is maximally absorbed in Proximal convoluted tubules.
16. Over half of the Potassium that appears in the urine of a patient, who has ingested some potassium salts, is derived from Secretion by the distal tubule.

Download From: AghaLibrary.com

Clearance

1. Clearance of a substance which is secreted is greater than GFR .
2. Renal plasma flow is best determined by PAH.
3. PAH (para-aminohippuric acid) clearance is equal to Renal plasma flow.
4. Inulin clearance is equal to 125ml/min.
5. Free water clearance by the kidney is increased by Diabetes insipidus.
6. Inulin clearance provides the most accurate measure of GFR.
7. PAH has the highest renal clearance.

Counter Current Mechanism

1. Urinary concentrating ability of the kidney is increased by ECF volume contraction.
2. Renal medullar hyperosmolarity is due to increased interstitial Na, K, & urea .
3. In PCT 60-70% filtrates are reabsorbed.

Acid-Base Balance

1. Anion gap is mainly due to albumin.
2. The enzyme required for the generation of the ammonium ion in the kidney is Glutaminase.
3. The Henderson-Hasselbalch equation is used for measuring the acid base balance.
4. I cells are responsible for acid secretion in kidney.

Endocrine functions of kidney & other applied aspects

1. Ureteric peristalsis is due to pace maker activity of the smooth muscle cells in the renal pelvis.
2. Sodium is excreted in urine in SIADH.
3. In Hypervolemia, renin secretion is inhibited.
4. Renin is released when there is low sodium.
5. Renovascular hypertension is the renin induced hypertension.
6. In micturition reflex, the first change to occur is relaxation of perineal muscle.
7. Vasopressin secretion is increased by decreased ECF volume & Carbamazepine.

8. ADH act at Collecting tubules.
9. Production of aldosterone is stimulated by Renin,
10. The part of Nephron most impermeable to water is Ascending Loop.
11. In Hypervolemia, renin secretion is inhibited.
12. ANP acts at Collecting duct.
13. In collecting duct there is increased excretion of K+.
14. An athlete came to casualty with 4 days of passing red colored urine, the cause of hematuria is hemoglobin.
15. Monitoring of serum cystatin levels for Renal functions.
16. Increased Efferent arteriolar resistance tends to increase peritubular capillary fluid reabsorption.
17. In a person with severe central diabetes insipidus (deficient production or release of AVP), urine osmolality and flow rate is typically about 50 mOsm/kg H2O, 18 L/day.
18. The primary reason that the female phenotype develops in an XY male is the lack of testosterone action.
19. Renin in synthesized by JG cells.
20. Arginine vasopressin (AVP) is synthesized in the Anterior hypothalamus
21. An increase in central blood volume leads to decreased Na+ reabsorption by the kidneys.
22. The nephron segment that reabsorbs the largest percentage of filtered Mg2+ is the thick ascending limb.
23. Intravenous infusion of isotonic saline causes decreased renin release by the kidneys.
24. Skeletal muscle injury cause hyperkalemia.
25. Aldosterone acts on cortical collecting ducts to increase K+ secretion
26. In response to an increase in GFR, the proximal tubule and the loop of Henle demonstrate an increase in the rate of Na+ reabsorption. This phenomenon is called as Glomerulo tubular balance.
27. Intravenous infusion of 2.0 L of isotonic saline (0.9% NaCl) results in increased plasma atrial natriuretic peptide (ANP) concentration.
28. The main driving force for water reabsorption by the proximal tubule epithelium is active reabsorption of Na+.

Cardiovascular System

1. HR increases with parasympathetic Denervation.
2. Vagal stimulation causes increase in R-R interval in EC.
3. The maximum conduction rate is at Purkinje fiber.
4. conduction velocity is least at AV node.
5. SA node is the pacemaker of heart because it generates impulses at a faster rate.
6. The pacemaker potential is due to decrease in K+ permeability.
7. Calcium enters the cardiac cell during plateau phase of the action potential.
8. Endocardium, epicardium, upper most part of septum is order of activation after stimulation of Purkinje fibers.PR interval indicates AV node conduction time & Atrial depolarization.
9. QRS complex indicates Ventricular depolarization.
10. Osborne J wave is the ECG hallmark of hypothermia.
11. Voltage-gated Ca2+ channels is most responsible for phase 0 of a cardiac nodal cell.
12. Atrial repolarization normally occurs during the QRS complex
13. The P wave is normally positive in lead I of the ECG because depolarization of the atria proceeds from right to left.
14. Excitation of the ventricles proceeds from the subendocardium to subepicardial.
15. AV nodal cells conduct impulses more slowly than either atrial or ventricular cells.
16. The R wave in lead I of the ECG reflects a net dipole associated with ventricular depolarization.
17. During the cardiac cycle, the aortic and mitral valves are never open at the same time.

Cardiac Cycle & JVP Changes

1. 'C' wave in JVP is due to Bulging of the tricuspid value into the right atrium

2. First heart sound occurs due to closure of AV valve.

3. Second heart sound occurs due to closure of aortic and pulmonary valve.
4. The iso-volumetric relaxation stops when Ventricular pressure falls below atrial pressure.
5. Opening of AV valve marks the end of isovolumetric relaxation.
6. During the cardiac cycle the opening of the aortic valve takes place at the end of isovolumetric contraction.

Cardiac Output & Ventricular Functions

1. Myocardial 02 demand is directly proportional to duration of systole.
2. Ejection fraction increases with End Diastolic volume.
3. Standing to sitting change is immediate Increase in Venous Return.
4. When a person changes position from standing to lying down position, Venous return to heart rises immediately.
5. Cardiac output in liter per minute divided by heart rate gives Mean stroke volume.
6. The basal cardiac output in adults is 5.5liter.
7. Fick's principle is used for measuring Cardiac output.
8. Starling's principle is that within physiological limits, the force of contraction is proportional to initial length of cardiac muscle fiber.
9. Oxygen demand of heart increases proportionately with heart rate.

Principles of Hemodynamics

1. Capillaries contain 5% blood.
2. Laminar flow is dependent on critical velocity.
3. Maximum peripheral resistance is at Arterioles.
4. Bernoulli's principle states that Sum of kinetic energy of flow and pressure energy is constant.
5. Maximum cross sectional area is present in Capillaries.
6. Blood flow through a vessel varies directly with pressure of difference.
7. Cutaneous shunt vessels have help in thermoregulation.

Blood Pressure

1. Mean circulatory pressure is Pressure at any point when the heart is stopped.
2. The blood pressure measured by Sphygmomanometer is Higher than the

intraarterial pressure.

3. Pulmonary (capillary) wedge pressure corresponds to Left atrial pressure.
4. Mean arterial pressure is equal to Diastolic + l/3rd Pulse pressure.
5. Occlusion of common carotid artery on both sides leads to increases in HR & BP.
6. Carotid sinus baroreceptor is most sensitive to Mean blood pressure.
7. Diastolic Pr. In Aorta is maintained by Elastic recoil of aorta
8. Blood pressure measured using a sphygmomanometer may be falsely high in obese patients.

Cardiovascular Regulatory Mechanisms

1. Vasomotor centre (VMC) acts along with the cardio vagal centre (CVC) to maintain blood pressure.
2. Pressure on carotid sinus leads to reflex bradycardia.

Special Circulation & Applied

1. CSF pressure is mainly regulated by rate of CSF absorption.
2. Maximum heart rate with exercise is 200/min.
3. Blood supply during exercise does not decrease in Coronary circulation.
4. Histamine give rise to Lewis Triple Response.
5. The regional arterial resistance of the mesentery and kidney vessels is reduced by Dopamine.
6. The pressure-volume curve is shifted to the left in Aortic stenosis.
7. Vagal stimulation causes increase in R-R interval in ECG.
8. In peripheral chemoreceptors, activation is important in the cardiovascular response to hemorrhagic hypotension.
9. Parasympathetic stimulation of the heart accompanied by a withdrawal of sympathetic tone to most of the blood vessels of the body is characteristic of Vasovagal syncope.
10. A person stands up. Compared with the recumbent position, 1 minute after standing, the Volume of blood in leg veins increases.
11. A manual laborer moves in March from Kashmir to Delhi and becomes acclimatized by working outdoors for a month. Compared with his responses on the first few days in the Delhi, for the same activity level after acclimatization one would expect higher Sweating rate.

12. In the presence of a drug that blocks all effects of norepinephrine and epinephrine on the heart, the autonomic nervous system can lower the heart rate below its intrinsic rate.
13. At a constant blood flow, an increase in the number of perfused capillaries improves the exchange between blood and tissue because of greater surface area for the diffusion of molecules.

Respiration

Mechanics of breathing

1. The intrapleural pressure is negative both during inspiration and expiration because thoracic cage and lung's opposite recoil.

Surface tension & Surfactant

1. Stability of alveoli maintain by surfactant
2. Surfactant is made up of mainly Phospholipids.
3. Type II Pneumocyte secrete surfactant.
4. Surfactant is present in amniotic fluid at 28 weeks.

Ventilation / Perfusion Pressure

1. Total alveolar ventilation volume is 4.2 liter/mm.
2. Alveolar PaC>2 is maximum at apex of lung.
3. Ventilation-perfusion ratio is maximum at apex of lung due to poor blood flow

Lung volume & capacities

1. During plethysmography, pressure in lungs increases and in the box decreases as patient expires with closed glottis.
2. Flow in small airways is laminar because the linear velocity of airflow in the small airways is extremely low.
3. Vital capacity is TV+IRV+ERV(-4.5L)

4. Total lung capacity is 6 to 7 liters
5. Anatomic dead space is 30 % of tidal volume:
6. FRC is the Volume of air present after normal expiration.
7. Normal functional residual capacity is 2.3L.
8. Lung diffusion capacity is measured with CO.
9. Total lung capacity depend on Lung compliance.

Gas Exchange & Transport

1. Reason for fast CO2 diffusion in blood is the more soluble in plasma
2. Cause of sigmoid shape of 02 curve is the binding of one 02 molecule increase the affinity of binding of other 02 molecules.
3. High affinity of HbF with 02 due to decrease binding with 2,3 DPG.
4. An increase in Oxygen affinity of hemoglobin will shift the 02 dissociation curve to the left.
5. 2, 3 diphosphoglycerate alters affinity to hemoglobin.
6. Oxygen affinity decreases in hypoxia.
7. Decreased 02 affinity of Hb in blood with decreased pH Bohr effect.
8. Dissolved oxygen is not dependent on Hb.
9. Carbon dioxide is transported in blood mainly as Bicarbonate.
10. The concentration of oxygen provided by mouth-to-mouth respiration is 16%.

Regulation of Respiration

1. Loading reflex to monitor tidal volume is the Thoracic muscle spindles
2. Pacemaker for the start of rhythmic respiration is Pre - botzinger complex
3. Central chemoreceptors are most sensitive to Increase in C02 Tension
4. "Inflation of lungs induces further inflation" is explained by Heads paradoxical reflex.
5. The vasodilatation produced by carbon dioxide is maximum in Brain.
6. Peripheral chemoreceptors are stimulated maximally by Cyanide.
7. In Asthma there is increased FRC and Increased Residual Vol

Applied Respiratory Physiology

1. Nitrogen narcosis is caused due to Increased solubility of nitrogen in nerve cell membrane.
2. Due to High position of the larynx an infant can breathe while suckling breast milk.
3. Cyanosis doesn't occur in Anemia because Certain min. amount of reduced Hb should be present.
4. At high altitude pulmonary edema is more likely to occur above height of 300m.
5. Earliest change in high altitude is Hyperventilation.
6. An untrained person going to higher altitude for training can have maximum anabolic effect by: Decrease in workload, increase in duration of exercise.
7. Cyanosis which is not corrected by 100% oxygen therapy is due to shunt.
8. In moderate exercise stimulation of respiration is due to Joint proprioception receptor.
9. Conversion of angiotensin I to angiotensin II the best-known metabolic function of the lung.
10. Hypoxia causes vasoconstriction in Lungs
11. In Cyanide poisoning, there is tissue hypoxia without alteration of oxygen content of blood.
12. Death due to cyanide poisoning results from Histotoxic hypoxia.
13. 100 feet deep under water, the pressure is 4 atm
14. Partial pressure of oxygen in venous blood is 40 mm Hg.
15. Diaphragm is lowest in sitting posture.
16. Maximum increase in minute volume is seen in exercise
17. In healthy individuals, the cause of an (A-a)O2 gradient is a bronchial circulation (physiological)shunt.

Central Nervous System

General, Neurons, Neurotransmitters

1. Pain insensitive structure in brain is choroid plexus.
2. Memory cells escape apoptosis because of nerve growth factor.

3. Substance p is released in response to pain in periphery Nerve terminals.
4. Inhibitory neurotransmitter of central nervous system is Gamma-aminobutyric acid.
5. Sine qua non for cerebral cortex are Pyramidal cells.
6. Exposure to darkness leads to increased melatonin secretion. It is brought ■ about by the increasing the serotonin N-acetyl transferase.
7. Melatonin is a serotonergic.
8. Acetylcholine is a preganglionic sympathetic neurotransmitter.
9. Glutamate is excitatory.
10. Glycine serves both inhibitory and excitatory functions within the CNS.
11. Renshaw cell inhibition is a typical example of Recurrent inhibition.
12. In the postnatal period the greatest growth in the grey matter of the C.N.S. is of the Dendritic tree.
13. Phagocytosis in the CNS is done by Microglia.
14. The inhibition substance in spinal cord is Glycine.
15. The inhibitory neurotransmitter in central nervous system is Gamma-aminobutyric acid.
16. Gamma neurons innervate the Intrafusal muscle fibers.
17. The brain neurons may get irreversibly damaged if exposed to significant hypoxia for 8 minutes.
18. Peptide transmitters would be most affected by a toxin that disrupted microtubules within neurons.
19. Degeneration of corpus striatum cause chorea.
20. Umami taste is due to glutamate.
21. Otoacoustic emissions are related to outer hair cells.
22. Nociception acts via Orphaning receptors.
23. Acetyl choline is secreted by which cells of retina amacrine cells
24. Transducin protein is seen in vision.
25. Nerve fibres affected mainly by local anaesthetic B.
26. In damage to Preoptic area in hypothalamus Hyperthermia.

Sensory System, Spinal Cord & Tracts

1. Due to a central cord lesion, dissociative sensory loss seen due to Decussating branches of lateral spinothalamic tract.
2. Function of spinocerebellar tract Coordination & smoothing of movement.

3. In Brown-Sequard's syndrome there is Ipsilateral loss of proprioception.
4. Conscious proprioception is carried by Dorsal column.
5. Fine touch is transmitted via the dorsal lemniscal system.
6. Stereoanesthesia is due to lesion of Nucleus cuneatus.
7. As per Weber Fechner law, sensation is proportional to Logarithm of stimulus strength.
8. Destruction of sensory area 1 of brain leads to less of which sensations like Stereognosis & 2 point discrimination.
9. A person with intractable pain over the right leg is benefited by Left Spinothalamic tract cordectomy.
10. Sensation transmitted by pacinian corpuscles is Vibration.
11. Pacinian corpuscles are rapidly adapting mechanoreceptors.
12. Phantom limb phenomenon can be described by Law of projection.
13. The distance by which two touch stimuli must be separated to be perceived as two separate stimuli is greatest the back of scapula.
14. Massage and the application of ligaments to painful areas in the body relieves pain due to Inhibition by large myelinated afferent fibres.
15. If a single spinal nerve is cut, the area of tactile loss is always greater than the area of loss of painful sensations, because degree of overlap of fibres carrying tactile sensation is much less.
16. Hot water bag use in intestine colic works by inhibiting Adrenergic receptors.

Motor System & Reflexes

1. Golgi tendon organ determines Muscle tension.
2. Lower motor neuron is involved in amyotrophic lateral sclerosis.
3. Fasciculation is the twitch of a single motor unit.
4. Skilled voluntary movement is initiated at Cerebral Cortex (motor cortex).
5. Pyramidal fibers are Projection fibres.
6. Lesions of pyramidal tract do not present with Abnormal movements.
7. Lower motor neuron lesions are associated with Flaccid paralysis.
8. Crossed extensor reflex is a Withdrawal reflex.

Basal Ganglia

1. Basal ganglion is related with Planning of voluntary movements.
2. In substantia nigra, the major neurotransmitter is Dopaminergic.
3. In subthalamic nuclei the major neurotransmitter is glutamate.
4. Functions of Basal ganglia include the skilled motor movements.
5. Huntington's disease is due to the loss of Intra striatal GABAergic neurons.

Cerebellum

1. Spinocerebellar ataxia exclusively involve neurons.
2. Cerebellum in motor performance smoothens and coordinates ongoing movements.
3. Archicerebellum is Flocculus.
4. Mossy fibers which are cerebellar component that would be abnormal in a degenerative disease that affected spinal sensory neurons.

EEG & Sleep

1. In EEG, delta waves are seen In deep sleep.
2. Sleep spindles and K complexes seen in NREM 2 stage.
3. A person with eyes closed and mind wandering will have the Alpha waves in EEG.
4. Waves seen in EEG at the Hippocampus.
5. Nightmares are seen in REM sleep.
6. Dreams occurred in both NREM and REM sleep.

Hypothalamus

1. Shivering is not occurring in child exposed to cold climate due to Brown fat.
2. Sleep is primarily regulated by Hypothalamus.
3. Satiety center is located in Ventromedial nucleus of hypothalamus; hunger center is located in lateral nucleus of hypothalamus.
4. Thermoregulatory center is located at Hypothalamus.
5. Primary motor area for shivering is Dorsomedial posterior hypothalamus.
6. Thirst is activated by Extracellular hyperosmolarity.
7. Circadian rhythm is controlled by Suprachiasmatic nucleus.
8. Drinking can be induced by Electrical stimulation of the preoptic nucleus.

Download From: AghaLibrary.com

9. Osmoreceptor is located at Anterior hypothalamus.
10. Non shivering Thermogenesis is that Fatty acids show uncoupled oxidative Phosphorylation.
11. In animals with chronic exposure to cold true Vagal inhibition of heart is reduced.

Higher Functions

1. Remembering things a week old is remote memory.
2. Representation in Cerebral cortex is vertically.
3. Conversion of short term memory into long term memory occurs in Hippocampus.
4. Papez circuit in limbic system involves Anterior thalamic nuclei.
5. Prosopagnosia is Inability to recognize faces.
6. Emotional effect to a physical response is given by Hippocampus.
7. Arousal response in mediated by Reticulo activating system.
8. Part of brain most sensitive to hypoxia is Hippocampus.

Speech & Aphasia

1. Broca's area is involved in Word formation.
2. Broca's area of speech is located in Inferior border of frontal lobe.
3. Motor aphasia is Verbal expression.

CSF

1. CSF pressure depends primarily upon Rate of absorption
2. CSF plasma glucose ratio is 0.64.
3. Normal pressure of CSF in adult is 6-l2mmHg (50-l80mmH20).
4. CSF production per minute 0.30—0.35 ml/min.
5. Blood brain barrier is deficient at Area postrema.

Autonomic nervous system

1. Autonomic ganglion is mainly Cholinergic.
2. Parasympathetic stimulation will cause Pupillary constriction.
3. Sensory fiber with maximum conduction velocity Alpha fiber.
4. Sympathetic ganglia arises from Thoracolumbar

Vision & Hearing

Special Senses

1. Bitter taste is mediated by action of G protein.
2. Red Green spectrum of colour is highest visualized due to central cones.
3. The rod receptor potential differs from other sensory receptors in that it shows Hyperpolarization.
4. During the dark phase of visual cycle, the form of vitamin A combines with opsin to make Rhodopsin is 11-cis-Retinaldehyde.
5. The parvocellular pathway from lateral geniculate nucleus to visual cortex is most sensitive for the stimulus of Color contrast.
6. Amacrine cells are seen in Retina.
7. Receptor itself is a dendrite of a nerve is Olfactory
8. In the inner ear, stereocilia are the mechan sensing organelles of hair cells, which respond to fluid motion.

Endocrinology

General & Mechanism of Hormones Action

1. Adrenaline, noradrenaline, dopamine, serotonin act through 7pass receptor.
2. cAMP is a second messenger of follicle stimulating hormone.
3. Corticosteroid and thyroid receptor is present in the intracellularly.

Pituitary Gland: Growth Hormone & Prolactin

1. HIGH prolactin is associated with Increase estradiol
2. In obstructive azoospermia, FSH & LH Both normal.
3. The secretion of prolactin is controlled by Dopamine
4. LH surge is responsible for menopausal hot flashes.
5. The antidiuretic hormone is released by Posterior pituitary.
6. Transection of pituitary stalk leads to the increase in prolactin.

7. Lactogenesis is caused by prolactinandejection of milk by Oxytocin.
8. Acromegaly occurs due to Acidophilic adenoma.
9. Pituicyte is located in Neurohypophysis.
10. Apart from TSH, TRH also stimulates the release of Prolactin.
11. Posterior pituitary stores and releases Oxytocin and vasopressin
12. Follicle stimulating hormone is produced by Basophilic cells of pituitary.
13. In the neurohypophysis, secretory granules accumulate in nerve endings.
14. Insulin stress test assay estimates Growth hormone.
15. Growth Hormone causes hyperglycemia.

Thyroid Gland

1. Thyroid act by nuclear receptors
2. T3 level gives an indication of Thyroid state.
3. "C" cells are found in thyroid.

Pancreas

1. Somatomedin mediates the deposition of chondroitin sulphate.
2. Epinephrine decreases insulin release.
3. Delta cells or 'D' cells of pancreas Secrete Somatostatin.
4. Human insulin differ from beef insulin by 3 Amino acid.
5. Insulin does not cause Lipolysis.
6. Insulin does not cross placenta.
7. HbAlc level in blood explains the long term status of blood sugar.

Adrenals

1. Vanillylmandelic acid is the principal metabolite in norepinephrine metabolism excreted in urine.
2. In the adrenal gland, androgens are produced by the cells in the Zona reticularis.
3. Zona glomerulosa secretes aldosterone.
4. Non-shivering Thermogenesis in adults is due to Noradrenaline.

Calcium And Potassium

1. Ionized calcium is the active form of calcium in the body.
2. The mechanism by which hyperventilation may cause muscle spasm is decreased calcium.
3. Osteoclast has specific receptor for Calcitonin.
4. Sudden decrease in serum calcium is associated with increased sensitivity of muscle and nerve.
5. Inositol triphosphate acts to increase the release of Ca 2+ from endoplasmic reticulum.
6. Parathyroid hormone is responsible for increased production of *1, 25* &Dihydroxycholecalciferol in kidney.
7. Osteomalacia is associated with increase in osteoid maturation time.
8. Main mineral salt of bone in Hydroxyapatite.

Reproduction & Related Hormones

1. Best indicator for ovarian reserve is FSH.
2. Sertoli cells are associated with Spermiogenesis.
3. Leydig cells secrete testosterone.
4. Sequence of sperm movement is straight tubules - rete testis - efferent tubules.
5. Sertoli cells in the testis have receptors for FSH.
6. Sperms acquire motility in Epididymis.
7. Inhibin hormone is secreted by Sertoli cells.
8. Antibodies against sperms develop after vasectomy.
9. Progesterone causes increase in basal body temperature during ovulation.
10. In postmenopausal women, estrogen is metabolized mostly into Estrone.
11. Elasticity of cervical mucous is seen at time of MID cycle.
12. The correct position of OH groups in estradiol are C3 and C17.
13. Nucleus is the site of estrogen action.
14. Normal or elevated LH/FSH is seen during polycystic ovary disease.
15. Gene coding for androgen receptors is situated in Long arm of X chromosome.
16. FSH is inhibited by Inhibin

17. After formation, the sperms are stored in Epididymis.

18. Meiosis occurs in human males in Seminiferous Tabules.
19. Length of spermatozoais 50 micron.
20. The enzyme associated with the conversion of androgen to oestrogen in the growing ovarian follicle is Aromatase.
21. Androsterone is responsible for hirsutism.
22. Blood testis barrier is formed by Sertoli cells.
23. Prostaglandins found in the seminal fluid are the secreting products of Seminal vesicle.
24. Hormone responsible for initiation of ovulation is LH.
25. Pancreatic P cell are freely permeable to glucose via GLUT2.
26. Insulin stimulated glucose entry is seen in cardiac muscle.
27. Fructose is secreted by seminal vesicle.
28. Hormone acting on adjacent cells is called Paracrine.
29. Premenopausal peripheral conversion of estrogen precursors in the obese patient results in the formation of Estrone.
30. Insulin secretion is inhibited by Hypokalemia.
31. Epiphyseal closure is due to Androgen.
32. GnRH acts via Phospholipase C.
33. Glucose mediated insulin release is mediated through ATP sensitive K+ channels.

Thyroid Gland

1. Reabsorption Lacunae in thyroid are seen in Colloid, in active follicles.
2. Thyroglobulin synthesis does not take place in colloid.
3. The R.M.P of thyroid cell is approximately 50mv.
4. Iodide uptake into thyroid cell is an example of Secondary active transport
5. The minimum amount in thyroid secretion is that of MIT.
6. Active form of thyroid hormone is T3.
7. An increase in both TSH as well as thyroid hormones can be encountered in T3, T4 resistance.

Adrenal Glands

1. in the adrenal medulla 90% of cells are of epinephrine secreting type.
2. Most of the total mass of adrenal gland is made up of Zona fasciculate.
3. Secretion of adrenal androgens is controlled mainly by ACTH.
4. Glucocorticoids act as anti-inflammatory / anti-allergic agents because they Prevent release of histamine/cytokines.
5. ACTH bursts are maximum in Early morning.
6. The primary form of cortisol in the plasma is Bound to corticosteroidbinding globulin (CBG).
7. The rate-limiting step in the synthesis of cortisol is catalyzed by Cholesterol side-chain cleavage enzyme.

Pancreas

1. The enzyme that controls entry of glucose into circulation from liver is Glucose - 6 phosphatase.

Parathyroid Glands

1. Main effect of VIT.D. (1,25 DHCC) isTes intestinal absorption of Ca++.
2. The major site(s) for control of body's phosphorous is Kidney.
3. The major storage form of VIT. D is 25 OHCC.
4. Hyperparathyroidism responsible for osteoporosis.

Reproduction & Related Hormones

1. Estriol production during pregnancy requires Androgens substrates from the fetus.
2. A major factor in of hypogonadism is reduced secretion of gonadotropin-releasing hormone (GnRH).
3. The major function of follistatin is to bind activin and thus decrease FSH secretion.
4. A major function of the epididymis is the storage and transport of mature sperm.
5. The production of mature spermatozoa from spermatogonia takes 70 days.
6. Testosterone is converted to dihydrotestosterone in the prostate.
7. Sex hormone-binding globulin (SHBG) binds testosterone with a higher

affinity than estradiol.

8. The production of estradiol by the testes requires Leydig cell, Sertoli cells, LH, and FSH
9. Estradiol synthesis in the graafian follicle involves Stimulation of aromatase in the granulosa cell by FSH
10. Granulosa cells do not produce estradiol from cholesterol because they do not have an active 17a-Hydroxylase.
11. A clinical sign indicating the onset of the menopause is an increase in plasma FSH levels.
12. Increased progesterone during the postovulatory period is associated with an increase in basal body temperature by 0.5 to 1°C.
13. The theca interna cells of the graafian follicle are distinguished by their capacity to produce androgens from cholesterol.
14. The next ovulatory cycle after implantation is postponed because of the production of hCG by trophoblast cells.
15. Spinnbarkeit formation is induced by estrogen action on the vaginal secretions.
16. Implantation occur only after priming of the uterine endometrium by progesterone and estrogen.
17. Successful fertilization is most likely to occur when the oocyte is in the oviduct and has entered the second meiotic division.
18. The enzyme, 5a-reductase is responsible for Conversion of testosterone to dihydrotestosterone.
19. Regarding suckling reflex triggers the release of oxytocin by stimulating the supraoptic nuclei.
20. Contact between the sperm head and the zona pellucida, penetration of the sperm into the egg is allowed because of the acrosome reaction.
21. Inhibin is an ovarian hormone that is produced by granulosa cells and inhibits the secretion of FSH.
22. Oral steroidal contraceptives are most effective in preventing pregnancy by blocking ovulation.
23. An index of the binding affinity of a hormone for its receptor can be obtained by examining the slope of a Scatchard plot.
24. Most peptide and protein hormones are synthesized as a preprohormone.

Salivary Glands, Esophagus and Stomach

1. Chymotrypsinogen is a Zymogen.
2. Max potassium ions present in Saliva .
3. Intrinsic factor of castle is + in Parietal cells .
4. Deglutition is Primary peristalsis of oesophagus.
5. Prostaglandin that helps in protecting Gl mucosa is PGE2.
6. Bitter taste is perceived mainly by Posterior 1/3.
7. In stomach the acid is secreted by Active secretion .
8. The requirement of folic acid during pregnancy is 300gg.
9. Pepsinogen is converted to pepsin because of Low pH (Gastric acid).
10. Gastrin regulates the gastric acid secretion at Antrum.
11. Parasympathetic nerve mediates cephalic phase of gastric secretion.
12. Oxyntic cells are found in Stomach.
13. Antrum is the primary site of production of gastrin.
14. Mixing waves of stomach originates in body of stomach.
15. Parasympathetic stimulation induces salivary acinar cells to release the protease Kallikrein.
16. Intrinsic factor protein is absent in saliva.
17. The chief cells of the stomach secrete Pepsinogen.
18. The interaction of histamine with its H2 receptor in the parietal cell results in an increase in intracellular cAMP production.
19. When the pH of the stomach lumen falls below 3, the antrum of the stomach releases a peptide that acts locally to inhibit gastrin release. This peptide is Somatostatin.
20. Stimulation for gastric emptying is brought by Gastrin.
21. Parietal cells in the stomach secrete a protein crucial for the absorption of vitamin B12 by the ileum. This protein is Intrinsic factor.

Gall Bladder, Liver, Pancreas & Bile

1. Cholecystokinin does not increase gastrin secretion.
2. CCK stimulates gallbladder contraction.
3. Chloride is major difference between hepatic bile and gallbladder bile.

4. Secretin inhibits gastric secretion.
5. The mechanism that protects normal pancreas from autodigestion is proteolytic enzymes secreted in inactive form.
6. Estrogen is increased in blood level hepatectomy.
7. Pancreatic juice has highest pH.
8. Secretin stimulates pancreatic secretion that is rich in bicarbonate.
9. The arterial blood glucose concentration in normal humans after a meal is in the range of 120 to 150 mg/dl_.
10. Because free ammonia in the blood is toxic to the body, it is transported in Glutamine and urea non-toxic forms.
11. The liver removes LDLs in the blood by the LDLs binding to LDL receptors and then internalizing them.
12. Bile acid uptake by hepatocytes is dependent on Sodium.

Small and Large Intestine

1. Nitric Oxide In GIT acts Primarily as Smooth Muscle relaxant.
2. Sigmoid colon have maximum Post prandial contractibility.
3. Dipeptidase enzyme is secreted by intestine.
4. Acidity of Chyme is the most important stimulus for the release of secretin from duodenal mucosa.
5. The most important stimulus for release of secretin is Amino acids.
6. Short chain fatty acid produced by bacteria are maximally absorbed in Colon.
7. Intestinal absorption is faster for Hexoses.
8. Hirschsprung disease is due to failure of migration of neural crest cells from cranial to caudal direction.
9. Fat in duodenum results in Gall bladder contraction.
10. Antiperistalsis is normally seen in Colon.
11. Maximum absorption of water occurs in jejunum.
12. Gastric secretions decreased by Somatostatin.
13. Calcium absorption in gut is increased in alkaline ph.
14. Transit time is slowest in colon.
15. Fe2+ conversion from fe 3+ enzyme responsible is Reductase.
16. Chylomicrons function to transport lipids.
17. Massive small bowel resection, the intestine compensate by lengthened

individual villi.

18. In the git, skeletal muscle is present in oesophagus.
19. Vagal stimulation increases gastrin secretion. This is mediated by group or gastrin-releasing peptide.
20. Max potassium ions present in Saliva.
21. Main enzyme for digestion of alpha-dextrin is isomaltase.
22. The optimum pH for pepsin action is 1.6 to 3.2.
23. Passive absorption is for Lipids.
24. The maximum contribution to the total endogenous water secretion in GIT is from Stomach .
25. Maximum water is absorbed from Jejunum.
26. Fructose is absorbed by Facilitated Diffusion.
27. Protein digestion begins in Saliva.
28. Von Ebner's glands secrete Lingual lipase.
29. Lipids form micelles by interacting with Bile salts.
30. Bile salts are maximally absorbed in ileum.
31. Cholera toxin acts on Cl with channel in luminal membrane.
32. Auerbach's plexus is concerned primarily with Motor control.
33. Basic electrical rhythm (B.E.R.) is not seen in Oesophagus.
34. The rate of B.E.R. is minimum in Stomach.
35. 'Receptive relaxation' is seen in Stomach.
36. The salivary juice output from the duct is always hypotonic.
37. The cells of the stomach cannot secrete Pepsin.
38. Postprandial alkaline tide can be attributed to Oxyntic Cells.
39. Enteropeptidase act on Trypsinogen.
40. The primary bile acids are Cholic acid and chenodeoxycholic acid.
41. Critical micelle concentration refers to the critical levels of Bile salts.
42. Maltase hydrolyzes maltose to form Glucose.
43. After a meal, dietary lipid is absorbed by small intestine and transported in the lymph mainly as Chylomicrons.
44. Vitamin D stimulates calcium absorption by the Gl tract.
45. Vitamin A is transported in chylomicrons as an ester.
46. Potassium is absorbed in the jejunum by Passive transport.
47. Ascorbic acid is a potent enhancer of iron absorption because it is a reducing agent, thereby helping to keep iron in the ferrous state.

Blood

1. "C" in CRP stands for the C- polysaccharide of Pneumococcus.
2. ABO antigens are not found in CSF .
3. Rh factor is Mucopolysaccharide.
4. Factor XIII helps in bridging the fibrin in a clot and stabilizing the clot.
5. Clotting factor present in both plasma and serum is Factor VII.
6. The life span of RBC is 120 days.
7. Glycophorin is present in Erythrocyte.
8. In hemopoiesis G-CSF and GM-CSF causes Granulocytosis.
9. Cell type, which lacks HLA antigen, is Red blood cell.
10. The function common to neutrophils, monocyte& macrophage is Phagocytosis.
11. In Hb iron remains as Fe3+ form in Meth HB .
12. The blood in the vessels normally does not clot because Vascular endothelium is smooth and coated with glycocalyx .
13. Aggregins are meant for platelet aggregation.
14. Secondary granules of neutrophils contain Lactoferrin
15. B lymphocytes are associated with CD19.
16. Immune complexes are removed from blood by Kupffer cell
17. Thromboxane A2promotes platelet aggregation.
18. Erythropoietin promotes erythropoiesis.
19. Thymus secretes thymopoietin.
20. Platelets secrete Thromboxane A.
21. Erythropoietin is secreted when Decreased tissue pO2 concentration .
22. Factors X, V and Ca++ are required for the conversion of prothrombin to thrombin.
23. VI clotting factor is not formed by liver.
24. In clotting mechanism factor IV is NOT involved.
25. Heme is converted to bilirubin mainly in liver.
26. Vitamin K dependent clotting factor is Factor VII.
27. Hematopoiesis in yolk sac start at 3rd week.
28. Interleukin specific for eosinophil is IL-5.
29. PDGF (or platelet-derived growth factor) is secreted from alpha granules of platelets.

30. Clonal selections the process that amplifies the number of T cells or B cells programmed to respond to a specific infectious stimulus.
31. Antibody specificity is determined by the amino acid sequence within the variable region.
32. The first step in the extrinsic coagulation pathway is release of tissue thromboplastin.
33. A reactant generated by neutrophils that plays an important role in bacterial killing is superoxide anion.

Recent & High Yield Updated LMRPs

1. Maximum secretion of IGF-1 is from Liver.
2. Glucose is transported across intestinal lumen via secondary active transport.
3. In Export of ions from nucleus to extracellular matrix not involve Ran proteins
4. Descending is PERMEABLE to water and ascending is impermeable
5. C wave in JVP is caused by Bulging of AV valve during isovolumetric contraction
6. Increase in serum sodium causes decrease in ADH and increase in ANP Levels
7. If V/Q approach infinity, it means pO2 is maximum and Pco2 is minimum.
8. Release of synaptic vesicles from the presynaptic terminals is inhibited by prevention of Ca+2 influx.
9. Proprioceptor of the joints are slow adapting.
10. Baroreceptor is negative type of feedback
11. During exercise ESV & DBP decreases and rest all other parameters increases.
12. The diluting segment of kidney is ascending thick loop Henle.
13. Connexons are involved in electrical synapse(please separate the sentence)
14. Forced expiration: Ventral respiratory group
15. Antegrade relaxation: VIP
16. Slowest nerve fibres is postganglionic sympathetic
17. Tubuloglomerular feedback most important determinant is sodium concentration

18. BAIN BRIDGE reflex is due to stretching of right atrium which leads to increase in Heart rate.
19. In Decerebrate rigidity extension of both upper and lower limb while in Decorticate flexion of upper limb and extension of lower limb occur.
20. ADH increases aquaporin2Testosterone: Leydig cells
21. Golgi Tendon organ detects tension.
22. Peripheral chemoreceptors: Potassium channel
23. PGI2: Vasodilation and inhibit platelet aggregation
24. Hypothalamus decreases prolactin inhibiting factor (PIF) which is also known as Dopamine
25. Correct regarding T3 and T4 acting on thyroid stimulating receptor (TSR) is it acts as a transcription factor.
26. Erythropoietin is effective in CFU stage of RBC formation.
27. Leptin hormone has a permissive role during puberty.
28. S3 maybe a normal heart sound during pregnancy.
29. Integrin connect actin to Fibronectin macromolecule in ECM.
30. Most effective parameter to change the blood flow to tissue bed is diameter of vessel
31. Weber Fechner law is related to Intensity of stimulus
32. Maximum area in homunculus signifies Increased perceiveness of movements
33. Part of body is "Immune privileged" site: Seminiferous tubules.
34. High compliance lungs:
    - o Curve shifting upward & left with steep slopes,
    - o Emphysema
35. Cardiac output is measured by Fick's principle, Echo cardiography, Thermodilution technique.
36. Fibers reaching directly to purkinje cell to cerebellum arise from Inferior olivary nucleus.

Biochemistry

Carbohydrates

1. Cyanide is toxic because it Inhibits **Cyt a3 component of** cytochrome oxidase.
2. The oxidation of primary alcohol group **(last carbon)** in glucose results in Glucuronic acid, while oxidation of aldehyde group **(first carbon)** by mild oxidation results in Gluconic acid & oxidation of both first and last carbon simultaneously by strong oxidation results in Gluco saccharic acid.
3. In pregnancy amount of glucose used in GTT is 100 gm, while screening glucose challenge test, also known as O'Sullivan's test, is done by **50 gm** of glucose between 24-28 weeks of gestation.
4. Inulin is a fructosan.
5. CSF To Plasma Glucose Ratio Is Normally 0.6 to 0.8.
6. Alpha amylase acts on Alpha 1-4 glycosidic bond.
7. Blood sugar level measures the levels of glucose + fructose.
8. Dietary fiber is rich in **Cellulose, Hemi-cellulose, Lignin &** Pectin.

Glycolysis

1. Epinephrine and glucagon have effects on glycogen metabolism in the liver. Glycogen phosphorylase is activated, whereas glycogen synthase is inactivated.
2. Pompe's disease is due to deficiency of enzyme Acid maltase i.e. a 1,4 glucosidase.
3. Glucokinase Km value is higher than normal blood sugar, Found in liver.
4. In Glycolysis, Glucose is converted to 3C products.
5. Fluoride inhibits Enolase. In mitochondria, it also inhibits ETC by chelating Ca++ . In blood, by chelating Ca^{++}, it causes hypocalcemic symptoms.

6. Aldolase a and b act on Fructose-1, 6-Bisphosphate. Aldolase b also acts on Fructose-1 phosphate.
7. Pasteur effect is inhibition of glycolysis by oxygen i.e. inhibition of glycolysis under aerobic condition. It basically involves Inhibition of anaerobic glycolysis by oxygen to prevent excess lactate production. It explains the brain's protection against conditions like hypoxia or even anoxia where further lactate production is inhibited by decreasing glucose utilization when exposed to air.
8. Crabtree effect is opposite to that of Pasteur effect i.e. inhibition of oxygen consumption by addition of glucose to tissues having high aerobic glycolysis.It involves Inhibition of aerobic glycolysis by glucose.
9. Adenylyl kinase is the enzymes that allows the high-energy phosphate of ADP to be used in the synthesis of ATP while Adenylyl cyclase utilizes the high-energy phosphate of ATP to be used in the synthesis of cAMP.

KREB's Cycle

1. The citric acid cycle occurs in subcellular compartment, Mitochondrial Matrix.
2. The pyruvate utilization in tissues is decreased in Beri Beri as Pyruvate Dehydrogenase Complex enzyme is Thiamine (BI) dependent. Thiamine is present as TPP (Thiamine Pyrophosphate).
3. Alpha ketoglutarate, a metabolite of TCA cycle is used in detoxification of

   ammonia in brain.
4. In TCA cycle, substrate level phosphorylation occurs **at the level of succinyl** Thiokinase.
5. Fluoroacetate inhibits Aconitase.
6. TCA cycle does not take place in Erythrocyte (Mature RBC), due to absence of mitochondria.
7. Oxaloacetate + Acetyl CoA + H_20 = Citrate + CoA This is an example of Condensation **(Claisen/Classical condensation).**
8. Number of ATP formed per turn of the citric acid cycle is 10.
9. In TCA cycle, fumarase catalyses hydration of fumarate to form Malate.

Malate Synthesis

1. During gluconeogenesis reducing equivalents/reduced coenzymes from mitochondria to the cytosol are transported by Malate.

2. Lactate is transported from muscle to Liver because Liver has Glucose 6 Phosphatase.

Glycogen Metabolism

1. Skeletal muscle is deficient in Glucose - 6 - phosphatase.
2. Blood glucose levels cannot be augmented by mobilization of muscle glycogen due to lack of Glucose - 6 - phosphatase.
3. Phosphorylase b kinase deficiency is the only Glycogenosis to be transmitted by X-linked genes.
4. Muscle glycogen is mainly utilized for supplying energy to Muscle .
5. The major fate of glucose-6-phosphate in the tissue in the fed state is Conversion to glycogen.
6. The tissue with the highest glycogen content/concentration (mg/lOOgm) is Liver.
7. Cyclic AMP accelerates glycogenolysis by : Converting inactive protein kinase to active protein kinase.
8. Glycogen synthase is allosterically regulated by Glucose 6-phosphate.
9. Glucokinase enzyme plays an important role in regulating blood glucose levels after feeding.
10. After a meal, blood glucose enters cells and is stored as glycogen, particularly in the liver which is controlled by Insulin.
11. UDP-glucose (UDPG) is the donor of new glucose molecules in elongation of glycogen chain.

Gluconeogenesis

1. Acetoacetate, (3-hydroxy butyrate and Acetone (Ketone bodies) are NOT substrates for gluconeogenesis.
2. Major contribution towards gluconeogenesis is by Alanine participating in Glucose-Alanine Cycle (CAHILL cycle)

Hmp Shunt

1. NADPH + H^+ is required for Fatty acid synthesis in Cytosol
2. The most common enzyme deficiency in man is Glucose — 6— phosphate dehydrogenase(G6PD) that leads to Hemolytic anemia.
3. NADP is used as a coenzyme by Glucose 6— phosphate dehydrogenase

Galactose Metabolism

1. Galactosemia commonly is due to deficiency of Galactose- 1-phosphate uridyl transferase(GALT)
2. Galactosemia can also be due to deficiency of Galactokinase & Uridine diphosphogalactose-4-epimerase
3. Pathognomonic of Galactosemia is Oil Drop Cataract appreciated in Slit Lamp examination
4. Cataract in Galactosemia is due to accumulation of Galactitol/Dulcitol.
5. Treatment of Galactosemia is Lactose-free diet.

FRUCTOSE METABOLISM

1. An enzyme involved in the catabolism of fructose to pyruvate in the liver is Glyceraldehyde-3-phosphate Dehydrogenase.
2. In hereditary fructose intolerance there is defect in Aldolase B Which is predominant in Liver

SORBITOL PATHWAY

1. Aldose sugar is converted to ketose sugar by Isomerase
2. Production of fructose in seminal fluid is by following steps Glucose — 6 — phosphate glucose -> sorbitol -^fructose
3. The end product of one stage fermentation is Ethanol
4. After alcohol ingestion, Acetaldehyde accumulates in liver that is not typical of glycolysis or the citric acid cycle
5. Guaiac test is used for Hematuria
6. Untreated diabetes leads Tissues to use fatty acids as main fuel
7. Ketoacidosis without glycosuria is seen in Prolonged starvation
8. Retina is completely dependent on glucose as fuel
9. The problem of regenerating NAD+ from NADH for cytoplasmic processes by using mitochondria is solved in the most energy-efficient manner by intercellular shuttle systems Malate -> citrate shuttle also known as Citrate-Malate antiport or Malate oxaloacetate shuttle
10. Glucose& galactose is a pair of epimer with respect to C-4 while Glucose & Mannose are epimers with respect to C-2
11. Routine examination of the urine of an asymptomatic pediatric patient showed a positive reaction with Clinitest (a copper reduction method of detecting reducing sugars), but a negative reaction to glucose oxidase test.

    ->Sucrose is least likely to be present assuming a single elevated saccharide.

    ->Fructose is likely to be present (Essential Fructosuria is asymptomatic)

Miscellaneous

1. Mucopolysaccharidoses are inherited storage diseases. They are caused by defects in the degradation of proteoglycans i.e. by glycosaminoglycans. Proteoglycans = glycosaminoglycan + protein (< 5%).
2. The most likely cause of the hemolysis is a less than normal level of Reduced form of glutathione.
3. In a well-fed state, acetyl CoA obtained from diet is least used in the synthesis of acetoacetate.
4. In oxidative phosphorylation, the ATP production and respiratory chain are linked by Chemiosmotic methods.
5. Thiamine is coenzyme for pyruvate dehydrogenase complex and a keto dehydrogenase complex.
6. Insulin regulates fatty acid synthesis by Acetyl CoA carboxylase.
7. The synthesis of glucose from pyruvate by gluconeogenesis requires the participation of biotin.
8. The conversion of pyruvate to acetyl CoA and CO2 involves the participation of lipoic acid.(thioctic acid).
9. The reaction catalyzed by phosphofructokinase-1 is the rate-limiting reaction of the glycolytic pathway.
10. Substrate level phosphorylation seen in reaction catalyzed in Succinate thiokinase (bi-functional enzyme with succinyl CO-A synthetase activity)
11. In fasting state, increased levels of alanine indicate Increased breakdown of muscle protein.
12. Major determinant factor in gluconeogenesis in liver is ADP.
13. Fluoroacetate inhibits the combination of acetyl co-A with oxaloacetate (basically inhibits citrate to cis-aconitate conversion step).
14. After overnight fasting, level of glucose transporters are decrease in adipocytes and muscles.
15. A patient present with Hypoglycemia & Hepatomegaly with renal enlargement. Most likely Diagnosis von Gierke's.
16. Thiamine requirement by body depends on consumption of Carbohydrates.
17. Phosphorylase b is inactivated by Glucose.

18. Mucopolysaccharide hyaluronic acid is present in vitreous humor.
19. The function of 2,4-DNP is Uncoupler of electron transport chain.
20. Hypoxia increase glycolysis due to: 2, 3 DPG which causes activation of pyruvate dehydrogenase complex.
21. Phosphorylase B in the muscle is normally kept in inhibited state by AMP.
22. Glycogen in muscle cannot contribute directly to Blood Glucose.
23. First substrate of Krebs's cycle is acetyl CoA.
24. Enzymes of glycolysis are present in Cytoplasm.
25. Glucose finally metabolized to CO2 and water in Mitochondria.
26. Inorganic phosphate is used in enzyme of glycolysis Phosphoglycerate kinase.
27. Final common pathway of metabolism of carbohydrate, lipids and protein metabolism isTCA.
28. Cori-Forbes disease is due to defect in Debranching enzyme.
29. Glucose is transported in pancreas through which GLUT 2 rapid transporter).
30. Epimer of glucose = Mannose {C2} & Galactose {C4}.
31. Cyanide affect respiratory chain by Non-competitive irreversible inhibition.
32. Hyaluronic acid is the major proteoglycan of synovial fluid.
33. GLUT 2 receptors Insulin independent.
34. The energy for glycogenesis is provided by UTP.

Lipids

1. The combination of sphingosine and fatty acid is known as Ceramide.
2. LEIGH disease is due to Pyruvate Dehydrogenase Phosphatase deficiency where accumulation of Glycogen is seen as the dephosphorylated form of PDH complex is only active and failure of activation due to phosphatase deficiency leads to improper breakdown of glucose (*Note that LEIGH disease and LEIGH syndrome are not same; LEIGH syndrome is due to oxidative phosphorylation defect where NDUFS gene mutation leads to defect in Complex I of ETC).
3. Saponification means hydrolysis of fats by Alkali.
4. Lung surfactant is Dipalmitoyl lecithin, i.e. Di Palmitoyl Phosphatidyl Choline (DPPC).

5. Glycerol is found in Lecithin.
6. Triglyceride content is lowest in HDL.
7. Accumulation of increased amount of sphingomyelin in liver and spleen is found in Niemann-pick disease.
8. The most essential fatty acid is Linoleic acid.
9. Unsaturated fatty acids are converted to Prostaglandins.
10. The lipid which accumulates in fatty liver is Triglycerides.
11. Stored triacylglycerol and cholesterol are released by Hormone sensitive lipase.
12. Examples of monounsaturated fatty acids are Oleic acid (io9), Elaidic acid (to9) and Palmitoleic acid (to7).
13. Carnitine is synthesized from Lysine, methionine and Vitamin C.
14. Oleic acid is not an essential fatty acid.
15. Cerebroside contains sugar moiety **mainly as** Galactose.

Important points to Remember

1. Major lipoprotein of blood is LDL (|3 - lipoprotein)
2. FFA in plasma are transported as albumin-FFA complex (Z protein, 10 FFA/albumin)
3. Apo B-100 is major lipoprotein of **VLDL, IDL&** LDL.
4. Apolipoprotein B has highest predictive value in morbidity of coronary heart disease.
5. a & **w** oxidation are alternative pathways for oxidation of FA in which no initial activation is necessary & mono oxygenase are required.
6. Peroxisomal oxidation is oxidation of very long chain FA. Zellweger (cerebrohepatorenal) syndrome is the defect.
7. Acetoacetate is most important ketone bodies as it can form both acetone & (3-OH Butyric acid.
8. p-OH butyrate is predominant KB of blood / urine
9. Acetyl CoA is starting material for K.B. synthesis & mitochondrial HMG CoA synthase is rate limiting step for ketogenesis.
10. Active Fatty acid is -> Acyl CoA; while Active Acetate is Acetyl CoA.
11. Lipotropic Factors (prevents fatty liver) Inositol, Betaine , Methionine, Choline, Androgens, GH, Casein, lecithin

12. In resting muscles preferred fuel is fatty acids
13. Fatty acids are major fuel source for heart, renal cortex, adipose tissues
14. Retina completely depends upon glucose as a fuel source
15. Acetyl CoA serves as link between glycolysis and TCA cycle
16. Fumarate serves as a link between urea cycle and citric acid cycle
17. Acetyl CoA is starting material for FA synthesis
18. UDP-glucose is the key substrate for glycogen synthesis.
19. In TCA - Only step where substrate level phosphorylation occur - succinate thiokinase (which converts Succinyl CoA to Succinate)

Lipid Transport

1. Activator of LCAT is Apo A-l, whereas Apo A-ll inhibits LCAT.
2. Enzyme deficient in Type I Hyperlipidemia/Hyperlipoproteinemia (Chylomicron Syndrome) is Lipoprotein lipase.
3. Oligodendrocytes helps in expression of Brain lipid binding protein.
4. Apo B of Chylomicron is used to transport cholesterol from intestine to liver.
5. Primary Familial hypercholesterolemia (Type 11 A) is due to deficiency of LDL receptors.
6. Cholesterol is maximally carried in LDL.
7. Apoprotein-A is Present in HDL.
8. Fredrickson's type IIA hyperlipoproteinemia is due to excess amounts of LDL whereas in type 11B there is elevation of VLDL, LDL & IDL.
9. The major source of extracellular cholesterol Low -density lipoproteins (LDL).

Cholesterol Synthesis

1. The regulatory enzyme in the biosynthetic pathway of cholesterol is Hydroxy methyl glutaryl (HMG) Co-A reductase
2. The compound metabolized in a manner similar to xenobiotics is Bilirubin.
3. Atherosclerosis is due to Apolipoprotein E deficiency

Fatty Acid Synthesis & Beta-oxidation

1. Lipogenesis occurs in Cytosol
2. Insulin regulates fatty acid synthesis by Acetyl CoA carboxylase
3. Oxidation of fatty acids occur in Mitochondrial Matrix

4. Long chain fatty acid transported through inner mitochondria membrane by Acyl carnitine
5. Oxidations of odd-chain fatty acids produces Propionyl CoA
6. Multi enzyme complex in humans Fatty acid synthase -1(FAS complex 1)
7. The product of oxidation of odd chain fatty acids is Propionyl CoA(only in the last step)
8. The Rate limiting enzyme in bile salt synthesis is 7a hydroxylase
9. Most of the reducing equivalents(NADPH + H^+)utilized for synthesis of fatty acids can be generated from The pentose phosphate pathway

Ketoacidosis

1. Immediate precursor in the production of Keto acid — acetoacetate is Hydroxymethyl Glutaryl CoA(HMG CoA)
2. Ketone body which is maximum in Diabetic ketoacidosis is beta hydroxyl butyrate
3. Enzymes levels which are decreased during starvation : Fatty acid synthase
4. Ketone bodies utilized by conversion of Acetoacetate to acetoacetyl CoA
5. Heart uses as energy source during starvation : Acetoacetate
6. During starvation, which shows the most marked increase in plasma concentration Ketone bodies
7. Transition temperature of lipid bilayers of cell membranes is increased by Saturated fatty acids
8. Lipotropic factor is Choline
9. Phospholipase C, hydrolyses phosphatidyl inositol 4,5 bisphosphate to inositol 1,4,5 triphosphate (IP3) and 1,2 diacylglycerol (DAG)
10. Lipolysis in adipocytes is controlled by Activation of triglyceride lipase as a result of hormone-stimulated increases in cyclic AMP levels

Miscellaneous

1. A teenager, attempts to maintain a fat-free diet for a period of several week Miscellaneous most deficient in her ability to synthesize Prostaglandins.
2. Active form of vitamin D is 1,25 OH2 Cholecalciferol (calcitriol)
3. Long chain fatty acid transported through inner mitochondria membrane by Acyl carnitine

4. Transition temperature of lipid bilayers of cell membranes is increased by Saturated fatty acids.
5. Chylomicron and VLDL remnants are metabolized with the help of Apo E.
6. Best marker for dyslipidemia is LDL/HDL ratio.
7. Deficiency of sphingomyelinase occurs in Niemann pick disease.
8. Rothera's test used for Ketone bodies
9. In electrophoresis lipoprotein which will migrate least is Chylomicrons .
10. Most important lipoprotein in causing CAD is LDL.
11. Receptors present in liver for uptake of LDL are Apo E & Apo B 100.
12. The main function of Apoprotein C II : Increases activity of lipoprotein lipase.
13. Apoprotein C-ll activates Lipoprotein lipase while Apo A-ll & C-lll does the opposite.
14. Triglycerides are rich in VLDL (chylomicron> VLDL).
15. Hormone sensitive lipase (HSL) doesn't remove 2ndcarbon from Tri Acyl Glycerol as HSL is best suited for breaking DAG.
16. Post prandial utilization of glucose is by enzyme Glucokinase.
17. In Gaucher's diseases, there is deficiency of Glucocerebrosidase.
18. Apolipoprotein E is rich in Histidine (arginine> histidine).

Amino Acids, Proteins and Porphyrins

Amino Acids

1. Phospholamban is a protein That leads to sequestration of calcium in smooth endoplasmic reticulum
2. Most abundant collagen in body is Type I
3. Regarding isoelectric PH, (regarding enzymes) Net +ve and —ve charge on molecule are equal
4. In cytochrome P 450, P stands for Pigment
5. Albumins and globulins are Simple proteins
6. Liver doesn't synthesis Gamma-globulin
7. Urinary protein is detected by Boiling test/Heat coagulation test
8. The enzyme primarily responsible for protein degradation in stomach is Pepsin

9. Glutathione is a Tripeptide (Glutathione is Glutamyl Cysteinyl Glycine - GCG).
10. Calcium binding protein is Troponin —C.
11. Amount of proteins excreted in urine 24 hours Less than 150 mg, which is primarily due to Tamm Horsfall Protein, a glycoprotein secreted by the epithelial cells of PCT & The ascending limb of loop of Henle.
12. Protein synthesis of secretory proteins occurs in Rough endoplasmic reticulum.
13. At its isoelectric point, a protein has No net charge.

Extra Edge:

a. Arginine is nutritionally semi essential amino acid.
b. Nutritionally non-essential amino acids are, in fact, biologically more essential than nutritionally essential amino acids as the body has evolved the ability to manufacture the former but not the latter.
c. In general, the number of enzymes required to synthesize nutritionally non-essential amino acids in the body is much less as compared to that required for the synthesis of nutritionally essential amino acids.

Amino Acids

1. Indole ring is present in Tryptophan
2. Methyl donor is S- Adenosyl methionine (SAM)
3. The protein rich in basic amino acids, functions in the packaging of DNA in chromosomes, is Histone.
4. An example of phosphoprotein is Casein.
5. Structure of Antibodies is composed of 2 long & 2 short peptide chain.
6. Protein acts as buffer due to Amphipathic property (amphoteric in nature).
7. The amino acid whose Ionization is maximum affected by changes in local microenvironment is Histidine.
8. Protonation and deprotonation at neutral pH occurs for Histidine which accounts for buffering capacity of plasma proteins and hemoglobin at pH of 7.4.
9. Creatine is synthesized from Glycine, Arginine and methionine.
10. Aspartate is a neuro transmitter.
11. Tyrosine is a Non-essential amino acid.

12. Acidic amino acids are Asparagine
13. Aromatic amino acids are Tryptophan, Phenylalanine, Tyrosine & Histidine
14. Leucine is purely ketogenic.
15. 8-Aminolevulinic acid synthase activity Catalyzes a rate-limiting reaction in porphyrin biosynthesis.
15. Serine can be phosphorylated
17. The highest concentration of cystine can be found in Keratin

Metabolism

1. Arthritis occur in Alkaptonuria.
2. In phenylketonuria, FeCl3 test gives Green color.
3. In maple syrup urine FeC13 test gives Blue color.
4. Increased uronic acid in the urine is pathognomonic of Mucopolysaccharidosis.
5. Metabolite of epinephrine is Metanephrine.
6. Albinism results from deficiency of Tyrosinase.
7. Hydrogen peroxide is a product of reaction catalyzed by L-amino acid oxidase
8. Decarboxylation of Histidine yields a vasoactive substance Histamine.
9. Amino acid used in the synthesis of purines Glycine, Glutamine, Aspartate
10. Biological value of protein directly relates to Essential amino acid content
11. In acute myocardial infarction, Homocysteine level will rise in blood.
12. Homocysteine is associated with increased risk of Myocardial Infarction.
13. Guanido acetate is converted to Creatine phosphate.
14. Thyroxine and catecholamine are derived from Tyrosine.
15. (3-alanine is end product of Thymidylate , uracil and Cytosine(all pyrimidine)
16. Tyrosinemia type II is due to deficiency of Tyrosine Transaminase/ Aminotransferase.
17. Amino acid that enters the TCA cycle for gluconeogenesis & also ketogenic in nature Phenylalanine.
18. Conversion of proline to hydroxy proline is by Vitamin C mediated hydroxylation (it is a type of post translational modification).
19. S. Adenosyl methionine is necessary for synthesis of Choline.
20. Xanthurenic acid is a product of metabolism of Tryptophan.
21. In Hartnup's disease Tryptophan is excreted in the urine:

22. S-adenosylmethionine (SAM) is a universal methyl group donor in biosynthesis of tRNA, DNA, Epinephrine & Phosphatidylcholine
23. Isoleucine contributes carbon atom for the conversion of methionine to succinyl CoA
24. Xanthurenic acid is formed in the metabolism of Tryptophan
25. In Maple syrup urine disease (MSUD), there is increased excretion of Branched ChainAmino Acids (BCAA).

Urea Cycle

1. Source of ammonia in urine is Glutaminase.
2. One nitrogen atom of urea is derived from NH of Aspartate.
3. Urea is formed In Liver.
4. The reactions of the urea cycle occur both in the mitochondrial matrix and the cytosol.
5. Carbamoyl phosphate is used in Urea cycle.

Structure of Protein

1. Triple helix is found in Collagen.
2. The Coiling & folding of protein requires Hydrogen/Covalent bonds.
3. Alpha helix, a secondary structure is formed due to INTRA CHAIN H-bond within peptides.
4. The primary role of chaperones is to help in Protein folding.
5. An alpha helix of a protein is most likely to be disrupted if a missense mutation introduces Aspartic acid and glutamic acid at carboxy terminal within the alpha helical structure.
6. Insulin receptors is a tetrameric glycoprotein.
7. Structure of proteins is best studied by X-ray diffraction crystallography.
8. Vibrational property(Spectrum) of proteins is due to Tertiary Structure.
9. Two amino acids most commonly found in turns in proteins are Glycine and proline.

Protein Purification

1. The molecular weight of a protein can be determined by Sodium Dodecyl Sulphate PAGE.
2. Similarly charged proteins: separation is done by DEAE Cellulose.
3. Iron is complexed in hemoglobin to Histidine.

4. A peptide bond has a partial double-bond character.

Miscellaneous

1. Xanthurenic acid is a product of metabolism of Tryptophan.
2. p-alanine is end product of Thymidylate , uracil and Cytosine(all pyrimidines).
3. Quaternary structure of protein is the inter relation and. Spatial arrangement of polypeptides in a protein with more than 2 polypeptide chains.
4. Cysteine is an essential amino acid in individuals consuming a diet severely limited in methionine.
5. In Maple syrup urine disease Urinary urea is increased by a diet rich in protein.
6. ADH requires $NAD^+$for catalytic activity. In the reaction catalyzed by ADH, an alcohol is oxidized to an aldehyde as NAD^+ is reduced to NADH+H+ and dissociates from the enzyme. The NAD^+ is functioning here as a (an) Coenzyme-co-substrate.
7. All enzymes are not proteins. This statement is justified by RNase that act as enzymes, i.e., ribozymes.
8. Enzymes mediating transfer of one molecule to another are known as Transferases.
9. Urea cycle occurs in Liver.
10. Process in which exchange of ions in solution form with that on to surface form occurs is Ion exchange.
11. Fastest moving amino acid in methanol chloroform electrophoresis is Aspartic acid.
12. Zn is a cofactor of Alcohol Dehydrogenase.
13. Best method of separation of ammonium sulphate from protein solution Salting in and salting out.
14. Thiamine is coenzyme for pyruvate dehydrogenase complex, transketolase, branched chain keto acid dehydrogenase and a keto dehydrogenase complex.
15. Thiamine deficiency decreases energy generation because of Decreased activity of alpha ketoglutarate complex and pyruvate dehydrogenase complex.

16. In a critically ill patient Amino acid supplementation will maintain positive nitrogen balance Both, by decreased protein degradation and increased protein synthesis.
17. Trypsin can be activated by Enterokinase.
18. Enzyme Glucose oxidase, followed by Peroxidase (GOD-POD) is used for estimation of Glucose.
19. A person who is running the main source of energy he will be using after 1st minute is Glycogen.
20. Selenocysteine is formed from amino acid serine(O " of COO- in serine is replace by selenium).
21. Isoelectric point of protein is located by Isoelectric focusing Method.
22. Protein structure not lost in denaturation is Primary structure.
23. In urea cycle, hydrolysis of arginine form Ornithine & urea.
24. Tryptophan is glucogenic & ketogenic by producing Acetyl CoA & alanine
25. Heme is porphyrin Type III.
26. Amino acid with double chiral character is Threonine.
27. Ninhydrin test is used for Amino acid (only a amino acid detection).
28. An X linked disease in urea cycle defect is Ornithine transcarbamoylase (type II hyperammonemia).
29. One gram of hemoglobin contains 3.4 mg of iron.

Vitamins and Hormones

VITAMINS

1. FIGLU(Form Imino Glutamate) is a metabolite of Histidine.
2. Carboxylase activity is affected by biotin deficiency.
3. Vit. K participates in Gamma carboxylation.
4. Hypervitaminosis A induces damage to Lysosome.
5. Glutathione peroxidase contains selenocysteine.
6. In Beri-Beri, enzyme activity measured is erythrocyte Transketolase.
7. People eating only maize as staple diet develop niacin deficiency due to high leucine as it inhibits QPRT (Quinolinate phosphoribosyl transferase) enzyme, so niacin can't be converted to NAD^+(leucine pellagra).
8. Vitamin necessary for CoA synthesis is pantothenic acid.
9. Wernicke's encephalopathy is due to the deficiency of Thiamine.

10. Biotin is essential for Carboxylation.
11. Methyl Malonyl aciduria is seen in deficiency of B12.
12. Metal in Vit. B12 is Cobalt.
13. The vitamin that is useful in treating cancer is vitamin A.
14. Vitamin E prevents rancidity by virtue of its property as antioxidant
15. Vitamin C is present in the largest amount in the body in Adrenal cortex
16. Anti-infective vitamin is Vitamin A.
17. The most active form of vitamin D is 1,25 dihydroxy chole-calciferol(calcitriol).
18. Vitamin B12 is Extrinsic factor of castle
19. Vitamin used for inhibiting lactation is B6
20. Vitamin A deficiency leads to all, EXCEPT Petechial hemorrhages which is classically seen in vitamin C deficiency
21. Tryptophan deficiency is seen in Hartnup disease
22. Tocopherol is Vitamin E
23. Coenzyme required for decarboxylation is Pyridoxal phosphate (only for non -oxidative type, for oxidative type the coenzyme is thiamine)
24. In scurvy, defective post translational modification is caused by deficient formation of Hydroxyproline
25. Vitamin K is involved in Carboxylation (Gama Carboxylation of glutamate residues to form 'Gia' residues)
26. Fully activated pyruvate carboxylase depends on the presence of substances viz. Acetyl-CoA and biotin

Hormones

1. Insulin receptors are Tyrosine kinase receptors.
2. cAMP,IP3 are second messengers.
3. Epinephrine activates the enzyme Adenyl cyclase.
4. Glycogen synthesis is allosterically activated by Insulin.
5. The enzyme acetylcholine esterase is synthesized in Liver.
6. 17-a hydroxylase deficiency causes decreased testosterone .
7. Adrenaline acts on glycogen Phosphorylase in glycogenolysis (all catecholamines target this enzyme).
8. Glycogen Phosphorylase is the rate limiting enzyme of glycogenolysis

Hemoglobin

1. Unconjugated hyperbilirubinemia causes include Ineffective erythropoiesis
2. In myoglobin , the innate affinity of heme for carbon monoxide is diminished by the presence of Histidine E-7.
3. In porphyria cutanea tarda the type of porphyrin excreted in urine is Type I & III uroporphyrins.
4. At pH 7 the binding of 2,3 BPG to hemoglobin occurs at Amino terminal.
5. Ferritin stores are absent in Bone.
6. The most important buffer in RBC is 02 Hb + K Hemoglobinate.
7. Ascorbic acid which basically favors iron absorption by converting ferric form of iron to ferrous form (absorbable form).
8. Iron in the Hemoglobin is held by Co-ordinate bonds.
9. The total body iodine stores are about 50mg.
10. Bilirubin glucuronide (conjugated form of bilirubin) in the urine in the absence of Urobilinogen suggests Obstructive jaundice.
11. Iron is absorbed actively in the Duodenum and jejunum.
12. The defect in hemoglobin of sickle cell anemia is due to replacement of 6 glutamate by valine of both 3 chains.
13. In infective hepatitis with cholestasis, in urine there is Conjugated hyperbilirubinemia.
14. Increased serum levels of bilirubin diglucoronide is seen in Obstructive jaundice.
15. Hormone sensitive lipase is inhibited by Insulin. HSL is activated by glucagon, epinephrine, growth hormone, ACTH, thyroid hormone.
16. Insulin inhibits the activity of the enzyme Hormone sensitive lipase.
17. Insulin promotes transport of glucose in Hepatocytes.
18. Retinol Is transported from the intestine to the liver in chylomicrons.
19. Vitamin K Is synthesized by intestinal bacteria, (only Menaquinone form)
20. An individual with insulin resistance: Usually shows elevated fasting insulin levels.
21. Relative or absolute lack of insulin in humans would result in Increased formation of 3-hydroxybutyrate in liver, (it is a ketone body).
22. The catabolism of hemoglobin Involves the oxidative cleavage of the porphyrin ring.

23. Thiamine deficiency causes decreased energy production because It is a co-enzyme for pyruvate dehydrogenase complex & alpha ketoglutarate dehydrogenase complex.
24. Vitamin K carboxylates Glutamate.
25. Vit. K dependent clotting factor Factors are II, VII, IX, X , Protein C and Protein S.
26. Somatomedin(IGF-l)is needed To promote deposition of chondroitin sulfate
27. Carboxylation of clotting factors by Vit. K is through y-carboxylation of Glutamate of clotting factors.
28. Insulin doesn't promote lipogenesis by Decreasing cAMP. Decrease in cAMP by insulin is done though activation of phosphodiesterase that degrades cAMP ->This shows Anti-lipolytic role of insulin.
29. The "c" terminal peptide of androgen binding protein is essential for Binding to hormone binding domain.
30. Biotin is required for treatment of Multiple carboxylase deficiency
31. Gamma carboxylation of glutamic acid in clotting factors II, VII, IX, X and protein C, S is dependent on Vitamin K.
32. Thiamine deficiency seen in all except Homocysteinemia.
33. Vitamin A intoxication causes injury to Lysosomes.
34. Active form of vitamin D is 1, 25 (01-1)2 Cholecalciferol (Calciferol).
35. Hemoglobin electrophoresis is based on Charge and mobility.
36. Vitamin K is required for Carboxylation.
37. Cofactor of carbonic anhydrase is Zinc.
38. Essential Pentosuria is due to defect in Xylitol dehydrogenase(major) & xylulose reductase (minor) enzymes in Uronic acid pathway.
39. All are true about Vitamin B12, except it is required for conversion of pyruvate to lactate.
40. Ceruloplasmin contains- Cu.
41. Neurotoxicity is seen with excess of Vitamin B6 (It causes sensory neuropathy in patients of premenstrual syndrome taking 2-7gram of vitamin B6 per day).
42. The function of vitamin K largely depend on mineral Calcium.
43. According to IUB system, hydrolases belong to class EC-3.

Enzymes

1. Example of suicidal inhibition^ Cyclooxygenase by aspirin.
2. The buffering capacity of a buffer is maximum at pH equal to pKa.
3. The conversion of an optically pure isomer (enantiomer) into a mixture of equal amounts of both dextro and Levo forms is called as Racemization.
4. Prostaglandins increases gastric acid secretion.
5. Selenium is an essential component of Glutathione peroxidase.
6. In competitive inhibition the relation of Km and Vmax is that, Km increases and Vmax is the same.
7. McArdle's sweat chloride test is read after 4 hours (cannot be cross checked please provide earlier reference if available).
8. Km of an enzyme is The substrate concentration at which half maximum velocity is achieved.
9. Formation of hydrogen peroxide requires Oxidase
10. In the small intestine, cholera toxin acts by ADP-ribosylation of the *α* subunit of Gs regulatory protein
11. Keratin in the nail is exceptionally stronger than others because of Disulphide bond.
12. Electrophoresis done under pH gradient is isoelectric focusing (IEF).
13. Body water content in percentage of body weight is lowest in Fat woman.
14. The reaction inhibited in thiamine deficiency is Pyruvate to Acetyl COA.
15. Commonest among diseases with Mendelian inheritance is Autosomal dominant.
16. Most important compensatory mechanism in metabolic acidosis Increased NH3 excretion by kidneys.
17. Mousy odour urine is seen in Phenylketonuria.
18. Biological membrane, their lipid moieties are amphipathic in nature.
19. Osmolarity is Moles per litre of solvent.
20. In ECF main electrolyte Is Na^{+}-
21. The enzyme glucokinase is a Transferase.
22. The most common cause of lactic acidosis is circulatory failure.
23. cGMP is a second messenger for Atrial natriuretic peptide.
24. The maximum number of substrate per mole enzyme is seen with Trypsin

25. Confirmation of elevation of alkaline phosphatase of hepatic origin is by GGT.
26. The normal value of BUN is 10-20mg/dl.
27. The normal specific gravity of urine is 1.010 - 1.030.
28. The lipid bilayer of cell membrane exists as Gel.
29. Apoenzyme (Protein part) + Coenzyme (Non-protein prosthetic part) constitutes Holoenzyme.
30. Major basic protein is produced by Eosinophils.
31. Histamine is produced by Decarboxylation.
32. Specific dynamic action is maximum in Proteins.
33. The brush border bound hydrolase linked with sucrase is Alpha dextrinase.
34. A bilipid layer is most permeable to Urea.
35. Fluorescamine (Fluorometric assay)is used to detect Amino acids.
36. The largest amounts of prostaglandins are seen in Seminal fluid.
37. Sulphonamides are conjugated by Acetyl CoA.
38. Phenylpyruvic acid in the urine is detected by Ferric chloride test.
39. Cellulose acetate electrophoresis is most suitable for separation of the most purified form of protein.
40. Fischer's lock and key theory[1] postulates that: Active site in enzyme exists in proper conformation to the substrate molecule even in absence of substrate.
41. Lysosomes contain enzyme Proteinases.
42. The functions of many enzymes, membrane transporters, and other proteins can be quickly activated or deactivated by phosphorylation of specific amino acid residues catalyzed by enzymes called Kinases.
43. The chemotherapy drug fluorouracil undergoes a series of chemical changes in vivo that result in a covalent complex such that it is bound to both thymidylate synthase and methylene-tetrahydrofolate. The inhibition of deoxythymidylate formation and subsequent blockage of cell division is due to Irreversible inhibition.
44. The demyelinating disease multiple sclerosis is characterized by a loss of Phospholipids and sphingolipids.
45. The specific activity of an enzyme would be reported in per milligram of protein.
46. In the Lineweaver-Burk plot, the Vmax of an enzyme is: Reciprocal of the absolute value of the intercept of the curve with the y axis.

47. Sulfhydryl group of glutathione plays its role as an antioxidant.
48. Major mono-oxygenase in endoplasmic reticulum is Cytochrome P450.
49. Dehydrogenases serve two main functions (1) transfer of H+ from one substrate to another in a coupled oxidation-reduction reaction; and (2) they serve as components in the respiratory chain of electron transport. Dehydrogenases can use NAD^+ as an electron acceptor.

Miscellaneous

1. The conjugation of bilirubin to glucuronic acid in the liver Converts a hydrophobic compound to a hydrophilic one.
2. Correct pair of Ig subclass with their heavy chain IgG - y.
3. Lignin is a plant component that is not fermented by gastrointestinal microorganisms.
4. 40nm gap in between the tropocollagen molecule in collagen which serve as the site of bone formation is occupied by Ca^{2+}
5. Prothrombin time estimation processed within 4 hrs.
6. NO is formed in the body by L-Arginine.
7. Glowing of Firefly is due to ATP.
8. Phosphatidylcholine in a lipid monolayer with its pH=3.5 (below its pKa) leads to decreases surface tension.
9. Vit. A doesn't handle free radical in lens.
10. Thrombin activity is inhibited by Heparin cofactor II.
11. Blood spills on the floor are cleaned by Sodium hypochlorite.

Purines, Pyrimidines and Nucleic Acid Metabolism

1. Biotin is not used in purine synthesis
2. Nucleic acid absorbs light at wavelength of 260 nm due to Purines & Pyrimidines
3. Carbamoyl phosphate is involved in the synthesis of Pyrimidine and urea
4. Lesch-Nyhan syndrome is due to HGPRTase deficiency
5. The breakdown product of ribonuclease action is Nucleoside 3' phosphate + oligo nucleotides
6. A male child presents with delayed development and scarring of the lips and hands. His parents have restrained him because he obsessively chews on his lips and fingers, there will be Increased levels of 5- phosphoribosyl -

1 pyrophosphate (PRPP)due to HGPRT ase deficiency(Lesch Nyhan syndrome)

7. A one-year-old female patient is lethargic, weak, and anemic. Her height and weight are both low for her age. Her urine contains an elevated level of orotic acid. The administration of Uridine is most likely to alleviate her symptoms
8. The rate of DNA synthesis in a culture of cells could be most accurately determined by measuring the incorporation of radioactive thymidine
9. In a patient with cystic fibrosis caused by the AF508 mutation, the mutant cystic fibrosis transmembrane conductance regulator (CFTR) protein folds incorrectly. The patient's cells modify this abnormal protein by attaching ubiquitin molecules to it and It is degraded by the proteasome.
10. The analogue for bromodeoxyuridine is Thymine

Miscellaneous

1. Okazaki fragments are required for DNA synthesis which are formed in lagging strand.
2. Apo B48, B100 belongs to same RNA, difference between them is due to RNA editing.
3. Lipogenesis occurs in Cytosol.
4. Ketogenesis occurs in Mitochondria.
5. Restriction endonuclease recognized AAGCTT sequence.
    a. The gaps between segments of DNA on the lagging strand produced by restriction enzymes are rejoined / nick sealed by DNA Ligases
    b. CAP in lac operon is an example of Positive regulator.
    c. Triplex DNA is formed because of Hoogstein Base pairing.
    d. Increased euchromatin formation due to Histone acetylation.
    e. FRAP method is use for detection of protein motion from cell nuclei to cytoplasm.
    f. Gene duplication leads to maximal evolution of m-RNA.
    g. Poly A tail translates into Polylysine.
6. Sanger got Nobel prize for discovery of amino acid sequence of insulin and its functions in different animals.
7. Four encode codon instead of three, number of combination of unique codons = 256.
8. Same amino acid coded by multiple codons is due to Degeneracy .

9. A Inducible promoter ,in the expression of vector ensures increase in the yield of recombinant protein produced.
10. Two plants grown in garden soil, one to express Growth Fluoro Protein (GFP) and other firefly luciferase. In dark, Plant expressing firefly luciferase will glow.
11. Maternal disomy is found in Prader Willi syndrome.
12. In Duchenne muscular dystrophy, dystrophin gene mutation occur in promoter region.
13. Gaps between segments of DNA produced by restriction enzyme are sealed by DNA ligase.
14. Splicing activity present in snRNA.
15. DNA Microarray technique is used for detecting genetic transfer of disease.
16. Hemophilia is diagnosed by RT PCR.
17. Noble prize recently given for the discovery of RNAi (2006).
18. NARP syndrome seen in Mitochondrial disease.
19. Karyotyping under light microscopy G-banding.
20. Western blot technique is done for DNA.
21. Oligomer with a mutant base substitution is used as a primer for site directed mutagenesis.
22. Ribozyme has Peptidyl transferase enzyme activity.
23. Gene for folic acid absorption is present on Chromosome XXI.
24. BRCA 1 gene is located on chromosome 17.
25. HLA genes are located on Short arm of chromosome 6.
26. Blue-white Color Screen technique is Used In DNA Cloning to find out If plasmid incorporated in DNA.
27. Northern blotting is used for identification of m-RNA.
28. Transport of ascorbic acid in lens is done by Na+-K+ ATPase.
29. Study of protein elaboration under different condition is known as Proteonomic or proteomics.
30. Okazaki fragments are formed during replication of dsDNA.
31. In the study of evolution we see that the protein sequence is different but the shape of protein is same, this is known as Drift.
32. PCR uses Mg^{2+}
33. Gout is a disorder of Purine metabolism.
34. Ribonuclease-P is Ribozyme.
35. Beta alanine is end product of metabolism of Uracil.

36. Anticodon is located on t-RNA.
37. P50 is increased by decrease in pH.
38. DNA model described by Watson and crick was Right handed anti parallel.
39. Enzyme used in PCR isTaq polymerase.
40. Orotic aciduria is due to deficiency of OMP Decarboxylase.
41. 1st carbon of pentose sugar of nucleic acid joins N-l of pyrimidine or N-9 of purine.

Miscellaneous

1. Fatty acid not synthesized in man is Linoleic acid.
2. Phenylketonuria is detected by Guthrie test.
3. Exhaustive treatise on scurvy was published by James Lind.
4. Respiratory quotient on a mixed diet is 0.85.
5. Quantity of Hb catabolized everyday in a normal adult is 6 gm.
6. Allosteric activator of phosphofructokinase-1: Fructose 2,6 bisphosphate.
7. Aromatic amino acids are Tryptophan, Tyrosine, Phenylalanine & Histidine.
8. Amino acids with its PKa value close to physiological range Histidine.
9. Dietary fibers are rich in Collagen.
10. Vibrational spectrum of proteins is due to Tertiary structure.
11. Overnight fasting gastric output is 10-20 mEq/L .
12. "Squalene" is the intermediate product during synthesis of Cholesterol.
13. The no. of net ATP gained after complete oxidation of palmitic acid {C16 fatty acid} is 106.
14. Bence Jones proteins are Light chains.
15. Mature RBC contains Glycolytic enzymes.
16. Coproporphyrin-lll is Excreted in Lead poisoning.
17. Cofactor in one carbon metabolism is Folic acid.
18. Pyruvate decarboxylase requires as coenzyme thiamine.
19. Aerobic oxidation of reduced cytochromes shows P/O ratio of 1.
20. Sulkowitch test is used to estimate Urinary Calcium.
21. Addis urine sediment count is a renal test of severity of disease.
22. Gerhardt's test is positive in significant degree of Ketosis (This test detects presence of acetoacetate).
23. In mature erythrocytes the major dialyzable anion is chloride .

24. "Reducing power" is usually in the form of Reduced $NADP^+$ (= NADPH + H^+, known as Reducing equivalent).
25. Lipotrophic factors are Choline, Methionine.
26. The most direct source of nitrogen in urea biosynthesis is Ammonium ion, Aspartate.
27. Glutathione hydrolysis produces Glycine, Glutamate & cystine.
28. An increase in the rate of operation of the tricarboxylic acid cycle occurs when there is an increase in the ratio of NAD+/NADH, ADP/ATP.
29. The term secondary structure of proteins refers to Alpha helix, Beta pleated sheet, loops, turns, bends, (3-hairpin, Greek key, p-meander, ip loop, p-a-P loop,p-barrel, p-helix, p-propeller, p-sandwich
30. Unwinding of DNA is done by Helicase.
31. Ubiquinone (coenzyme) Accepts electrons from succinate dehydrogenase
32. Cofactor for sulphite oxidase is Molybdenum (exact cofactor is Molybdopterin + Heme).
33. Cholesterol is transported to extrahepatic tissue mainly through LDL.
34. Chargaff's rule states that A/T=G/C.
35. Substantial quantity of K^+ (inorganic ions) is required for ribosomal function
36. The molecular weight of linoleic acid is 280 and the atomic weight of iodine is 127. The iodine number of this acid is 180.
37. Kinases require Mg^{++}
38. In anaerobic glycolysis, one mole of glucose yields 2 moles of ATP.
39. Carnitine is synthesized from Lysine, methionine & Vit. C.
40. Vit. D is fat soluble vitamin functioning like a hormone.
41. The rate limiting step in the extra mitochondrial synthesis of fatty acids is Acetyl CoA carboxylase.
42. The monosaccharide most rapidly absorbed from the small intestine is Galactose.
43. The first product of Glycogenolysis is Glucose 1-phosphate.
44. An Amino acid that is incompatible with an alpha - helix is Proline.
45. Cyanide poisoning causes Inhibition of Cyt a3 component of cytochrome oxidase.
46. Ai intermediate in 'active acetate' formation from acetate is Acetyl AMP.
47. In oxidative phosphorylation, oxidation of one NADH to NAD+ produces ATPs.

48. With help of pyridoxine, serotonin is synthesized from Tryptophan.
49. Substrate concentration affects velocity of enzymatic action, described by Michaelis Menten equation.
50. Flexibility of protein chain is determined by Glycine.
51. Sulphur containing amino acids are Cysteine, methionine & Cystine.
52. Urea & Creatinine are Physiological constituents of urine".
53. Urine urobilinogen is tested with Ehrlich's aldehyde test (also used for detecting porphobilinogen-PBG of porphyrias).
54. Cytochrome oxidase contains Fe & Cu.
55. The most important buffer in extracellular fluid is SO2, Bicarbonate.
56. The normal pH of blood is 7.4 (7.35-7.45).
57. The commonest enzyme deficiency is of Glucose -6-phosphate dehydrogenase.
58. Placenta and Ovary synthesize and release physiologically significant amount of estradiol.
59. Cholesterol contains 27 carbon atoms, a hydroxyl group on carbon number 3.
60. Citrate & ATP inhibit phosphofructokinase-1.
61. The semi essential amino acids is Arginine.
62. Essential fatty acids are Arachidonic acid, Linoleic acid, Linolenic acid ,Eicosapentaenoic Acid (EPA) & Docosahexaenoic Acid (DHA).
63. Base stacking measurement of DNA (or DNA duplex stability) is done by Hyperchromicity @ 260 nm & @ pH of 7.
64. Michaelis-Menten hypothesis states that enzyme substrate complex formation essential in enzymatic reaction.
65. Degeneracy of the genetic code denotes the existence of Multiple codons for a single amino acid.
66. Specific dynamic action is maximum in Protein.
67. Pyridoxine is required for Heme synthesis.
68. Isotope has same Atomic number but different mass number.
69. Banding is Method of detecting single gene deletion
70. Besides Liver, Gluconeogenesis occurs in Kidney (Primarily in cortex).
71. Number of ATPs formed in conversion of glycogen glucose to lactate is 3 (Note that it can be 2 as well considering debranching enzyme yield free glucose instead of Glucose 1 phosphate, this is commonly seen in prolonged starvation, for simplicity choose 3 > 2).

72. Normal renal threshold for glucose excretion is 180 mg %.
73. Benzoic acid is detoxified by binding with Glycine (forms Hippuric acid).
74. ATPs are formed in the conversion of alpha-ketoglutarate to succinate.
75. Cori cycle or lactic acid cycle involves blood, liver, muscle.
76. Net ATPs formed in glycolysis are 0, 1, 2, 3, 5, 7 ATPs (depending on cell, fuel, shuttle and conditions (aerobic/anaerobic)).
77. The key enzyme in the bile acid synthesis is 7 alpha hydroxylase.
78. LDL form of cholesterol is found in plasma most.
79. 4 ATPs are formed by one turn of beta oxidation, (without considering the ATPs generated by kreb's cycle).
80. The normal daily fecal fat excretion in man is 5gm.
81. Endogenous triglyceride highest concentration in Plasma is VLDL.
82. Rate limiting step in cholesterol synthesis is HMG CoA Reductase.
83. Non essential amino acid is not needed in diet.
84. Man, Monkey, Guinea pig Cannot synthesize vitamin C due to absence of L-gulonolactone oxidase.
85. Basic amino acid is Histidine , Arginine & Lysine (Note Arginine is most basic).
86. Ketone body produced maximum in starvation is Beta- hydroxybutyrate (3 times acetoacetate).
87. The base found in RNA but not in DNA Uracil.
88. Glycogen phosphorylase requires Pyridoxine in form of PLP as phosphate donor.
89. Messenger RNA attaches to Operator codon for regulating protein synthesis.
90. The common feature of enzyme cascade system is Feedback inhibition.
91. "The process in which amino group of the amino acid is transferred to the keto acid and the keto group of the keto acids transferred to the amino acid" is called Transamination.
92. Alcohol is converted into methanol by Reduction.
93. The only tissue where NAD and NADP are equally distributed Liver cytosol (Not in liver mitochondria).
94. NADPH is used for fatty acid biosynthesis.
95. Glutathione peroxidase contains Selenium/Selenocysteine.
96. Most catalytically active enzyme is Trypsin
97. The vitamin important for carboxylation is Biotin.

98. Vitamin which prevents auto-oxidation Tocopherol.
99. Vitamin essential for transamination is B6.
100. The major vitamin deficiency in Wernicke's encephalopathy BI.
101. Dermatitis, diarrhea, and dementia are seen in deficiency of Niacin.
102. Nicotinic acid and serotonin are formed from Tryptophan.
103. Embryonic hemoglobin is Alpha2, gama2.
104. Alpha antitrypsin is synthesized in Lungs.
105. Surfactant is secreted by Pneumocyte-ll.
106. Best stimuli for pancreatic secretion rich in electrolytes Secretin.
107. Cholesterol is transported to extrahepatic tissue mainly through LDL (Note VLDL transports endogenous TAG to extrahepatic tissues).
108. Beta 1 receptor activation causes Decarboxylation of keto acid.
109. Free fatty acid is transported by Albumin.
110. HMP Shunt pathway produces CO2.
111. Atherosclerosis is not found in Rabbit.
112. Thirst is stimulated by ADH.
113. Galactolipid is accumulated in Gaucher's disease.
114. -CH_3 transfer reaction is mediated by Folic acid.
115. Activated pantothenic acid is found in GMP.
116. Glycine is inhibitory agent in neuron.
117. Chromosomal studies are done in Metaphase.
118. The amino acids that are heterocyclic are Proline, Tryptophan Histidine.
119. Tertiary structure present in keratin.
120. Heart at rest utilizes Fatty acids.
121. The vitamin synthesized in the body is Vit. D & B3 (Niacin).
122. The vitamin deficiency implicated in metaplasia of respiratory epithelium is Vit. A.
123. Dietary fibre is Non-starch polysaccharide.
124. Dietary fibre reduces atherosclerosis by Binding to cholesterol.
125. Bence -Jones proteins is not a normal ingredient of human urine.
126. The mechanism of action of uncouplers of oxidative Phosphorylation Involves Disruption of proton gradient across the inner membrane.
127. The cytochrome involved in mono-oxygenase mediated detoxification of drugs is Cyt P 450.
128. In Chylomicrons, the main apoprotein is Apo B-48.
129. Insulin secretion is associated with Zinc.

130. The site at which 1,25 hydroxylation of vitamin -D takes place in the kidneys is Mitochondria of Proximal convoluted tubules
131. Allosteric activator of Acetyl CoA carboxylase is Citrate
132. The Fenton reaction leads to free radical generation when Ferrous ions are converted to ferric ions
133. To which family of chemical mediators of inflammation, the lipoxin belong Arachidonic acid metabolites
134. Beta-oxidation of odd chain fatty acids produces Propionyl CoA
135. A person on a fat free carbohydrate rich diet continues to grow obese. The lipoproteins is likely to be elevated in his blood is VLDL
136. Dielu. y cholesterol is carried from intestine to liver by APO-C
137. RFLP method is used for reading large chromosomes 50-100 base pairs.
138. A segment of an eukaryotic gene that is not represented in the mature mRNA, is known as Intron
139. Hypervitaminosis -A induces damage to Lysosome
140. Telomerase contains RNA dependent DNA polymerase
141. The purines salvage pathway is for Hypoxanthine, Guanine & Adenine
142. Diphosphoglycerate in red blood cells does not increase on stimulation in Chronic anemia
143. Function of Sertoli cells is to Aid in spermiogenesis
144. Enzyme responsible for respiratory burst is Oxidase
145. In carboxylation of clotting factors by vitamin K, Glutamate is carboxylated.
146. A major lipid of mitochondrial membrane is Cardiolipin
147. Alpha fetoprotein is genetically and structurally related to Albumin
148. In the mucosal cells, triglycerides are formed primarily in the Golgi apparatus
149. Biosynthesis of the enzyme pyruvate carboxylase is repressed by Insulin
150. Microalbuminuria is defined as protein levels of 151-300mg/L
151. Mucin dot test is done to detect Hyaluronate in synovial fluid
152. The cofactor required for the activity of sulfite oxidase is Molybdenum
153. The estimation on-methyl histidine in urine is used to study Skeletal muscle mass
154. The screening test for gestational diabetes mellitus that has the highest sensitivity is 50gm glucose challenge test

155. Nephelometry is based on the principle of Light attenuated in intensity by scattering
156. Type -II collagen is found in hyaline cartilage.
157. Replacing alanine by Tryptophan will increase UV absorbance of protein at 280nm wavelength as Tryptophan is aromatic
158. NO is synthesized from Arginine
159. Splicing is done by Sn RNA
160. Hyaluronic acid a mucopolysaccharide is present in Vitreous humor
161. In Maple syrup disease, the amino acids Not excreted in urine: Phenylalanine
162. NARP is related to Mitochondria
163. Zinc is required for Alcohol dehydrogenase
164. Western blotting is used for Proteins
165. Rancid butter (boiled cabbage- like) smell in urine is seen in Tyrosinemia Type I & Hypermethioninemia
166. Hemoglobin formation requires Histidine
167. Somatostatin-.-acts by decreasing - cAMP
168. Functional plasma enzyme is Lipoprotein lipase
169. In familial hypercholesterolemia ll-a LDLR is not properly transported
170. Most abundant extracellular anion is Chloride
171. Milieu interior refers to ECF
172. Thyroxine is derived from amino acid Tyrosine
173. Alpha oxidation of fatty acid occurs in Peroxisomes

Analytical Application - used in diagnostic kits _____

Glucose oxidase and peroxidase (GOD POD)	Glucose
Urease	Urea
Cholesterol oxidase	Cholesterol
Uricase	Uric acid
Lipase	Triacylglycerol
Luciferase	To detect bacterial contamination in foods
Alkaline phosphatase/horse radish peroxidase	In the analytical technique ELISA

Download From: AghaLibrary.com

Use in Genetic Engineering

Restriction endonucleases	Gene transfer, DNA finger printing
Taq DNA polymerase	Polymerase chain reaction

a. CK is a dimer composed of 2 sub units. These are B for brain and M for muscle. Because the active form is a dimer, there are 3 isoenzymes CKl(BB), CK-2 (MB) CK-3 (mm). CK1 is the fastest moving on electrophoresis, CK-2 intermediate and CK-3 slowest.
b. Abzyme is an antibody which is also having a catalytic activity. They are antibody enzymes.
c. **Cyt P450** is Microsomal enzyme/cytochrome involved in biotransformation of largest number of drugs (50%).

Some Important Negative Points

1. Sedoheptulose PO4 is intermediate Product of pentose pathway
2. Phosphate is NOT a component of Ganglioside
3. HMG CoA is NOT involved in Isoleucine metabolism
4. Phosphoenol pyruvate is NOT Directly produced from pyruvate
5. Hydrogen bond is NOT -present in primary structure
6. Covalent bond is NOT present in Antigen - antibody complex
7. Pyridoxal phosphate is NOT Required for hydroxylation of proline in collagen synthesis
8. Tyrosine is NOT an essential aa (but it becomes essential in PKU).
9. Glutamate is NOT a precursor of Histidine
10. Reaction NOT occur in glycolysis is Hydration
11. Biotin is NOT required as a coenzyme in Pyruvate dehydrogenase (It requires thiamine)
12. Sphingomyelin does NOT contains glycerol
13. Ligase chain reaction is NOT useful for detection of mutation
14. Barbiturates inhibit NAD linked dehydrogenases by blocking the transfer from FeS to Q

End products of

1. Purine catabolism	Uric acid
2. Pyrimidine catabolism	P-Alanine + (3-Amino Isobutyric acid + NH 3+ CO2
3. FA Oxidation	Acetyl CoA (propionyl CoA with odd chain FA)
4. Glycolysis	Pyruvate
5. Nucleic acid on hydrolysis yields	Base + Sugar + PO4 i.e. DNA on complete hydrolysis
6. RNA on complete hydrolysis	Base + Sugar (A, G, C, U + ribose) (A, G, C, U + D- ribose)

Some Inborn Error of Metabolism

1. Pentosuria	Disease of uronic acid pathway Defect of enzyme L-xylitol dehydrogenase> **Xylulose reductase** L-xylulose in blood & excreted in urine
2. Norum's ds	**Complete** LCAT deficiency (failure of cholesterol esterification) Cholesterol + lecithin **LCAT->** Lysolecithin + Ch-ester
3. Hereditary fructose Intolerance	defect of aldolase-B
4. Refsum's disease	phytanate a- oxidase defect
5. Cystinuria	Excretion of **Cystine,** Ornithine, Lysine, Arginine in urine (COLA) Dibasic Amino acid carrier (transport) defect in renal tubular cells
6. Dibasic Aminoaciduria	Increased excretion of dibasic amino acids 0, L, A.
7. Cystinosis	Due to deficiency of cystine reductase
8. Homocystinuria	Deficiency of **cystathionine P synthase** leading to overflow aminoaciduria, Cod fish vertebrae, hepatomegaly. Osteoporosis, ectopia lentis, Charlie Chaplin gait Na-CN - nitroprusside test in urine for

	homocysteine
9. Maple syrup urine disease	enzyme deficiency **Branched Chain a-** keto acid decarboxylase **complex**
10. Orotic aciduria (OA)-	branched chain (leucine, isoleucine, valine) ketonuria burnt sugar like odour of urine Deficiency of OMP decarboxylase only in Type II & in Drug induced orotic aciduria; however, Type 1 is due to deficiency of Orotate phosphoribosyl transferase (OPRT) & OMP decarboxylase both Megaloblastic anemia is seen in OA.
11. Alkaptonuria	- deficiency of Homogentisate oxidase occurrence of dark urine on standing in air, generalized pigmentation of connective tissues (ochronosis)and deposition in joints leading to arthritis Deficiency of fumarylaceto acetate hydrolase (tyrosinemia type-l)
12. Tyrosinosis	
13. Albinism	Def. of tyrosinase (inherited defect in melanocytes of eye & skin)
14. Glutaric aciduria	Ketoacidosis, hypotonia hypoglycemia. 'Sweaty feet odour'

Extra Edge:

a. "Sweaty Feet" odour is seen in Isovaleric acidemia & glutaric aciduria
b. "Mousy or Musty Odour" of skin, hair and urine is seen in PKU.
c. Boiled cabbage like urinary odour is seen in - Tyrosinemia & hypermethioninemia
d. Swimming pool urine odour is seen in - Hawkinsinuria.

Biochemical tests

1. ForCBH	Molisch's test **(Positive for Pentose Sugars & above > 5C)** **Seliwanoff's test, Foulger's test(+ve** forD-fructose) **Fearson's** test (+ve For sucrose) Benedict's & Fehling's test (+ve For Reducing monosaccharides) Barfoed's test (positive for Reducing Monosaccharides & negative for Reducing disaccharides Moor's test (+ve For glucose)
2. For Ketones	Rothera's test, sodium nitroprusside test,
3. For cholesterol	Salkowski, Liebermann-Burchard, Ziemann's (Mnemonic-Sali Zi), **Zak's method**
4. For bile pigment	Fouchet's agent (also Cole, Foam, Iodine)
5. For bile salts	Hay's Sulphur test, Pettenkofer's test
6. For Urobilinogen	Ehrlich's aldehyde test(also for porphobilinogen)

Some important Quantitative tests for estimation of biochemical parameters

1. Serum Bilirubin:Malloy & Evelyn method.
2. Serum Calcium:Baron & Bell method.
3. Serum Inorganic Phosphate: Fiske & Sub barrow method, Method of Gomorri.
4. Serum Albumin Reinhold's Biuret method.
5. Serum Uric Acid Caraway's method, Uricase-Peroxidase method.
6. Serum Creatinine Jaffe's alkaline picrate method by Brod & Sirota.
7. Blood Urea: Diacetyl Monoxime method (Non Enzymatic), Urease.
8. Nesslerization method.
   Blood Sugar King & Asatoor, Folin-Wu, O-Toluidine, Nelson Somogyi, Glucose Oxidase-Peroxidase (GODPOD)Method
9. Serum Amylase: Somogyi method
10. Serum ALP: King & Armstrong method

Recent & High Yield Updated LMRPs

1. Most common form of pro-vitamin-A is Beta Carotene.
2. Required for activation of factor 8 is not true regarding vitamin K.
3. LDH flip in myocardial infarction is LDH 1 more than LDH 2
4. Most common product of fatty acid synthesis is Palmitic acid.
5. Nitric oxide works by Cyclic GMP.
6. Tyrosinosis is probably caused due to defect in Fumaryl acetoacetate hydrolase enzyme.
7. Galactosemia is most commonly caused due to defect in GALT (Uridyl Transferase).
8. True about DNA polymerase 1 is it does proof reading and repair.
9. Function of chaperon is Protein folding.
10. Color blindness is the X-linked disorder.
11. Cysteine is the amino acid which is not lost in cystinuria.
12. Negative charge carrying amino acid are Glutamic acid and aspartic acid.
13. Allosteric inhibitor acts on site other than enzymatic site to inhibit enzyme.
14. In fish odor disease the vitamin intake is restricted is Choline.
15. True about phenylketonuria is it usually diagnosed before one month of age.
16. PKa of a drug is equal to the pH when Equal amount of drug is ionized and non-ionized.
17. Ketone bodies cannot be utilized by RBCs.
18. Methylation of cytosine is associated with Decreased expression of gene.
19. Klenow fragment lacks the activity of 5'-3' exonuclease.
20. Techniques based on RNA is RT PCR/ NASBA.
21. tRNA of alanine does not require 5' capping.
22. Methylation does not favor permissive euchromatin due to changes occurring at cytosine residues at CpG islands in DNA.
23. In a reaction substrate is available in a concentration that is 1000 times the Km value of the enzyme. After 9 minutes of reaction, 1% substrate is converted to product (12 microgram/ml). If the concentration of the enzyme is changed to 1/3 and concentration of substrate is doubled. The time taken to convert the substrate into the same amount of product, i.e. 12 microgram/ml is 27minutes.
24. A middle aged woman presents with fissures in mouth, tingling sensation and peripheral neuropathy. Investigations showed reduced glutathione reductase activity. The vitamin deficiency is the likely cause of this is Vitamin B2.

25. Fe absorption increases by vitamin C.
26. The enzyme activity decreases in fasting is Phosphofructokinase I.
27. An adolescent male patient came with pain in calf muscles on exercise. On biopsy excessive amount of normal glycogen was found to be present in the muscle. The most likely enzyme deficiency is Phosphorylase enzyme.
28. Fluoride released from fluoroacetate inhibits the metabolic pathway is ETC (by chelating Ca++).
29. Vitamin K in its coenzyme form is regenerated by Epoxide reductase enzyme.
30. Best investigation for Metabolic disorders is Tandem mass spectrometry.
31. Best method to measure HbAlc is Ion exchange chromatography.
32. In Menkes disease lysyl oxidase activity is reduced.
33. After fatty meal, LPL deficient elevated: Chylomicrons.
34. The Amino acid producing nitric oxide is arginine.
35. Ammonia toxicity with urea cycle due to depletion of alpha ketoglutarate.
36. Norepinephrine to epinephrine conversion requires methionine (in form of SAM).
37. Cardiac failure cause: Vit. BI deficiency.
38. High glutamate in deficiency of CPS 1.
39. Mitochondrial DNA true: Maternally inherited.
40. Liver doesn't produce immunoglobulins.
41. NOT a Ribozyme: Poly A polymerase
42. Amino acid linking Krebs cycle and urea cycle: Aspartate
43. Typel DM is true in increased lipolysis.
44. Vitamin facilitates absorption of iron is Vit. C.
45. The Respiratory quotient for a person on exclusive carbohydrate diet is 1.
46. In noncompetitive antagonism: Vmax decreases.
47. In cerebrohepatorenal syndrome ,the accumulate in brain is due to Very long chain fatty acid.
48. Patient is with Type I Diabetes mellitus, with complains of polyuria. Increased conversion of fatty acid to Acetyl CoA will occur normally in his body.
49. Method of transport of glucose in the intestine is Secondary active transport.
50. During exercise ,most rapid way to synthesize ATP is Phosphocreatine.
51. At physiologic pH the side chains of lysine and arginine are fully ionized and positively charged.

Pathology

Cell Injury

Mechanism of cell injury

1. The Fenton reaction leads to free radical generation when Ferrous ions are converted to ferric ions.
2. Enzyme that protects the brain from free radical injury is the Superoxide dismutase.
3. Cells seen in chronic infection of pseudomonas are Neutrophils.
4. Cells most sensitive to hypoxia are neurons.

Necrosis

1. Coagulative necrosis is due to denaturation of proteins.
2. Coagulative necrosis is seen in gangrene.
3. Necrosis means enzymatic degradation.
4. Fat necrosis is common in breast.

Apoptosis

1. Characteristic feature of apoptosis is the intact cell membrane.
2. Mitochondria plays a pivotal role in apoptosis.
3. Bcl-2 is an anti apoptotic gene.
4. Ladder pattern of DNA electrophoresis in apoptosis is caused by the action of endonuclease.
5. Annexin V is a marker of apoptosis.
6. In apoptosis, Apaf-1 is activated by release of Cytochrome C from the mitochondria.
7. Isoprenoid induces apoptosis in cell.

Cell Aging

1. Increased free radical injury is associated with aging.
2. Werner disease is associated with premature ageing.

Miscellaneous

1. In cell death, myelin figures are derived from cell membrane.
2. Eosinophilia in necrosed tissue is due to coagulation of proteins.
3. Liquefactive action in necrotic tissue results in gangrene.
4. Apoptotic bodies are cell membrane bound with organelles.
5. Cytosolic cytochrome C plays an important function in Apoptosis.
6. Caspase is involved in apoptosis.
7. Brown atrophy is due to accumulation of Lipofuscin.
8. Metastatic calcification is most seen in lungs.
9. Calcification in necrotic tissue is called dystrophic calcification.
10. Dystrophic calcification is seen in atheroma.

Inflammation

Acute inflammation

1. Most characteristic features of acute inflammation are vasodilatation and increased vascular permeability.
2. Role of P-selectin in inflammation is homing.
3. Chemotaxis in response to activation of cells result in unidirectional motion.
4. Major basic protein is formed by eosinophil.
5. NADPH oxidase helps in generating reactive 02 intermediates in neutrophils.
6. Oxidase is responsible for generating 'oxygen burst' with neutrophils for killing intracellular bacteria.
7. In acute inflammation due to the contraction of endothelial cell cytoskeleton, there is early transient increase in permeability.
8. Earliest transient change following tissue injury will be neutrophilia.
9. Delayed prolonged leakage is the mechanism of "late appearing sunburn".
10. Increased permeability in acute inflammation is due to Histamine.
11. Sequence of event in acute inflammation Transient vasoconstriction -> Vasodilatation -> Increased permeability Stasis.

12. Delayed prolonged bleeding is caused by direct injury to endothelial
13. cells.

Inflammatory Mediators

1. Complement responsible for activation of bacterial lysis is C5b-9.
2. Leukotriene B4 is produced by the action of lipoxygenase on arachidonic acid, is a potent Chemotactic factor for neutrophils and causes aggregation and adhesion of leukocytes.
3. Mast cell is most likely to cause histamine mediated increased vascular permeability.
4. Bradykinin is responsible for enhancing permeability for capillaries.
5. The prostaglandin derivative, not implicated in inflammation is PGE2.
6. Interleukin IL -8 is an example of a C-X-C or alpha chemokine.
7. Most effective bacterial system within phagocytes is the reactive oxygen metabolite mediated system.
8. Secondary granules in neutrophil is lactoferrin.
9. C-C beta chemokine includes Exotoxin.
10. Acute phase reactants of inflammation are Haptoglobin.
11. IL-1 doesn't belong to interleukin-2 (IL-2) subfamily.
12. Neutrophil produce halide bactericidal product with help of Serotonin.
13. IgA activates alternate complement pathway.

Leucocyte defects

1. In leucocyte adhesion deficiency Type I, the defect is in the synthesis of (32-integrins.

Chronic inflammation

1. The most common cause of chronic granulomatous disease is the defect in the enzyme NADPH oxidase.
2. The epithelioid cell and multinucleated giant cells of Granulomatous inflammation are derived from Monocytes - Macrophages.
3. Atherosclerosis is a type of chronic inflammation.
4. Macrophages are converted into epithelioid cells by IFNy.
5. Epithelioid granulomas are caused by Helper T cells.
6. Delayed prolonged bleeding is mediated by Interleukin.

7. IFN-gamma activates macrophages.
8. Prostacyclin is produced by vascular endothelium.
9. Complement responsible for activation of bacterial lysis is C5-9.
10. Both antibody dependent and independent complement pathway converge on complement component C5.
11. Most effective bactericidal system within phagocytes is reactive oxygen metabolite mediated.
12. Characteristic of protective epithelium is regeneration of membrane.
13. Touton giant cells are seen in Xanthomas.
14. Highest concentration of hydroxyproline is seen in collagen.

Regeneration and Repair

1. Wound contraction is mediated by myofibroblast.
2. Fibroblast is derived from the local mesenchyme.
3. Complete restoration of tensile strength of the wound comparable to normal tissue takes as long as six months.
4. In wound injury sequence of appearance of cells is Platelet ---------- Neutrophils — Macrophage—-fibroblast.
5. Maximum collagen in wound healing is seen at the end of second week.
6. During angiogenesis recruitment of pericytes and per endothelial cells is due to angiopoietins , TGF & PDGF.

Growth Factors

1. Basic fibroblast is a growth factor that is capable of inducing all the steps necessary for angiogenesis.
2. Acid phosphatase is specific to Monocyte cells.

Structural Proteins

1. Basement membrane degeneration is mediated by metalloproteinases.
2. Articular cartilage is made up of Type II collagen.
3. Collagen most abundant in Hyaline cartilage is Type II.
4. The most abundant glycoprotein present in basement membrane is Laminin.

Genetics

1. Sickle cell anemia is due to point mutation.
2. Single gene disorder which does not follow mendelian inheritance is the Fragile X-syndrome.
3. In-situ DNA nick end labeling can quantitate fraction of cells in apoptotic pathways.
4. The approximate number of genes contained in the human genome is 30, 000.
5. Y-chromosome is acrocentric.
6. Loss of heterozygosity means loss of normal allele in mutant gene.
7. NK cell is a large granular lymphocyte.
8. CD8 is CD marker of cytotoxic cells.
9. Cells involved in humoral immunity is B-cells.
10. Macrophages are converted to epithelioid cells by IFN-r.
11. Phagocytosis is the function of microglia.
12. MALT is most commonly present in Ileum.
13. The primary location of Toll like Receptors is plasma membrane.
14. Natural killer cells attack cells which are not able to express MHC1.
15. Toll like receptors recognize bacterial products & stimulate immune response by transcriptions of nuclear factor mediated by NFK 3 which recruits cytokines.

Single gene disorder with Mendelian inheritance

1. Gaucher's disease is due to accumulation of glucocerebroside.
2. Splenic macrophages in Gaucher's disease differ from those in ceroid histiocytosis by staining positive for lipids.
3. A defect in the enzyme adenosine deaminase (ADA) shows Autosomal recessive.
4. Inheritance of X-linked recessive trait is that the 50% of boys of carrier mothers are affected.
5. Males are more commonly affected than females in X - linked recessive.
6. Reverse cholesterol transport is mediated by HDL.
7. Tc don xanthomas are seen in Familial hyper cholesterolemia.
8. In Marfan's syndrome, aortic aneurysm occurs in ascending aorta.

9. The chances of having an unaffected baby, when both parents have achondroplasia is 25%.
10. Inheritance pattern of ABO blood group system is codominance.
11. Accumulation of cerebral gangliosides occurs due to deficiency of 3 galactosidase.
12. Enzyme deficiency in Hunter disease is Iduronate sulfatase.
13. In Xeroderma pigmentosum, defect is in Nucleotide Excision Repair.

Single gene disorder with Non Mendelian inheritance

1. Pre mutation is seen in Trinucleotide repeat mutation.
2. Anticipation is seen in Trinucleotide-repeat expansion.
3. True about genomic imprinting different expression of gene depending on parent of origin.
4. Maternal disomy of chromosome 15 is seen in Prader -Willi syndrome.
5. G-6-PD deficiency is X-linked recessive.
6. Marfan syndrome has autosomal inheritance.
7. Gene involved in RETT syndrome is MECP2.
8. Type of inheritance in tuberous sclerosis autosomal dominance.
9. Autosomal dominant inheritance is seen in Hereditary spherocytosis.
10. Hemophilia is associated with X chromosome.
11. Genomic imprinting is seen is Prader-Willi syndrome.
12. Angelman syndrome is due to uniparental disomy.
13. Paternal 15 chromosome deletion is seen in Prader-Willi syndrome.

Chromosomal disorders

1. Commonest chromosomal syndrome is Trisomy 21.
2. Coarctation of aorta is common in Turner's Syndrome.
3. Klinefelter's syndrome is characterized by subnormal intelligence.
4. Streak gonads are seen in Turner's syndrome.
5. Chromosome 22 deletion syndrome is Di George syndrome
6. Patau's syndrome is due to Trisomy 13
7. Edwards syndrome is Trisomy 18
8. Number of chromosomes in Turner syndrome is 45
9. Known gene loci can be diagnosed by Fish
10. Resolution of light microscope of viewing chromosome is 5 mb

11. Real time polymerase chain reaction is done for monitoring amplification of target nucleic acid
12. Karyotyping is done during metaphase
13. Microarray is the study of multiple genes
14. Karyotyping is useful in diagnosis of X-linked recessive disorders
15. In- situ DNA nick end labeling can quantitate fraction of cells in apoptotic can quantitate

Miscellaneous

1. Gene instability associated with malignancy is seen in Ataxia telangiectasia.
2. Single gene disorder which does not follow mendelian inheritance is Fragile X syndrome.
3. Genomic imprinting Differential expression of gene depending on parent of origin.
4. G-banding is a routine technique for karyotyping using light microscopy.
5. Down syndrome is most commonly caused by Maternal nondisjunction.
6. Superotemporal ental subluxation is seen in Marfan's Syndrome.
7. Feulgen reaction is a cytochemical test for DNA.
8. Multifactorial inheritance is known as Cardiac septal defect.

Neoplasia

Introduction to Neoplasia

1. Vascular invasion helps in differentiation of follicular carcinoma from follicular adenoma of thyroid gland.
2. Small cell carcinoma lung most frequently metastasizes to brain.
3. A simple bacterial test for mutagenic carcinogen is Ames test.
4. In colon cancer, the overall survival is increased by screening procedure.
5. Differentiating point between invasive carcinoma and carcinoma is situ is the penetration of basement membrane.
6. Factor responsible for high intrinsic resistance to conventional therapies in cancer stem cells is MDR l(Multiple drug resistance-1).
7. Hamartoma is development malformation.

Molecular Basis of Cancer

1. Lynch syndrome is associated with cancers of the colon, endometrium and ovary.
2. The most radiosensitive cells are the lymphocytes.
3. An example of a tumour suppressor gene is Rb gene.
4. p53 is known as the "guardian of the genome'.
5. Xeroderma pigmentosum Is caused due to a group of closely related abnormalities in Nucleotide excision repair (NER).
6. Philadelphia chromosome occurs due to reciprocal translocation of 9 and 22 chromosomes.
7. In the mitogen activated protein kinase pathway, the activation of RAS is counteracted by GTP ase activating protein.
8. Breast carcinomas is familial.
9. The most common Inherited malignancy is Retinoblastoma.
10. Mutations of BRCA-1& BRCA-2 are seen in 3% of breast cancers.
11. Cancers are usually associated with loss of heterozygosity.
12. BRAF mutation is seen in Melanoma.
13. Most common translocation in Ewing's sarcoma is t-(11.22).
14. BRCA-1 gene is located at chromosome 17q21.

Cell cycle Regulator

1. During S phase of the cell cycle the cellular content of DNA is doubled S phase.
2. Cells are most radiosensitive in M - phase.
3. The tumor suppressor gene P53 Induces cell cycle arrest at Gl-S phase.
4. Transition from G2 to M phase of the cell cycle is controlled by Cyclin B.
5. Retinoblastoma gene regulates Gl-S phase.
6. Cyclin dependent proteins are CDK -4.
7. Cells are most radio-resistant in S phase.

Tumor Growth & Dissemination.

1. CXCR4 receptors play an important role in metastasis of breast cancer

Carcinogenic Agents.

1. Post transplant lymphoma is caused by EBV.
2. LMP-1 gene plays a role in oncogenesis induced by Epstein Barr virus.
3. Least affected by radiation is the cartilage.
4. Kaposi sarcoma is seen with HHV-8.

Paraneoplastic Syndrome

1. Migratory superficial thrombophlebitis is seen in carcinoma Pancrease

Tumor Markers

1. Tumour positive for cytokeratin is likely to be a carcinoma.
2. A testicular tumor marker is Alpha-fetoprotein.
3. In Hepatocellular carcinoma, alpha fetoprotein ismaximallyelevated.
4. Gastrin is a biochemicalmarker in Pancreaticneuroendocrine tumor
5. In Ovariandysgerminomathere is a normal level of alpha fetoproteinvalue in serum.
6. Serumfetoproteinlevel is elevated in Endodermal cell tumour.
7. Alpha fetoprotein is Increased in Embryonal cell carcinoma.
8. CA-125 is specificallyassociated with Ovarian carcinoma.
9. Specificmarker for prostaticcancer is Alkalinephosphatase.

Miscellaneous

1. Whenstemcellstransforms to formcellscharacterstic of othertissues, the process is calledtrans-differentiation.
2. Centrosomeduplication takes place in S phase.
3. Viruscausinghemopoietic tumor is EBV, HTLV-1, HHV-8..
4. SYT - SSX1 gene is associated with synovial sarcoma.
5. Philadelphia chromosome is an example of Balancedtranslocation.
6. Increasedsusceptibility to breastcancer is likely to be associated with a mutation in P53.
7. Keratin is a tumor marker for carcinoma cervix.
8. Tumourmarker for a highly vascular tumour is keratin.

Immunopathology

T-LYMPHOCYTE

1. Cell type which lacks HLA antigen is RBC.
2. HLA antigen locus is on short arm of chromosome 6.
3. Toll like receptors, recognize bacterial products and stimulates immune response by the transcriptions of nuclear factor mediated by NFKb which recruits cytokines.
4. Nitroblue tetrazolium test is used for Phagocytes.
5. Type 1 MHC presents peptide antigen to T cell, so that peptide binding site is formed by the distal domain alfa 1 and 2.
6. Memory T cells can be identified by using CD45RO marker.
7. Most potent stimulator of naive T cell is Mature dendritic cell.
8. Interleukin IL-8 is an example of a C-X-C or alpha Chemokine.
9. MHC class III genes encode Tumor necrosis factor.

Hypersensitivity Reactions

1. Epithelial granuloma is caused by Helper T-cells.
2. Granulomatous reaction is an example of Type IV hypersensitivity.
3. Type 2 hypersensitivity reaction is seen in myasthenia gravis.
4. Hypersensitivity pneumonitis is classically an Immune complex mediated hypersensitivity.
5. Necrotizing vasculitis is mediated through complement activation.
6. Type V hypersensitivity reaction is a subtype of Type- II.
7. Most important mediator of late phase of immediate type of hypersensitivity reaction is Major basic protein.
8. Atopy is type I Hypersensitivity Reaction.
9. Immune complex mediated reaction is Type-lll hypersensitivity reaction
10. Transfusion reaction and erythroblastosis fetalis are Type-ll hypersensitivity reactions.
11. Type 2 Lepra reaction is an example of type III hypersensitivity reaction
12. LATS is a IgG Ab.

Amyloidosis

1. Lardaceous spleen is due to deposition of amyloid in sinusoids of red pulp
2. Amyloidosis is found in Medullary carcinoma thyroid.
3. Familial amyloidotic polyneuropathy is caused by mutation of the Transthyretin protein.
4. Senile cardiac amyloidosis associated protein is Transthyretin.
5. Secondary amyloidosis is associated with AA.
6. The best investigation for the diagnosis of amyloidosis is Rectal biopsy.
7. In amyloidosis Beta pleated sheet will be seen in X-ray crystallography.
8. Most common site of biopsy in amyloidosis is kidney.
9. Medullary thyroid carcinoma is associated with calcitonin amyloid deposition.
10. Gingival biopsy is used for diagnosis of Amyloidosis.
11. Major fibril protein in primary amyloidosis is AL.
12. Amyloid deposition in patients with long term hemodialysis usually takes place in Carpal tunnel.

Transplant rejection

1. Preexisting antibodies in case of renal transplantation will lead to Hyperacute rejection.
2. Graft survival in the initial 48 hours depends on the ingrowth of capillaries.
3. Transfer of the graft of different species are called as Xenograft.
4. Neo intimal hyperplasia causes vascular graft failure as a result of hypertrophy of smooth muscle cells.
5. HLA-I is present on all nucleated cell.
6. Allograft rejection is an example of GVHD.

SLE

1. Speckled pattern is seen in Anti Sm antibody.
2. The most specific antibody for SLE is Anti Sm.
3. Wire loop thickening of glomerular basement membrane is seen in SLE.
4. kidney is spared in CREST syndrome.
5. In the past, the Kveim skin test was used to assist in the diagnosis of Sarcoidosis.

6. Autoimmunity in EBV infection is the result of Polyclonal B cell activation.
7. Necrotizing lymphadenitis is seen in Kikuchi Fujimoto disease.
8. LE cell phenomenon is seen in neutrophil.
9. Most sensitive test for screening of "Systemic Lupus Erythematosus" (SLE) is Anti nuclear factor (ANF).
10. Anti Ul-RNP Ab is associated with mixed connective tissue disease.
11. Band test is done in SLE.
12. Most common type of lumps nephritis is Diffuse Proliferative Nephritis.
13. Antinuclear antibody specific for SLE is Anti ds DNA.
14. HLA associated with psoriasis is HLA -CW6.
15. Drug induced lupus antibodies are Anti-Rho.
16. HLA marker of Behcet's syndrome is HLA -B51.
17. HLA associated with rheumatoid arthritis is HLA -DR4.
18. Thromboangiitis obliterans is associated with HLA-B5.
19. Anti-Ro& Anti-LA in mother with SLE is responsible for congenital heart disease in Child.

Immunodeficiency syndromes

1. AIDS affects selectively by CD4 T cells.
2. Tumor that does not occur with increased frequency in AIDS is Astrocytoma.
3. The commonest primary immunodeficiency is Isolated IgA immune-deficiency.
4. Developmental failure of pharyngeal pouches 3 and 4 is DiGeorge's syndrome.
5. Recurrent bacteria infection in an 8 month child is suggestive of X-linked agammaglobulinemia of Bruton.
6. Adenosine deaminase deficiency is seen in Severe Combined Immunodeficiency.
7. Most common site for lymphoma in AIDS patients is CNS.
8. HIV was discovered in the year 1983.
9. HIV affects Helper T-cells.
10. Most common HIV subtype in India is HIV-1M.
11. Rapid progression of disease with full blown manifestation in AIDS occurs when CD4 cell count falls below 200/UL.

Miscellaneous

1. Following injections of lymphokines, the same class of immunoglobulin are produced. This is referred to as Clonal selection.
2. Natural killer cells attack cells which are not able to express MHC 1.
3. Toll like receptors, recognize bacterial products and stimulates immune response by transcriptions of nuclear factor mediated by NF-kappa beta which recruits cytokines.
4. Necrotizing arteriolitis with fibrinoid necrosis is antigen-antibody complex mediated.
5. Most important antigen initiating graft rejection is HLA-Antigen.

Hematology

Anemia

1. Thalassemia is associated with Microcytic Hypochromic Anemia.
2. Elevated serum ferritin, serum iron and percent transferrin saturation are most consistent with the diagnosis of Hemochromatosis.
3. Spherocytes are seen in Autoimmune hemolysis.
4. Fragmented RBCs are seen in HUS.
5. Howell-Jolly bodies are seen in Post splenectomy.
6. Hb level at birth is 20 gm%.
7. Diastolic murmur is not a feature of anemia.
8. Most common cause of splenic rupture is Malaria.
9. Supravital staining is used for Reticulocytes.
10. Common site of hematopoiesis in fetus is the liver.
11. Which of the following indicates hemolysis : Schistocytes.
12. The stain used for the demonstration of reticulocyte is Brilliant cresyl blue.
13. Erythrocyte sedimentation rate is zero in Afibrinogenemia.
14. In win robe's method for ESR , anti coagulant used is Double oxalate.
15. ESR is raised in Acute myocardial infarction.

Iron deficiency anemia (IDA)

1. Increased TIBC, decreased serum ferritin is diagnostic of iron deficiency anemia.
2. The earliest sign of iron deficiency anaemia is decrease in serum ferritin level.
3. Bone marrow iron is decreased earlier than serum iron in iron deficiency anemia.
4. Most sensitive and specific test for diagnosis of iron deficiency is Serum ferritin levels.
5. Response to iron in iron deficiency anemia is denoted by Reticulocytosis.

Macrocytic anemia

1. Megaloblastic anemia in blind loop syndrome is due to bacterial overgrowth.
2. Type of anaemia caused by lleocaecal TB is Megaloblastic Anaemia.
3. Deficiency of the 'intrinsic factor of Castle' causes Pernicious anemia.
4. Hypokalemia can occur in the treatment of Pernicious anemia.
5. Megaloblastic anemia due to folic acid deficiency is commonly due to inadequate dietary intake.
6. Megaloblastic anemia should be treated with both folic acid vitamin B12 because Folic acid alone causes improvement of hematologic symptoms but worsening of neurological symptoms.
7. Thiamine deficiency lead to lactic acidosis.

Aplastic anemia

1. Pancytopenia with cellular marrow is seen in PNH G6PD Deficiency.

Anaemia of Chronic Diseases.

1. Seen in chronic inflammatory anemia is decreased Serum iron, increased S. ferritin and decreased transferrin saturation.
2. Transferrin saturation is Serum iron / TIBC X 100.

Sideroblastic anemias

1. Sideroblastic anemia is seen in hypothyroidism.
2. Sideroblastic anemia is cause by INH.
3. Treatment of sideroblastic anemia is Pyridoxine.
4. Pearson syndrome is characterized by congenital sideroblastic anemia.
5. Ringed sideroblasts are seen in Myelodysplastic syndrome.

Hemolytic Anemia

1. Cold hemolysis is associated with Donath Landsteiner antibodies.
2. Autoimmune hemolytic anemia is seen in CLL.
3. Autoimmune hemolytic anemia is associated with malignancy of which lineage B cell.
4. Spur cell anemia is seen in Alcoholic liver disease.

Hereditary Spherocytosis

1. Osmotic fragility is increased in Hereditary spherocytosis.
2. Decreased osmotic fragility is seen in Sickle cell diseases.
3. Aplastic anemia in hereditary spherocytosis precipitated by Parvo virus.
4. Splenectomy is most useful in Hereditary spherocytosis.

Miscellaneous

1. A stem cell disorder affecting all the three cell line platelets, RBCs and leucocytes is Paroxysmal nocturnal hemoglobinemia
2. PNH is associated with GPI.
3. Chronic Hemolysis from Hereditary spherocytosis may be associated with iron deficiency.
4. HAM test is based upon GPI Anchor Proteins.
5. Most common cause of death in PNH : venous thrombosis.
6. Treatment of PNH is Eculizumab.

Sickle Cell Anemia

1. The primary defect which leads to sickle cell anemia is substitution of valine by glutamate in the A chain of HbA.
2. Commonest acute presentation of sickle cell anaemia is bone pain.

3. Crew haircut appearance in X-rays skull and Gandy gamma bodies are seen in Hodgkin's lymphoma.
4. Sickle cell trait is protective against Hepatitis B.

Thalassemia

1. In Beta thalassemia, there is decrease in beta chain and increase in alpha chain.
2. The most common mutations in Beta thalassemia involves lntron-1.
3. HbH is characterized by deletion of three alpha chain genes.
4. In Alpha thalassemia, there is deletion of alpha genes.
5. Diagnosis of beta Thalassemia is best established by Hb electrophoresis.
6. NESTROFT is used as a screening test in Beta thalassemia.
7. Hair on end appearance in X-rays skull is seen in Thalassemia.
8. In Thalassemia, there is ineffective erythropoiesis and hemolysis.

66PD deficiency

1. Hemolysis in G6PD may be caused by Primaquine, Chloroquine, Quinine.
2. Causes hemolysis in G6PD deficiency are Salicylates, Primaquine, Nitrofurantoin.

Bone marrow transplantation (BMT)

1. Herpes simplex is the earliest infection to occur in BMT.
2. After BMT interstitial pneumonitis occurs at seven week.

Porphyria

1. Hepatitis C is associated with Porphyria Cutanea tarda.
2. Hepatoma is associated with Porphyria Cutanea tarda.

Myeloproliferative Disorders & PCV

1. Gaisbock syndrome occurs in dehydration.
2. Arterial oxygen tension <90% on room air can differentiate primary polycythemia from secondary polycythemia.
3. Least chances of splenomegaly occur with Primary thrombocytosis.
4. Peripheral smear with increased neutrophils, basophils, eosinophils,

Download From: AghaLibrary.com

and platelets is highly suggestive of Chronic myelogenous leukemia.

5. Size of splenomegaly indicates prognosis in CML.
6. Drug of choice for chronic myeloid Leukemia (CML) is Imatinib.
7. Best Rx for CML is Allogenic BMT.
8. Hemoglobin F is raised in Juvenile chronic myeloid leukemia.
9. In PCV Oxygen saturation is more than 90% & Serum erythropoietin is reduced.
10. In PCV there is increase in Vitamin B12 level.
11. Priapism is seen in Spanish fly.
12. BCR-ABL fusion gene is detected by Fish.
13. Pseudo- Pelger-Huet cells are seen in Multiple myeloma.

Hairy cell leukemia

1. 'Hairy cell leukemia[1] is a Neoplastic proliferation of B cells.
2. Treatment of choice in hairy cell leukemia is Cladribine.
3. Abscopal effect is related to spleen.

Chronic Lymphocytic Leukemia (CLL)

1. Rituximab is used for the treatment of CLL.

Myeiodyspiastic Syndrome (MDS)

1. Ring sideroblasts are characteristically seen in MDS.

Multiple myeloma

1. Bence Jones protein mostly derived from which Gamma chains.
2. Commonest site of lytic lesion, in multiple myeloma is the vertebral column.
3. Russell bodies is seen in Multiple Myeloma.
4. Russell body is found in the plasma cells.
5. Maximum ESR is seen in Multiple myeloma.
6. Franklin's disease is associated with Gamma heavy chain disease.
7. Proliferation and survival of myeloma cells are dependent on IL-6.

Lymphoma.

1. Cells characteristic of Hodgkin's disease are Reed-Sternberg cells.
2. The lymphocytic and Histiocytic variant of Reed Sternberg cell is seen in Lymphocyte predominant Hodgkin's disease.
3. Hodgkin's lymphoma of the nodular subtype is associated with Lacunar cells.
4. Most common type of Hodgkin's lymphoma in India is Mixed cellularity.
5. Best prognostic type of Hodgkin's lymphoma is Lymphocytic predominant
6. Classical markers for Hodgkin's disease are CD 15 and CD 30.
7. The paraneoplastic syndrome associated with Hodgkin's disease is the Cerebellar degenerative disease.
8. Radiotherapy is best in Hodgkin stage IA.
9. Treatment of choice in Hodgkin's Lymphoma is ABVD.
10. Necrotizing lymphadenitis is seen in Kikuchi disease.
11. Popcorn cells is seen in Nodular Sclerosis type of Hodgkins lymphoma.

Non-Hodgkin's lymphoma

1. The classification proposed by the International Lymphoma Study Group for non-Hodgkin's lymphoma is known as REAL classification.
2. Most malignant form of NHL is Burkitt lymphoma.
3. In Burkitt's lymphoma, translocation seen is 8 -14 translocation
4. Burkitt's is associated with infection by EBV.
5. MALToma is positive for CD43.
6. Lethal midline granuloma is NK/T cell lymphoma.
7. Most common ocular lymphoma is B-cell NHL.
8. Cyclin- D & IGH fusion gene is associated with Mantle cell lymphoma.
9. Commonest site for extranodal lymphoma is stomach.
10. BCL-2, when mutated, protects tumor cells from Apoptosis.
11. Chronic lymphocytic leukemia almost never develops after radiation.
12. Starry sky appearance is seen in Burkitt's lymphoma.
13. Histological presence of "HALLMARLK CELLS " with horse shoe-like or embryoid like nuclei and voluminous cytoplasm are seen in anaplastic large cell lymphoma.
14. Over- expression of BCL-2 proteins occurs in Follicular lymphoma.

15. "Smudge cells " in the peripheral smear are characteristic of Chronic lymphocytic leukemia.
16. t(2;8) is characteristically seen with Burkitt's lymphoma.
17. CD marker specific for myeloid series is CD117.
18. Periodic acid Schiff stain shows block positivity in Lymphoblasts.

Acute Leukemia

1. The marker for B lymphocyte is CD 19
2. Marker specific for myeloid lineage is MPO
3. CD3 is a pan-T lymphocyte marker
4. Memory T cells can be identified by using the following Marker is CD45RO
5. The most common type of ALL is Pre B cell ALL
6. L-asparaginase is particularly used in ALL
7. Treatment of choice in intracranial ALL is Intrathecal methotrexate
8. In ALL, Methotrexate is administered for CNS prophylaxis
9. Poor prognostic factors for ALL are t(9;22) t(4;ll)
10. Age < 2 yrs has poor prognosis in ALL
11. Marker for granulocytic Sarcoma is CD117

Acute Myeloid Leukemias

1. Poor prognosis in AML is indicated by Monosomy 7
2. Arsenic is used in treatment of Acute promyelocytic leukemia
3. Auer rods are seen in AML
4. Most common childhood malignancy is ALL
5. AML causing Gum hypertrophy is M4
6. DIC is common in Promyelocytic (M3), AML

Bleeding disorder

1. Converging point of both pathway in coagulation is at Stuart factor X.
2. Factor VII deficiency may present with isolated prolongation of prothrombin time (PT).
3. P.T. is increased in Vit. K deficiency.

Platelet Disorders

1. Normal platelet counts and prolonged Bleeding Time are the findings in functional defect in platelets.
2. The presence of small sized platelets on the peripheral smear is characteristic of Wiskott Aldrich syndrome.
3. Thrombocytopenia is not seen in H.S. purpura.
4. In ITPBT increase and CT is normal.

HUS & TTP

1. Cause of fragmented RBC in peripheral blood are Microangiopathic hemolytic anemia, DIC, Malignant hypertension.
2. The differential diagnosis of micro-angiopathic anemia includes are Sepsis, Hemolytic uremic, syndrome, Eclampsia, Scleroderma.
3. Microangiopathic Hemolytic anemia is seen in TTP, Microscopic polyangiitis, Anti-phospholipid syndrome.
4. Feature which are seen in thrombotic thrombocytopenic purpura are Fever, Hemolysis, Low platelets count.
5. Statements are true about Hemolytic uremic syndrome are Uremia, Fever, Thrombocytopenia.
6. Shigella associated hemolytic uremic syndrome is associated with Hyperkalemia, thrombocytopenia, Renal micro thrombi.
7. An adolescent female presents with palpable purpura. Her hemogram suggested only anemia. Diagnosis is HSP.

Hemophilia

1. False about Von Willebrand's disease is :. PT increases
2. Best assay for deficiency of von Willebrand factor is BT + APTT + vWF ristocetin factor assay.
3. The commonest mode of inheritance of Von Willebrand's disease is Autosomal dominance.
4. Bleeding time may be used to differentiate hemophilia A from von Willebrand disease.
5. In a case of hemophilia, spontaneous bleeding occurs when factor VIII level is below 1% .
6. Early solubilization of clot is a feature of factor XIII deficiency.
7. Laki Lorand factor is FACTOR XIII.

8. Plasmin is responsible for degradation of fibrin.
9. Hemophilia B is due to deficiency of Factor-IX.
10. Factor Xa is a necessary for conversion of prothrombin to thrombin in both extrinsic and intrinsic pathways.
11. Isolated rise in APTT is seen in Von Willebrand's disease.

DIC

1. Causes of DIC include Leukemia, massive transfusion and Abruptio placentae.
2. Causes of DIC include Lymphoma, Leukemia and Adenocarcinoma in prostate.
3. DIC is commonly seen in M3 AML.
4. Increased FDP, decreased PT and increased antithrombin III are the findings seen in DIC.
5. Clot retraction time is normal in DIC.

Hypercoagulable States

1. Predisposing factor for arterial thrombosis is Protein S deficiency.
2. Hypercoagulability due to defective factor V gene is called Leiden mutation.
3. Most common inherited thrombotic disorder is Factor V Leiden mutation.

Blood Transfusion

1. Blood components products are the platelets.
2. MC blood transfusion reaction is Febrile nonhemolytic transfusion reaction.
3. Complement mediated Hemolysis is seen in Acute Hemolytic Blood Transfusion Reactions.

Liver & Gall Bladder

1. Function of hepatic stellate cells is Vitamin A storage.
2. Bile njugation occurs in liver.
3. Centrilobular necrosis of liver may be seen with CC14.
4. Nutmeg liver is seen in CVC.

Jaundice

1. Grossly pigmented liver is seen in Dubin-Johnson Syndrome.
2. Unconjugated hyperbilirubinemia is seen in Gilbert's syndrome.
3. Gilbert's syndrome is characterized by normal LFT.
4. Melanin like pigment is found in liver in Dublin's-Johnson syndrome.

Hepatitis

1. Piecemeal necrosis on liver biopsy is characteristic of Chronic active hepatitis.
2. Large giant cells are found in neonatal hepatitis.
3. Councilman bodies are seen in Acute viral hepatitis.
4. In Chronic Viral Hepatitis grading refers to the extent of necrosis and inflammation.
5. HBV DNA polymerase is encoded by P gene.
6. Gene responsible for mutation of HBV is X gene.
7. Hepatitis virus that causes chronic liver disease is Hepatitis C.
8. Ground glass hepatocyte is seen in which hepatitis is Hepatitis B.
9. Micro vesicular fatty change in hepatocytes is seen due to infection Hepatitis D.
10. Histopathology of chronic hepatitis shows bridging fibrosis Liver & Gall Bladder.

Cirrhosis

1. Macronodular cirrhosis occurs in Postnecrotic cirrhosis.
2. Lipoprotein-X is elevated in Primary biliary cirrhosis.
3. Macronodular cirrhosis refers to nodule diameter greater than 3 mm.

Alcoholic Liver Disease

1. Mallory bodies are composed of intermediate filaments.
2. In Alcoholic liver disease, which of the following pigments is deposited in the hepatocytes is hemosiderin.
3. The sign of reversible injury in a case of alcoholic liver disease is cytoplasmic vacuole.

Metabolic Disease of Liver

1. "Kayser-Fleischer ring" is seen in Wilson's disease.
2. Liver in hemochromatosis is stained by Peris iron stain.
3. PAS-positive, diastase-resistant globules in hepatocytes are seen in Alpha 1 antitrypsin deficiency.
4. Hemochromatosis is a defect in metabolism of Iron.
5. Gene for Wilson's disease is located on chromosome 13.
6. Wilson's disease is characterized by increased copper in liver.
7. Type of inheritance in Wilson's disease is autosomal recessive.
8. ATP7B gene is present on chromosome 13.
9. Gene for Wilson disease is ATP 7B.
10. Most common gene responsible for hereditary hemochromatosis is HFE gene

Drug Induced Toxicity

1. Intake of steroids causes vascular lesions in liver.

Intra Hepatic Biliary Diseases

1. Most common site of Cholangiocarcinoma is the Hilum.
2. Klatskin tumor is the Nodular type of cholangiocarcinoma.

Circulatory Disorders

1. Commonest cause of Budd-Chiari syndrome is thrombosis of hepatic veins.
2. Nutmeg liver is a feature of Chronic venous congestion.

Tumors

1. Vinyl chloride has been implicated in Angiosarcoma of liver.
2. Hepatocellular CA is most frequently associated with Alcoholic cirrhosis
3. Fibrolamellar carcinoma of liver has better prognosis.
4. Commonest benign tumor of liver is Hemangioma.
5. Hep^{nt}ocellular Ca is associated with liver cirrhosis.
6. Ulcerative colitis is a risk factor for Cholangiocarcinoma.
7. Thorium dioxide causes Angiosarcoma.

Miscellaneous

1. Nutmeg liver is seen in right sided heart failure.
2. Centrizonal necrosis of liver occurs with carbon tetrachloride toxicity.
3. Piece meal necrosis on liver biopsy is a feature of chronic active hepatitis.
4. Mallory bodies contain cytokeratin.
5. Definite markers for Hepatoblastoma is alpha fetoprotein.
6. Klatskin's tumor is nodular type of cholangiocarcinoma.
7. Sclerosing cholangitis is associated with ulcerative colitis.
8. Onion skin fibrosis of bile duct is seen in primary sclerosing cholangitis.
9. Gall stones in hemolytic anemia are pigment stones.

CVS

General Aspects of CVS

1. Increased hydrostatic pressure best describes the pathophysiology involved in the production of pulmonary edema in patients with CHF

Atherosclerosis & IHD

1. The earliest manifestation in the fatty streak of Atherosclerosis is collection of macrophages and foam cells.
2. Atheromatous changes of blood vessels affects early in the heart.
3. Medial calcification is seen in Monckeberg's sclerosis.
4. Infective agent causing atherosclerosis is H. influenza.
5. The cells seen after 14 hours in the infarcted area in Ml are Neutrophils.
6. Irreversible injury in myocardium occurs at 30 minutes.
7. Earliest histological change in Ml is waviness of fibers.
8. First enzyme to be raised in Ml is Myoglobin.
9. Most common LDH Isoform found in heart is LDH 1.
10. Nicotine, carbon monoxide and tar are the sets of components of cigarette smoke causing coronary artery disease.
11. They type of necrosis in myocardial infarction is coagulative necrosis.

Myocardial Infarction

1. Light microscopic examination in an early Ml is most likely to reveal coagulative necrosis of the myocytes with presence of granulation tissue.
2. The dangerous complication in the second week of massive myocardial infarction is the rupture of the heart.
3. Nephrotic syndrome increases the susceptibility to coronary artery disease.
4. Dressler's syndrome is an autoimmune disease.
5. The cells seen after 72 hours in the infarcted area in Ml are are macrophages.
6. Most common site of artery in atheroscleroses is the Left Anterior Dccending Coronary Artery.

Hypertensive Heart Disease

1. Pathological changes seen in malignant hypertension are termed as Hyperplastic arteriolosclerosis.
2. Hyaline arteriosclerosis is the commonest histological finding in benign hypertension.
3. Accelerated phase of hypertension is characterized microscopically by fibrinoid necrosis of arteriolar wall.
4. Onion peeling of renal vessels is seen in malignant hypertension.
5. Hyperplastic arteriolitis with necrotizing arteriolitis is seen in malignant hypertension.

Valvular Heart Disease

1. Presence of an anticardiolipin antibody is the basic abnormality that produces SLE cardiac vegetations.
2. Stenosis of the mitral valve is a frequent consequence of chronic rheumatic fever.
3. Aschoff cells are monocytes.
4. Characteristic pattern of rheumatic fever is pancarditis.
5. Infective endocarditis in drug abuse commonly affects the tricuspid valve.
6. Valve pocket vegetations are seen in Libman Sachs' endocarditis.
7. Aschoff nodules are seen in Rheumatic fever.
8. The mechanism of the development of Acute Rheumatic Fever is the Cross reactivity with exogenous antigen.

9. Cardiac involvement in carcinoid syndrome is characterized, by intimal fibrosis of right ventricle, tricuspid and pulmonary valve.
10. Vegetations on under surface of cusps are found in Libman-Sacks endocarditis.
11. Rheumatoid factor is IgM directed against IgG.
12. Migrating polyarthritis is the most common symptom of acute rheumatic fever.
13. Anitschkow cells are found in Rheumatic myocarditis.
14. Libman sack endocarditis has vegetation on either or both side of the valves.

Myocardial Disease

1. The familial form of the abnormality seen in HOCM is due to an autosomal dominant disorder associated with an abnormal a-myosin gene.

Vasculitis

1. The most likely to be present in a patient's serum suffering from PAN is Hepatitis B antigen.
2. Histologic abnormalities most likely to be seen in a lung biopsy suffering from Wegner's disease are large, serpiginous necrosis with peripheral and palisading macrophages.
3. Thromboangiitis obliterans, arteries, nerves and veins are involved.
4. Thrombosis with microabscesses in a histological finding of blood vessel would be most consistent with a diagnosis of Buerger's disease.
5. Hyperplastic arteriolosclerosis is seen in Systemic lupus erythematosus
6. ANCA is associated with Wegener's granulomatosis.
7. Hypersensitivity vasculitis most commonly involves Post-capillary venules.
8. Polyarteritis nodosa can occur in association with hypertension.

Aneurysms

1. Most common cause of aortic aneurysm is atherosclerosis.
2. Dissection of the Splenic artery is common in pregnancy.
3. The most likely change to be the first visible gross evidence for the formation of an atheroma is the Thrombus.

Vascular tumor

1. Pathological feature of pyogenic granuloma is the capillary hemangioma.
2. Most common site of Angiosarcoma is Liver.
3. CD marker of Angiosarcoma is CD 31.

Miscellaneous

1. Infective agent causing atherosclerosis is C pneumonia.
2. Most common cause of abdominal aneurysm is atherosclerosis.
3. Classic PAN is associated with vasculitis of medium size vessels.
4. Creatine kinase is elevated in Ml after 2-4 hrs.
5. Cross reactivity with endogenous antigen is the mechanism of acute rheumatic fever.
6. Suppurative pericarditis is not a complication of Infective endocarditis
7. Large warty vegetations are characteristic of SABE.
8. Alcohol causes Dilated Cardiomyopathy.
9. Tigered effect in myocardium is seen in fat deposition.
10. Monckeberg's sclerosis involves media of the blood vessels.
11. Metastasis to heart are mostly from the breast.
12. Commonest complication of prosthetic valve is embolism.
13. The substance that accumulates in cardiac myxoma is mucopolysaccharide.
14. Commonest complication of infective endocarditis is Myocardial abscess.

The Lungs

1. Granulomatous angiitis most commonly involves the lungs.
2. Surfactants is secreted by type II Pneumocyte.
3. The percentage of pulmonary emboli, that proceed to infraction, is approximately 5-15%.
4. B/L Exudative pleural effusion seen in SLE.
5. Commonest mass in the middle mediastinum is the Lymph node mass.

6. Maximum smooth muscle relative to wall thickness is seen in Terminal bronchiole.
7. Most common type of foregut cysts are bronchogenic cysts.
8. Blood supply of bronchogenic sequestration is Aorta.
9. Collapse of lung is called Atelectasis.
10. Hamartomatous lung tissue is the congenital cystic adenomatoid malformation.

Infection

1. Lung abscess is common following Streptococcal pneumonia.
2. Infraclavicular lesion of tuberculosis is known as Ashman's focus.
3. Accumulation of fibrin is a finding.
4. Heart Failure cells are pigmented alveolar macrophages.
5. Terminal stage of pneumonia is resolution.
6. ARDS is due to defect in Typel Pneumocyte.
7. In Hyaline Membrane Disease the pathology in the lung consists of Fibrin.
8. Miliary TB is post primary.

Obstructive Lung Diseases

1. Commonest type of emphysema (histologically) is the irregular emphysema.
2. Bronchiectasis is most common in Left lower lobe.
3. Most common type of emphysema clinically is Panacinar.
4. Creola bodies are seen in bronchial asthma.
5. Emphysema pathologically involves beyond the terminal bronchiole.
6. Commonest type of emphysema is Irregular emphysema.
7. Curschmann's crystals are seen in bronchial asthma.

Restrictive Lung Diseases

1. Asthma mediator is Leukotriene.
2. Sputum from an asthma patient may show numerous eosinophils, Curschmann's spirals and Charcot-Leyden crystals.
3. Caplan's syndrome is associated with Rheumatoid pneumoconiosis.
4. Pneumoconiosis with "eggshell" calcification of the hilar lymph nodes and occupational history of sandblasting is seen with Silica.

5. Ferruginous bodies are seen in asbestosis.
6. Byssinosis is associated with hypersensitive pneumonitis.
7. Most dangerous particles causing pneumoconiosis are of size is 1-5 micron.
8. Lower lung involvement is common in asbestosis.

Carcinoma of the Lung

1. Recent weight gain, hyponatremia with hyperosmolar urine in a chronic smoker with lung mass is suggestive of excess ADH.
2. In Bronchoalveolar carcinoma, there is hemoptysis, collapse of lungs and pleural effusion.
3. Lung to lung metastasis is seen in Adenocarcinoma of lung.
4. Hypersecretory granules are seen in Small Cell Carcinoma of the Lung.
5. Oat cell carcinoma is commonly associated with bilateral hilar lymphadenopathy.
6. On biopsy, characteristic finding of malignant mesothelioma is branching microvilli.
7. Pleural mesothelioma is associated with asbestosis.
8. ck 5/6 is the marker for mesothelioma.
9. Most common malignancy of lung is the Squamous Cell Ca.
10. Which of these is used as a marker in mesothelioma is calretinin.
11. Most common posterior mediastinal tumor is neuroma.
12. Malignant mesothelioma is most commonly associated with asbestos.
13. Ectopic ACTH production is seen in Small cell carcinoma of lung.
14. Primary pleural tumor is Mesothelioma.
15. Most common mediastinal tumor is Neurogenic tumor.
16. Small cell cancer commonly metastasizes to adrenal gland.

Miscellaneous

1. Characteristic histopathological finding in shock lung is diffuse alveolar abscess.
2. There is increased Sweat chloride in cystic fibrosis.
3. The most common source of pulmonary embolism is large veins of lower limbs.
4. Most common type of carcinoma lung is adenocarcinoma.

5. Histopathology of lung cancer shows Clara cells, probable diagnosis is Bronchoalveolar carcinoma.
6. Marker of small cell cancer of lung is Chromogranin.
7. Characteristic feature of viral pneumonia is Interstitial mononuclear infiltration.
8. Sarcoidosis is mimicked by chronic poisoning with Beryllium.
9. Bronchogenic carcinoma commonly metastasize to the adrenals.
10. Scar carcinoma of lung is seen most commonly following T.B.

Kidney

General aspects of Renal Pathology

1. 5HIAA is increased in urine in carcinoid syndrome.
2. Hematuria of glomerular origin is diagnosed by > 20% dysmorphic RBCs in urine, > 100 RBCs/ml dysmorphic, dark red urine.
3. Multinucleated giant cells in kidney may be seen in Multiple myeloma.
4. Glutaraldehyde is the most common fixative used in electron microscopy
5. Normal level of serum uric acid in males is 3.1-7 mg/dl.
6. The protein in glomerular basement membrane responsible for charge dependent filtration is proteoglycan.
7. RBC cast is seen in Acute Glomerulonephritis.

Cystic Diseases of Kidney

1. Acquired cystic disease of kidney is associated with dialysis.
2. Berry aneurysms in circle of Willis is associated with adult polycystic kidney disease.

Glomerular Disease

1. Thickening of basement of glomerulus is seen in Membranoproliferative glomerulonephritis.
2. Epithelial 'crescents' in the Bowman' capsule of kidney are observed in rapidly progressive glomerulonephritis.
3. In glomerular disease, albumin is mainly excreted in urine.
4. Kimmelstiel-Wilson disease is diagnostic of Diabetic glomerulosclerosis
5. Albuminuria is the best early indicator for Diabetic nephropathy.

6. The protein in glomerular basement membrane responsible for charge-dependent filtration is proteoglycan.
7. The most common gene defect in idiopathic steroid resistance nephrotic syndrome is NPHS 2.
8. The pathological feature in Wegener's granulomatosis on renal biopsy is focal necrotizing glomerulonephritis.
9. In Goodpasture's syndrome the antibodies are directed against the basement membrane.
10. "Flea-bitten" kidney is seen in malignant hypertension.
11. Lipoid nephrosis of kidney produces ultra- structural change in epithelium of the glomerulus.

Tubular Diseases

1. In acute tubular necrosis due to mercuric chloride, the site affected is the straight portion of proximal tubule.
2. Papillary necrosis is seen in Diabetes Mellitus, Analgesic Nephropathy, Sickle cell anaemia and Acute pyelonephritis.
3. In pyelonephritis, the diagnostic urinary finding is pus cell cast.
4. In benign nephrosclerosis bilateral contrast Kidney are characteristically seen.
5. Michaelis Gutmann bodies are seen in malacoplakia.
6. ENaC mutation is seen in Liddle syndrome.
7. Least likely cause of renal papillary necrosis is the posterior urethral valves.
8. Dent disease is due to defect of the chloride channel.

Renal Cell Cancer

1. The most common histological variant of renal cell carcinoma is the clear cell type.
2. Histogenesis of Wilms' tumour is from Nephrogenic blastoma.
3. The cytogenetics of chromophilic renal cell carcinoma Is characterized by Trisomy 7/17.
4. In Wilms' tumor, anaplasia results in resistance to chemotherapy.
5. Clear cell variety of Renal cell carcinoma is related to gene located on chromosome 3.

6. Clear cells are seen in Renal cell Carcinoma.
7. Chromophobe variant of renal cell carcinoma is associated with Monosomy of 1 and Y.
8. Bilateral Renal cell carcinoma is seen in Von Hippel-Lindau disease.

Miscellaneous

1. Crescents are derived from parietal epithelial cells, fibrin and macrophages.
2. In IgA nephropathy, there are mesangial deposits.
3. Organized glomerular deposits in kidney is present in IgA nephropathy
4. The finish type of congenital nephritic syndrome occurs due to gene mutations affecting Nephrine.
5. The electron microscopy is virtually diagnostic in renal biopsy study of Alport's syndrome.
6. Renal papillary necrosis is almost associated with DM.
7. Mercury affects PCT.
8. Visceral leishmaniasis causes Mesangioproliferative GN.

GIT

1. Expected microscopic appearance of Ca oesophagus lesion is the infiltrating sheets of cells forming keratin.
2. Barrett's esophagus shows intestinal metaplasia.
3. Most common anatomical location of tongue cancer is lateral margin.
4. Achalasia cardia is the absence of nerves.
5. Best site for taking biopsy for viral oesophagitis is the edge of ulcer.

Stomach

1. Giant hypertrophy of gastric mucosa similar to brain surface is seen in Menetrier's disease.
2. Non Hodgkins lymphoma is the commonest variety of gastric lymphoma.
3. Gastrointestinal stromal malignancy arises in Interstitial cells of Cajal.
4. When carcinoma of stomach develops secondarily to pernicious anemia, it is usually situated in the fundus.

5. Zone of cicatrization is the most outermost histological layer of peptic ulcer.
6. Most common type of gastric polyp is the hyperplastic polyp.
7. MC site for stomach Ca is the antrum.
8. Most common site of curling's ulcer proximal duodenum.
9. Most common site of GIST is the Stomach.

Small Intestine

1. Coeliac disease is due to sensitivity to wheat.
2. Commonest malignancy of the small intestine is Adenocarcinoma.
3. Gluten sensitive enteropathy is most strongly associated with HLA-DQ2.
4. In the intra-epithelial region of the mucosa of intestine the predominant cell population is that of T-cells.
5. Megaloblastic anemia is caused by Ileocecal TB.
6. Transverse ulcers are seen in Tuberculosis.
7. Anti-gliadin antibodies are detectable in Celiac disease.
8. Whipple's disease is characterized by foamy macrophages.
9. Macrophages with PAS(+) material inside them is a histological features of Whipple's disease.

Large Intestine

1. Colorectal carcinoma is associated with high fat intake.
2. Skin lesion most likely seen with ulcerative colitis is Pyoderma gangrenosum.
3. Toxic megacolon is seen in Chronic nonspecific ulcerative colitis.
4. Pipe stem appearance in barium enema is seen in Ulcerative colitis.
5. "Skip areas" are pathognomonic of Crohn's disease.
6. Mucosal surface in Crohn's disease is described as Cobble stoning.
7. The most definitive indication of malignant transformation of a benign polyp of colon is the ulceration at the tip of polyp.
8. Juvenile polyposis is benign and not related to malignancy.
9. Inheritance of Gardner syndrome is autosomal dominant.
10. Sigmoid colon is the most common site for Diverticulum.
11. Most important prognostic factor for colorectal carcinoma is the Lymph node status.

12. Cryptitis is seen in ulcerative colitis.
13. Backwash ileitis is seen in Ulcerative colitis.
14. Most common site of carcinoid tumor in hindgut is the Rectum.
15. Most common site of carcinoid tumor in gut is the Ileum.
16. Pseudopolyps are features of Ulcerative colitis.
17. Inheritance of Gardner syndrome is Autosomal dominance.
18. Aganglionic segment is encountered in the distal part to dilated segment in case of Hirsch sprung disease.
19. Sigmoid colon is the most common site of Acquired diverticulum.

Appendix

1. Toxic granules in neutrophils will be most likely seen in Acute appendicitis
2. Neutrophils within muscular wall defines the pathological picture of acute appendicitis.
3. Appendix is most commonly associated with pseudomyxoma peritonei.

Miscellaneous

1. Endoscopic biopsy from a case of H. Pylori related duodenal ulcer is most likely to reveal antral predominant gastritis.
2. Lymphoepithelial change in stomach is seen in MALToma.
3. Anti - Saccharomyces cerevisiae antibodies are seen in Crohn's disease.
4. Small intestinal biopsy is specific for Whipple's disease.
5. Anti transglutaminase antibody is seen in celiac disease.
6. Osteoma, adenomatous polyps of intestine and periampullary carcinomas are seen in Gardener's syndrome.
7. Least predilection for distal ileum is Zollinger-Ellison syndrome.
8. Yellowish exudates at multiple sites seen in colonoscopy indicates Crohn's disease.
9. Erythrophagia and mononuclear cell infiltration ulcers are seen in Typhoid disease.
10. Single most important prognostic indicator of colorectal carcinoma is the extent of the tumour.
11. Transmural involvement and granuloma are seen in Crohn's disease.
12. Mesentric tumors are usually cystic.

Central Nervous System

Disorders Affecting Brain

1. Rosenthal fibres are intracytoplasmic inclusions.
2. Rosenthal fibres in astrocytoma are composed of heat shock proteins.
3. Phagocytosis in brain is caused by Microglia.
4. Microglia is a mesenchymal cell.
5. Fibroblasts does not participate in repair after brain infarction.

CNS Infection

1. Inclusion body in oligodendroglia is a feature of Progressive Multifocal Leukoencephalopathy.
2. Perivascular lymphocytes and microglial nodules are seen in HIV encephalitis.
3. Albumino-cytologic dissociation occurs in cases of Guillain Barre syndrome
4. Owl eye inclusion bodies are seen in CMV.
5. Progressive multifocal leukoencephalopathy spares the Spinal cord and optic nerve.
6. Hippocampus is not affected in HIV infection.
7. Negri bodies are seen in neurons.

Degenerative Disorders

1. Parkinson's disease is not a Prion disease.
2. Neurofibrillary tangles are seen in Alzheimer's disease.
3. Spongiform degeneration of cerebral cortex occurs in Creutzfeldt-Jakob disease.
4. The nucleus involved in Alzheimer's disease is the Basal nucleus of Meyer net.

Intracranial Aneurysms

1. Most common cause of intracerebral bleed/ hemorrhage is hypertension.
2. The best described etiology for Berry aneurysm is degeneration of tunica media.
3. Most common site for berry aneurysm is the anterior communicating artery.

CNS Tumor

1. Most common site for medulloblastoma is cerebellum.
2. Most common cerebellar tumor in children is Astrocytoma.
3. CD133 receptor on neuronal membrane induces development of glioma
4. Ependymoma is not a neuronal tumor.
5. Most common CNS tumor in NF1 Optic nerve glioma.
6. In Medulloblastoma most common metastasis is to the CNS.
7. Most common CNS neoplasm in HIV patient Primary CNS lymphoma.
8. The commonest intracranial tumor is metastases.
9. Rosenthal fibres are seen in Pilocytic astrocytoma.

Miscellaneous

1. Gitter cells are modified macrophages in CNS.
2. Berry aneurysm defect lies in degeneration of media/ muscle cell layer.
3. Ash leaf macules are seen in Bourneville's disease.
4. Most common site of glioblastoma multiforme is Frontal lobe.
5. Rosenthal fibres are seen in Pilocystic astrocytoma.
6. Most common glial tumor is astrocytoma.
7. Most common cerebellar tumour in children is astrocytoma.
8. Most common tumour in lateral hemisphere of brain is astrocytoma
9. Similar features between cerebral abscess and cerebral infarct is liquefactive necrosis.
10. Onion bulb appearance on nerve biopsy is seen in diabetic neuropathy.
11. Intranuclear inclusions of oligodendrocyte are seen in progressive multiple encephalopathy.

The Endocrine System

Thyroid

1. Patients with Hashimoto's thyroiditis are at increased risk of developing B-Cell lymphoma.
2. MayJod-Basedow effect describes hyperthyroidism following intake of iodine in patients suffering from endemic goiter.
3. Plunging goiter is Retro-sternal goiter.
4. FNAC cannot be used for the diagnosis of Follicular Carcinoma.

5. Hurthle cell carcinoma is a variant of Follicular carcinoma.
6. Medullary Ca of thyroid is associated with increase in Calcitonin.
7. Medullary carcinoma of Thyroid has amyloid deposition.

Parathyroid Gland

1. Medullary carcinoma of the thyroid is associated with MEN II.
2. Rb gene defect is associated with development of medullary carcinoma of thyroid.
3. FNAC is least diagnostic in Anaplastic Thyroid Carcinoma.
4. Most common thyroid cancer is Medullary carcinoma.
5. Papillary carcinoma thyroid most commonly metastasizes to lymph nodes.
6. Struma ovarii is composed entirely of mature thyroid tissue.
7. Orphan Annie eye nuclei appearance is characteristic of Papillary carcinoma of thyroid.
8. Active form of Vit. D is 1,25 (OH)2 Vit. D3.
9. Diagnostic feature of parathyroid carcinoma is metastasis.
10. Most common cause of primary hyperparathyroidism is adenoma.

Pituitary

1. Pituitary tumor is present in 10% of brain tumors
2. Human chorionic thyrotropin is secreted from placenta
3. Posterior pituitary secretes ADH
4. Commonest thyroid tumor in MEN (multiple endocrine neoplasia) is Medullary
5. Wermer syndrome is MEN 1

Adrenal

1. Zell ballen pattern are found in Pheochromocytoma
2. In Cushing syndrome, the tumor is associated with elevated levels of cortisol
3. Parathyroid is most commonly involved in multiple endocrine neoplasia
4. Tumor that follows rule of 10 is Pheochromocytoma
5. Involvement of lymph nodes is most reliable feature of malignant transformation of pheochromocytoma.
6. Glomus Cells are found in Carotid body Tumour

Pancreas

1. Amyloidosis is seen in the pancreas of a patient of diabetes mellitus type-ll
2. HbA lc is used to measure the control of blood sugar in diabetes mellitus
3. Most commonly seen feature in kidney biopsy of a patient with Diabetic Nephropathy is Diffuse Mesangial Sclerosis

Miscellaneous

1. Posterior pituitary secretes ADH.
2. Wermer syndrome is MEN.
3. Hurthle cell carcinoma is a variant of Follicular carcinoma.
4. FNAC is least diagnostic in Follicular carcinoma.
5. Most common thyroid cancer is Papillary carcinoma.
6. The feature that differentiates a follicular carcinoma from a follicular adenoma of thyroid is capsular invasion.
7. Zellballen pattern on Histopathology is observed in carotid body tumour
8. Paraganglioma may show production of catecholamines.
9. Average weight of thyroid gland where diet is rich in iodine is 10 -12 gms.
10. Commonest thyroid tumour in MEN is Medullary tumour.

Breast

Benign Epithelial Lesions

1. A blue-domed cyst pathologic findings is a type of nonproliferative fibrocystic change of breast.
2. Neoplastic proliferations of the stroma of the breast of a 35 yr old female is seen but the stromal cells are not atypical in appearance and mitoses are not found. The most likely diagnosis is Benign phyllodes tumor.
3. Lesions affecting the terminal duct lobulate unit (TDLU) in breast are Nipple adenoma, Blunt duct adenosis, Fibroadenoma.
4. A 17 IF underwent FNAC for a lump in the breast which was non-tender, firm and mobile. Tightly arranged ductal epithelial cells with bare nuclei is the finding of a benign breast disease.

Breast Carcinoma

1. BRCA 1 gene is located on Chromosome 17.
2. Increased susceptibility to breast cancer is likely to be associated with p53
3. Breast CA with best prognosis is mucinous.
4. The type of mammary ductal carcinoma in situ (DCIS) most likely to result in a palpable abnormality in the breast is Comedo DCIS.
5. Molecular classification of breast cancer is based on gene profiling.

Miscellaneous

1. Malignancy of the breast is associated with atypical epithelial hyperplasia.
2. Most common carcinoma of breast is intraductal carcinoma
3. Bilateral breast ca is lobular Ca.
4. Characteristic feature of paget disease is Eosinophilic cytoplasm.
5. ER positive status in Ca breast indicates prognosis.
6. Women carrying BRCA 1 gene are most likely to develop which medullary carcinoma.

Female Genital Tract

1. Squamocolumnar junction is usually located 8-13mm from the cervical lip.
2. The cytogenicity of solid tumors is not easily assessed especially in carcinoma cervix due to contamination with infectious agents.
3. 100/0/0 maturation index denotes atrophic smear.

Diseases of Uterus

1. Histologic changes most characteristic of atypical hyperplasia in a post menopausal patient is the crowding of endometrial glands with budding and epithelial atypia.
2. Carcinosarcoma may arise in the uterus.
3. With regard to the malignant behaviour of leiomyosarcoma, the most important criterion is the number of mitoses per high power field.
4. Uterine leiomyoma is least likely to undergo malignant change.
5. Swiss cheese pattern endometrium is seen in Metropathic hemorrhagica.
6. In Endometrial Carcinoma, there is risk of Granulosa theca cell tumor.
7. Complete mole can be differentiated from partial mole by P57.

8. Sarcoma botryoides is a type of Rhabdomyosarcoma.
9. Sarcoma Botryoides is mostly seen in children under 2 years.

Diseases of Ovary

1. Stromal tumor of the ovary is likely to produce masculinizing features and symptoms.
2. Reinke's crystals are found in Hilus cell tumor.
3. Rokitansky protuberances are seen in Teratoma.
4. The incidence of bilaterality in a dermoid cyst is approximately 10%.
5. Schiller - Duval bodies are seen in Teratoma.
6. Call-Exner bodies are seen in Granulosa cell tumor.
7. LH is increased in PCOS.
8. Most common ovarian tumor is the serous cystadenoma.
9. Marker for ovarian carcinoma in serum is CA-125.

Fallopian Tube

1. Choriocarcinoma is characterized by Primarily trophoblastic tumor, It can occur following hydatidiform mole, It can metastasize to lungs.

Miscellaneous

1. Tennis racket cells is seen in sarcoma botryoid.
2. Smoking is not a risk factor of endometrial carcinoma.
3. Carcinosarcoma may arise in the uterus.
4. Adenocarcinoma of the uterus along with rhabdomyosarcoma of the uterus is seen mixed mullerian tumour.
5. Reinke's crystals are found in hilus cell tumour.
6. Most common ovarian tumour is serous cystadenoma.
7. Usual size of chocolate cyst of the ovary in diameter is 2 inches.
8. Mucinous cystadenoma of the ovary arises from surface coelomic epithelium.
9. Most common radiosensitive ovarian tumour is dysgerminoma.
10. The largest ovarian tumour is seen with dysgerminoma.
11. Dysgerminoma is the ovarian counterpart of testicular seminoma.
12. CA-125 is a marker for ovarian carcinoma in serum.

Male Genital Tract

Penis

1. Condyloma are mostly caused by HPV types 6 and 11.
2. Verrucous carcinoma is extremely well differentiated squamous cell carcinoma.
3. Carcinoma penis is rarest among the Jews.

Testis & Epididymis

1. Infertility is a common feature in "Sertoli cell only" syndrome because there is no germ cell in this condition.
2. Schiller- Duval bodies is seen in Endodermal sinus tumour.
3. Alkaline phosphatase is a tumor marker of Seminoma.
4. Commonest histological type of carcinoma testis is Seminoma.
5. Tumour marker for Endodermal Sinus Tumour is Alfa feto protein.

Prostate Gland

1. Gleason's classification is used for Carcinoma Prostate.

Miscellaneous

1. Testicular involvement without epididymitis is a feature of syphilis.

2. Sertoli cell tumour is not a germ cell neoplasia.
3. Seminoma is a germ cell tumour is malignant.
4. Most common testicular tumour of childhood is teratoma.
5. Marker for seminoma testes is beta -HCG.
6. Commonest infantile testicular tumour is yolk sac tumour.
7. Tumour marker for endodermal sinus tumour is alfa fetoprotein.
8. Schiller - Duval bodies is seen in yolk sac tumour.
9. Subchondral bone erosion involving the sacroiliac joints and absence of rheumatoid factor with night bone pains is seen IN Ankylosing spondylitis.
10. Oil red O-positive material seen in the small blood vessels of the lungs and brain of a patient with neglected fracture of long bone suggests fat emboli
11. Phagocytes in CNS are the microglia! cells.
12. Commonest cause of Intracerebral bleed is hypertension.
13. The most frequent site of brain abscess is the Frontal lobe.

14. Negri body is most commonly found in Hippocampus.
15. Commonest intracranial neoplasm in adults is Glioblastoma.
16. Glioma of optic nerve is usually Pilocytic astrocytoma.
17. Seizure with mental retardation and sebaceous adenoma are the diagnostic features of Tuberous sclerosis.
18. Psammoma bodies are most often found in Serous cystadenoma carcinoma.
19. "Clue cells" are found in Pap smears in Gardnerella infection.
20. Urinary bladder wall calcification occurs in Bilharziasis.
21. Embryonal rhabdomyosarcoma frequently metastasizes to lymph nodes
22. Most common skin malignancy mostly seen in sun exposed skin of fair person is Squamous cell carcinoma.
23. Classic destructive joint lesion found in individuals with Rheumatoid arthritis is known as Pannus.
24. Osteomalacia is due to failure of bone mineralization.

Newer Molecular Trends

1. Karyotyping is done in arresting mitosis in dividing cells in metaphase.
2. Samples for karyotyping are amniotic fluid, skin fibroblasts, leucocytes, fetal umbilical cells, lymph node tissue, bone marrow, chorionic villi.
3. G-banding is most commonly used banding technique.
4. C-banding demonstrates constitutive heterochromatic
5. Western Blot detects proteins
6. SANGER sequencing is used for analysis of large genes or multiple genes.
7. Flow cytometry is a laser or impedance based technology.
8. HLA system is found on the short arm of chromosome 6
9. Class I HLA system is expressed on most nucleated cells.

Miscellaneous and Important Points

1. Lepra cells are Histiocytes.
2. The most diagnostic test for SLE is Antibodies against DNA.
3. Rosette arrangement of cells is seen in Retinoblastoma.
4. Heart cannot undergo hyperplasia.

5. Hereditary factor are important in Retinoblastoma, breast carcinoma.
6. Dystrophic calcification is not seen in Hematoma.
7. Lines of Zahn are seen in Primary platelet thrombus.
8. Transudates has specific gravity less than 1.002, results from hydrostatic alterations arise in the vascular endothelium.
9. Amyloid (AA) originates from Plasma cells .
10. Fibrinoid necrosis is not seen in dm.
11. Prolonged P-R interval is not major criteria of rheumatic fever.
12. The most common primary tumor of heart is Myxoma
13. Atrial myxoma commonly arises from Left atrium..
14. Most common site of myocardial infarction is Anterior wall of left ventricle.
15. Concentric myocardial hypertrophy is seen in Congestive cardiomyopathy.
16. Asbestos is associated with Ca lung.
17. Commonest type of Emphysema is Centriacinar.
18. The commonest type of bronchogenic Ca in non-smoker is Adenocarcinoma.
19. Alpha -l-antitrypsin deficiency occurs in Emphysema.
20. Gray hepatization of lungs is seen on day 3-5 .
21. Pneumonia alba is caused by Mycobacteria.
22. Most sensitive liver function test to differentiate type of jaundice is Urine urobilinogen.
23. Gamma gandy bodies are not seen in spleen in Thalassanemia.
24. Mallory hyaline bodies are not present in Primary biliary cirrhosis.
25. Papillary necrosis of kidney is seen in DM, Analgesic nephropathy, Acute, pyelonephritis Micronodular cirrhosis is not seen in Budd Chiari syndrome.
26. The carcinoma of pancreas usually originate in the Duct epithelium.
27. Most common site of leiomyoma is Stomach.
28. Lardaceous' spleen is seen in Amyloidosis.
29. The most common type of malignancy of renal pelvis is Transitional cell carcinoma.
30. DM is not a cause of granular contracted kidneys.
31. Rapidly progressive glomerulonephritis is histologically characterized by the presence of numerous Hyalinized, sclerotic glomeruli.
32. Periglomerular fibrosis is considered typical of Chronic pyelonephritis.

33. Elevated specific gravity is the most specific to renal parenchymal disease.
34. Commonest type of intracranial tumour is Secondaries.
35. The macrophages in the brain are Microglia.
36. Commonest cause of cerebral infarction is Arterial thrombosis.
37. The commonest cause of intracranial metastasis is malignancy of Lungs.
38. The most common change in brain tissue due to ageing is Atrophy of neurons.
39. Damage to nervous tissue is repaired by Neuroglia.
40. Response to iron in iron deficiency anemia is denoted by Reticulocytosis
41. TB may be transmitted by blood.
42. Leukoerythroblastic reaction is not seen in Hemolytic anemia.
43. Reactivated TB is seen most commonly located near Apex
44. How long can blood be stored with CTD-A 35days.
45. 'Stress' lymphocytes are seen in downey type II infectious mononucleosis
46. Echinocyte are types of RBC's.
47. Bone tumor arising from epiphysis is Giant cell tumor.
48. Calcification front in bone biopsy can be visualized by using stain Masson's trichrome.
49. Tumor originates from diaphysis Ewing's sarcoma.
50. The commonest diaphysial tumor is Ewing's sarcoma.
51. The commonest malignant bone tumor is Multiple myeloma.
52. Bone tumor arising from metaphysis Osteoid osteoma.
53. Para thyroid is most often involved in multiple endocrine neoplasia-l.
54. Commonest pathological cause of hyper corticism is Hyperplasia.
55. Hurthle cells are seen in Hashimoto's thyroiditis.
56. The most common primary malignant tumour of the thyroid is Papillary carcinoma.
57. APUD cells are seen in Bronchial carcinoid.
58. Ca thyroid with good prognosis Papillary.
59. The most common site for Amebiasis Caecum.
60. Spontaneous regression though rare is seen in Neuroblastoma.
61. Malignant change in Nevus is characterized by Increase in size.
62. Mycosis fungoides belongs to Cutaneous T-cell lymphoma groups
63. Coombs' test (direct) is positive with Ig G.
64. Medullary carcinoma thyroid is associated with Amyloid stroma, Carcinoid

66. White infarcts are not seen in Liver.
67. Linzenmeier is used to measure ESR.
68. Pipe stem cirrhosis is seen in Schistosomiasis .
69. Most sensitive liver function test is Prothrombin time.
70. Sequestration of lung is seen in Posterior part of left lung.
71. In Virchow's triad for thrombosis, hypoproteinemia is not included.
72. To differentiate benign and malignant ulcer, best is Endoscopy and biopsy.
73. Oncocyte are not found in Pineal body,
74. Coagulative necrosis as a primary even most often seen in CNS.
75. Metastatic calcification is most often seen in Lungs.
76. Hutchinson's secondaries in skull are due to tumors in Adrenals.
77. Rosette shaped arrangement of cells are seen in Ependymoma.
78. First sign of wound injury is Dilatation of capillaries.
79. Pseudopolyposis is seen in Ulcerative colitis.
80. The commonest site of diverticulosis is Sigmoid colon.
81. Deletion of short arm of chromosome 11 is seen in Wilms'tumor.
82. Increase in alkaline phosphatase is seen in Leukemoid reaction.
83. Asbestosis will develop into lung cancer.
84. Scar in lung tissue develops into Squamous cell carcinoma.
85. Anemia in human is caused by which worm Hook worm.
86. Ascending aorta involvement is the commonest site of which aneurysm Syphilitic.
87. To test hepatic function to assess bleeding disorder clinical test done is PTT.
88. Beta macroglobulin is derived from B-cells.
89. Tissue thromboplastin activates ~Factor-VII.
90. GABA is a inhibitory transmitter.
91. In sickle cell anemia defect is in b-chain.
92. Chromosome 15,17 translocation is seen in Acute promyelocytic leukemia.
93. Damage to nervous tissue is repaired by Neuroglia
94. Mycosis fungoides: Cutaneous lymphoma.
95. The highest malignant potential is seen in Familial polyposis
96. The highest ESR is not seen in Polycythemia rubra.
97. Secondary amyloidosis complicates Chronic osteomyelitis

98. The earliest feature of TB is Lymphocytosis.
99. The low grade non-Hodgkins lymphoma is Follicular.
100. Liquefactive necrosis is seen in Brain.
101. Increased hapto globulin is not features of hemolytic anemia
102. The crescent forming glomerulonephritis is RPGN.
103. Decreased fibrinogen products are untrue of D.I. coagulation.
104. Earliest feature of correction of IDA is Reticulocytosis.
105. Kupffer's cells are found in Liver.
106. Heart failure cells are found in Lungs.
107. Psammoma bodies show Dystrophic calcification.
108. Beta-microglobulin is not a tumor marker.
109. Blood when stored at 4 degree Celsius can be kept for 21 days.
110. Congo-red with amyloid produces Brilliant pink colour.
111. Oedema is caused by fall in plasma proteins below 5%.
112. Cloudy swelling does not occurs in Lungs.
113. Gamma Gandy bodies contains hemosiderin and Ca++.
114. Hutchinson's secondaries in skull are due to tumors in Adrenals.
115. Albumino cytologic dissociation occurs in cases of Guillain Barre syndrome.
116. Metastatic calcification is most often seen in Lungs.
117. ASLO Titres are used in the diagnosis of Acute rheumatic fever.
118. Apoptosis is inhibited by bcl-2.
119. An example of a tumour suppressor gene is myC.
120. CEA is not used as a tumor marker in testicular tumours.
121. Mitral valve vegetations do not embolies usually to Lungs
122. The least common cause of calcification in the lung is Amyloidosis.
123. Onion peel appearance of splenic capsule is seen in SLE.
124. Lardaceous spleen is due to deposition of amyloid in Sinusoids of red pulp.
125. CD-10 is seen in ALL.
126. Most common valve not involved in rheumatic fever Tricuspid.
127. HMB 45 is a marker for Melanoma.
128. Hepatocytes is not a labile cell.
129. Antigliadin antibodies are seen in Celiac disease.
130. Focal diffuse gall bladder wall thickening with comet tail reverberation artifacts on USG is in Adenomyomatosis of gall bladder.

131. Organelle that plays a pivotal role in apoptosis Golgi complex.
132. In myocardial infarction, microscopic picture of coagulation necrosis with neutrophilic infiltration is seen in l-3days.
133. Microalbuminuria is defamed as protein levels of 151-200mglL.
134. Paneth cells contain Zinc.
135. Psammoma bodies are not seen in Follicular Ca thyroidal.
136. Sickle cell Red blood cells Protective against adult malaria
137. Common complement component for both the pathways is C3.
138. Hypersensitivity vasculitis is seen in Postcapillary venules.
139. Essential for tumour metastasis is Angiogenesis.
140. Onion skin thickening of arteriolar wall is seen in Hyperplastic arteriosclerosis.
141. Most potent stimulator of Naive T-cell is Mature dendritic cells.
142. Bone infarcts are seen in Sickle cell anemia.
143. Periodic acid Schiff stain shows block positivity in Lymphoblasts.
144. Perioral pallor and Dermis's line are seen in Atopic dermatitis.
145. Abciximab is not tumour necrosis factor blocking agents .
146. Berger nephropathy is due to mesangial deposition of IgA and C3.
147. The most common site of ectopic pheochromocytoma is Organ of Zuckerkandl.
148. The tumour causing polycythemia due to erythropoietin production is Cerebellar hemangioma.
149. Thrombocytopenia due to increased platelet destruction is seen in Systemic lupus erythematosus.
150. C-C beta chemokine includes Eotaxin.
151. The most common gene defect in idiopathic steroid resistance nephritic .syndrome NPHS 2.
152. Mercury affects which part of kidney pet.
153. Brain natriuretic peptide is degraded by Neutral endopeptidase.
154. Nitroblue tetrazolium test is used for Phagocytosis.
155. Annexin V is a marker of Apoptosis.
156. Tumorigenesis in aging is due to Telomerase reactivation.
157. Pauci immune glomerulonephritis is seen in Microscopic polyangiitis.
158. Omphalocele is associated with >20% risk of chromosomal anomalies.
159. Karyotyping under light microscopy done by G-banding.
160. M1C-2 positive in Ewing's sarcoma.

161. Stain used in identifying fungi is Methenamine silver.
162. Caspase are involved in Organogenesis.
163. In apoptosis, the chief organelle involved Mitochondria.
164. Juvenile polyp is not premalignant.
165. Paneth cells characterized by More number of lysosomal enzyme.
166. Most characteristic features of acute inflammation is Vasodilation and increased vascular permeability.
167. CD 34 is not B cell marker.
168. Low serum haptoglobin in hemolysis is marked by Bile duct obstruction.
169. Clue cells are found in Bacterial vaginosis.
170. Elevated AFP levels are not seen in Seminoma.
171. Defective DNA repair is associated with Xeroderma pigmentosa.
172. C in CRP stands for Capsular polysaccharide of Pneumococcus.
173. Necrotizing lymphadenitis is seen in Kikuchi disease.
174. Choledocholithiasis is not a high risk factor for cholangiocarcinoma.
175. Kawasaki disease is not a common cause of vasculitis in adults.
176. Poor prognostic indicator in ALL Age <2year.
177. ABO antigens are not found in Saliva.
178. Serum alkaline phosphate is low in hyperphosphatemia.
179. Interleukin responsible for pyrexia is I LI B.
180. High hematocrit is not seen in sickle cell anemia.
181. High risk of malignancy is seen in Complex hyperplasia with atypia
182. Mallory hyaline is characteristic feature of Alcoholic liver disease .
183. Most common cause of death in primary amyloidosis is Cardiac failure.
184. Anti-Saccharomyces cerevisiae antibodies are seen in Crohn's disease .
185. GP 120 -is for virus attachment.
186. Mutation of keratin 1 and 10 are associated with Epidermolytic hyperkeratosis.
187. Inflammatory bowel disease with transmural involvement and skip lesions is Crohn's disease.
188. Barrett's esophagus is Columnar metaplasia.
189. Caspase is Involved in apoptosis.
190. Mutation in Marfan's syndrome is Fibrillin I.
191. In Von Willebrand disease, there is Factor VIII deficiency .
192. Glucose is used in stored blood to Provide nutrition.
193. Chronic persistent and chronic active hepatitis are differentiated by Liver biopsy.

194. Fixation used for bone histopathology 10% formalin.
195. Prostate gland has 4 zones.
196. Ligase enzyme is not used in PCR.
197. Prolonged PT and normal PTT may be found in Vit. K deficiency.
198. Best way to diagnose amyloidosis Rectal biopsy primary.
199. Type of nephropathy in DM Nodular.
200. Secretory antibody is IgA.

201. Bevacizumab Monoclonal Ab against VEGA.
202. Platelet dense alpha granules does not contain Alpha.
203. A CP enzyme is not associated with liver disease.
204. Ca tongue stained by Toluidine blue.
205. A women present with megaloblastic anemia. Dysphagia has Plummer Vinson syndrome.

Recent & High Yield Updated LMRPs

1. First feature of Crohn's disease is Aphthous ulcer.
2. Whipple disease shows PAS positive macrophages abundantly in lamina propria.
3. Mutation seen in Cowden syndrome is PTEN.
4. Deficiency of CD-59 causes Paroxysmal nocturnal hemoglobinuria.
5. Extra mammary Paget disease is seen at Vulva site.
6. Warthin Finkeldey cell is found in Measles.
7. Acute hyper rejection of graft takes place in within minutes or hours.
8. Minimum time in which Onset of TRALI occurs in 6 hrs.
9. Nude mice tolerates xenograft because absence of T cells.
10. True about ataxia telangiectasia is it predisposes to squamous cell carcinoma.
11. The chromosome number associated with myotonic dystrophy is 19
12. The transporter for iron from lumen to enterocyte is DMT 1.
13. Anaplasia of cells mean Loss of differentiation
14. Carcinoid is a gastric tumor of epithelial origin.
15. L&H cells are seen in Lymphocyte predominant variant of Hodgkin lymphoma.
16. Fever is caused due to PGE2.
17. The complement known as Opsonin is C3b.
18. Most common type of skin lymphoma is Cutaneous T cell lymphoma.
19. Stellate shaped granuloma with central necrosis and neutrophils is seen in Cat scratch disease.
20. Von Willebrand disease causes increase in bleeding time.
21. Bernard-Soulier disease is caused due to defect in Gp lb.
22. Feline esophagus is seen in Eosinophilic esophagitis > GERD.
23. Cells are responsible for rheumatoid arthritis is T cells.
24. Dactylitis is seen in Sickle cell anemia.
25. Phagocytosis of mycobacterium tuberculosis by macrophages is mainly mediated by IFN gamma.
26. Tensile strength of wound after laparoscopic cholecystectomy in a 30 years old woman depends upon Extensive crosslinking of tropocollagen.

27. The malignancy is least commonly associated with lymphatic spread is Basal cell Carcinoma.
28. The correct sequence of cellular events of acute inflammation are Rolling—-Activation of Integrins—Stable Adhesion-migration via endothelium
29. A 5-year old child was presented with proptosis. Microscopic examination of the mass revealed a round cell tumor positive for Desmin immunohistochemical marker. Most likely diagnosis is Embryonal rhabdomyosarcoma.
30. The stain is used for Acidic mucin is Alcian Blue,
31. The laboratory investigation is best to reveal bleeding in Disseminated Intravascular Coagulation (DIC) is to Increased FDPs.
32. Biopsy form an eight-year old child with leg swelling showed small round blue tumor cells consistent with diagnosis of Ewing's sarcoma. The best method to detect translocation t(ll;22) in this malignancy is FISH.
33. True regarding blood transfusion of packed RBC is it should be completed within 4hours of receiving from blood bank
34. Toluidine blue staining is used for identification of Mast cell.
35. Storage temperature of RBC, Platelet, and Fresh Frozen Plasma (FFP) are RBC 2-6C, Platelet 20-22’C, FFP -30’C.
36. I LI: Caspase 1
37.
38. Anti apoptoticgene: BCL2
39. Vessel necrosis: Fibrinoid
40. Autosomal Dominant: Achondroplasia
41. Autosomal Recessive: Albinism
42. Vit. A stored in Ito cells
43.
44. Intrinsic hemolysis seen in PNH
45. Cryptococcus stain: Mucicarmine
46. Serpiginous ulcer: CMV
47. Punched out ulcer: Herpes
48. Solitary lytic lesion : Multiple myeloma
49.
50. Alcohol associated with Dilated cardiomyopathy
51. Aneurysm in infarction in Ml is anterior transmural.

Mitral stenosis fish mouth due to fibrosis

Partial mole: 69xxy

Follicular lymphoma : BCL2

52. Dubin johnson : MRP2
53. Glanzmann thrombasthenia : GP 2b/3a
54. CPD advantage over ACD : Fall in 2,3 BPG less
55. Endogenous pyrogen : IL1
56. G6PD : X linked recessive.
57. Color code of container for sodium fluoride is grey.
58. Cytokeratin can help in differentiating thymoma from ALL.
59. Patients come with severe bleeding to ER. Blood group is unknown. FFP will be given is AB
60. ADCC is seen in NK cells; neutrophils, eosinophils.
61. Clearance of necrotic cell during inflammation by toll like receptor.

Download From: AghaLibrary.com

Pharmacology

General Pharmacology

1. Inotropic Receptor- GABA, NMDA.
2. Enzymatic Receptor -Prolactin, insulin, growth hormone.
3. Cytoplasmic Receptor- Corticosteroids, vitamin D.
4. Nuclear Receptor- Estrogen progesterone.
5. Drugs metabolized by acetylation- Sulfonamides, hydralazine, isoniazid, procainamide.
6. TDM is done for- Aminoglycosides, lithium, digitalis, Phenytoin.
7. Dialysis is not effective in - Amphetamine, verapamil, opioid, digitalis, diazepam.
8. Drugs with high first pass metabolism- Nitrates hydrocortisone, lignocaine, propranolol.
9. Agonist - High affinity and high intrinsic activity.
10. Partial agonist- High affinity but low intrinsic activity.
11. Antagonist- High affinity but no intrinsic activity.
12. Carisoprodol activation forms Meprobamate.
13. Child with Phocomelia anomaly due to drug taken by mother is Thalidomide.
14. Pharmaco vigilance is used for monitoring drug Adverse drug reactions.
15. 5-FU is.eliminated by lung.
16. Loading dose depends on volume of distribution
17. Apart from captopril and Lisinopril rest all ACE inhibitors are prodrug,
18. Cytochrome P 450 is inhibited by Ketoconazole, cimetidine, erythromycin
19. If there is a Gs alpha subunit gain-of-function mutation, this results in increased cAMP.

Download From: AghaLibrary.com

20. Therapeutic index is an indicator of safety. It is measured by LD50/ED50
21. Area under the blood concentration -time reliably reflects the total amount of drug reaching the target tissue after oral administration. It is the best measure for bioavailability.
22. High affinity of the drug will enable it to be used in low concentrations
23. Heparin can be safely prescribed in pregnancy.
24. Diazepam is not a prodrug.
25. For drugs with first order kinetics, the time required to achieve steady state level can be predicted from half-life.
26. Km of an enzyme is the substrate concentration at half maximal velocity.
27. Racemic mixture of two enantiomer with different pharmacokinetic and pharmacodynamic properties is seen in Verapamil.
28. Methotrexate causes dihydrofolate reductase inhibition.
29. The 1st order kinetics describes that a constant fraction of drug is excreted per unit time.
30. Reserpine omeprazole is "hit and run" drug
31. New drug study and development can be done by molecular modeling.
32. Drugs inducing CYP3A4 includes Phenytoin, Carbamazepine, Rifampin,
33. Efficacy is clinically more important than potency.
34. Height of DRC corresponds to efficacy.
35. Drugs having similar pharmacological action may have different efficacy.
36. A highly ionized drug is excreted mainly by the kidney.
37. The Ames test is a method for detecting mutagenesis in bacteria.
38. CLOMIPHENE citrate blocks estrogenic inhibition of pituitary.
39. Alkaline diuresis is done for treatment of poisoning due to Phenobarbitone.
40. Comparison of efficacy of a new drug B with an existing drug A is done in Phase III of clinical trials.
41. The neurotransmitters; nor-adrenaline, adrenaline and dopamine act through seven pass transmembrane receptors.
42. The mechanism of action of insulin on target cells is that it enters the cell and causes the release of calcium ions from intracellular stores.

Autonomic Nervous Systems

1. Adrenaline is drug of choice for anaphylactic shock l;1000 concentration i/m acting on alpha 1, beta 1, beta 2 receptor.
2. Clonidine is used decrease withdrawal of opioids.
3. Lofexidine is also used for withdrawal of opioids.
4. Dexmedetomidine is used for sedation in ICU.
5. Tizanidine is skeletal muscle relaxant.
6. Methylphenidate is drug of choice for ADHD.
7. Modafinil is used for narcolepsy.
8. Phentolamine and phenoxybenzamine is used in pheochromocytoma.
9. Phentolamine is used for clonidine withdrawal.
10. Propranolol is used for essential tremor and performance anxiety.
11. Tamsulosin is used in BHP.
12. Atropine is used for early mushroom poisoning.
13. Physostigmine is used for belladonna or atropine poisoning.
14. Atropine is drug of choice for OPC poisoning.
15. Tropicamide is shortest acting mydriatic used for refractive error.
16. Nebivolol is cardioselective with nitric oxide activity.
17. Esmolol is shortest acting beta blocker.
18. Carvedilol is both alpha and beta blocker used in heart failure.
19. Extra cardiac uses of beta blockers- anxiety, tremors, migraine, glaucoma
20. Biphasic response of adrenaline is due to action of beta 2 at low dose and alpha 1 receptor at high dose.

Cholinergic Drugs

1. Tolazoline is used as a vasodilator before coronary catheterization.
2. Obstructive sleep apnea is an FDA approved indication for use of modafinil as an adjunct.
3. Intrinsic activity is present in Pindololceliprolol,acebutolol.
4. Drug used to perform stress ECHO is Dobutamine.
5. Triptans are used for acute attack of migraine
6. Ipratropium bromide is absolutely contraindicated in urinary retention.
7. Mechanism of action of PAM/pralidoxime is reactivation of cholinesterase.

Download From: AghaLibrary.com

8. Tiotropium is used for the treatment of asthma.
9. The therapeutic actions of p-adrenergic receptor blockers in chronic stable angina pectoris are primarily the result of decreased myocardial oxygen demand.
10. Reserpine acts by inhibiting the release of granules at the nerve terminal.
11. Labetalol is a combined alpha and beta-blocker
12. Ipratropium is administered by inhalation to cause bronchodilation for patients with COPD.
13. Propranolol is not used in variant angina, diabetes, asthma, PVD
14. Acetazolamide is not used topically for treatment of open angle glaucoma
15. Phenylpropanolamine has been associated with hemorrhagic stroke.
16. Brimonidine can cause drowsiness, lid retraction.
17. Brinzolamide is contraindicated in patients with allergy to sulphonamides.
18. Propranolol is useful in prophylaxis of migraine.
19. Selective ala blocker is Tamsulosin.
20. pi, selective agonist is Dobutamine.
21. Phenylephrine is not a catecholamine.
22. Botulinum toxin produces skeletal muscle paralysis by inhibiting release of acetylcholine.
23. Glycopyrrolate does not produce central anticholinergic syndrome.
24. Phenylephrine is not used in ventricular tachycardia.
25. Pirenzepine is a Ml blocker.
26. Neostigmine is not used in cholinergic crisis.
27. Haloperidol does not cause weight gain.
28. Sweating is reduced by atropine.
29. Neostigmine is the drug of choice for myasthenia gravis.
30. The difference between uses of a selective alpha-1 blocker to using a non-selective alpha-blocker is less tachycardia and postural hypotension
31. Guanethidine is not an alpha-adrenoceptor agonist.
32. DOC for hyperactive bladder is Tolterodine.
33. Anticholinergics causes dry mouth/warm skin tachycardia, mydriasis.
34. Long acting P2 adrenoreceptor agonist is Salmeterol.
35. Hypokalemia, muscle tremor is a side effect of beta 2 agonist.
36. Phosphodiesterase inhibitor like sildenafil is used for erectile dysfunction.
37. Lid retraction is caused by Apraclonidine.

38. Dilator papillae is supplied by postganglionic sympathetic from cervical sympathetic chain
39. Darifenacin is used for overactive bladder
40. Trochlear nerve does not carry parasympathetic outflow.
41. The most important action of beta-blockers in glaucoma is decrease in the production of aqueous humor
42. Finasteride acts by 5a-reductase Inhibition

Autocoids

1. Erenumabis calcitonin gene related peptide which is used for migraine prophylaxis.
2. Misoprostol is used for cervical ripening and induction of labor.
3. Alprostadil is used to keep the ductus arteriosus patent and erectile dysfunction.
4. Dinoprost and carboprost is used for induction of labor.
5. Latanoprost and bimatoprost is used for glaucoma and hypotrichosis.
6. Iloprost is used in pulmonary hypertension.
7. Paracetamol has no anti-inflammatory property, safe in children, less peptic ulcer incidence.
8. Aspirin is used as prophylaxis for Ml and stroke.
9. N-acetyl cysteine is given for acute paracetamol poisoning.
10. 5HT-3 antagonist ondansetron is drug of choice for chemotherapy induced vomiting.
11. Allopurinol is DOC chronic gout.
12. Corticosteroids is used as bridge therapy in RA.
13. Methotrexate is DMARD used in RA.
14. Adalimumab,golimumab, etanercept is TNF alpha inhibitors.
15. Febuxostat is xanthine oxidase inhibitor given in patients of gout who are refractory to allopurinol.
16. Riociguat increase the level of cGMP used in pulmonary hypertension.
17. Selexipag is prostacyclin agonist used in pulmonary hypertension.

Serotonin

1. Rofecoxib is associated with highest cardiac mortality.
2. The therapeutic efficacy of antihypertensive drugs is blunted by NSAIDs. because they decrease the synthesis of vascular prostacyclin.
3. COX 2 is implicated in cell migration.
4. Aspirinirreversibly inhibits Cyclooxygenase.
5. A patient on aspirin will have increase in bleeding time.
6. Misoprostol is a Prostaglandin El analogue.
7. Piroxicam undergoes enterohepatic circulation.
8. Aspirin has covalent interaction with its target.
9. True statements about TXA2 is that it is formed in platelets.
10. Tinnitus is an early symptom of aspirin toxicity.
11. Flunarizine is used for prophylaxis of migraine.
12. Second generation anti-histaminic used in allergic rhinitis is azelastine.
13. Nitroprusside is most useful for reversing severe ergot induced vasospasm.
14. Bosentan is used to treat severe pulmonary hypertension.
15. Aprepitant is an antagonist of a peptide and is used to reduce, chemotherapy induced nausea and vomiting.
16. Latanoprost is a PGF2a derivative used in glaucoma.
17. Ibuprofen inhibits platelet cyclooxygenase reversibly.
18. LTC4 is a component of slow reacting substance of anaphylaxis (SRS-A).
19. Prednisolone reduces the activity of Phospholipase A2
20. The primary endogenous substrate for nitric oxide synthase (NOS) is Arginine.
21. The chief advantage of ketorolac over aspirin is that the former is available in a parenteral formulation that can be used intramuscularly or intravenously.
22. Anti-vertigo drug which modulates calcium channels and has prominent labyrinthine suppressant property is Cinnarizine.
23. Ketoconazole should not be given to a patient being treated with astemizole because dangerous ventricular arrhythmias can occur.

24. True statement about fexofenadine is that It does not block cardiac K+ channels.
25. HI antihistaminic having best topical activity is Azelastine.
26. Selective 5-HT1B/ID receptor agonist useful in acute migraine is Frovatriptan.
27. 5-HT1A is an auto receptor.
28. Most important receptor involved in chemotherapy induced vomiting is Serotonin 5-HT3 receptor.
29. Selective 5-HT4 agonist useful in gastroesophageal reflux disease and lacking arrhythmogenic property is Tegaserod.
30. Retroperitoneal fibrosis is characteristically associated with methysergide.
31. Dihydroergotamine differs from ergotamine in that it is more potent a adrenergic blocker and less potent vasoconstrictor.
32. Ergot alkaloid commonly used to prevent post-partum hemorrhage is Methyl ergometrine.
33. Aspirin in low doses produces long lasting inhibition of platelet cyclooxygenase because platelets cannot synthesize fresh COX molecules.
34. NSAID lacking anti-inflammatory action is Paracetamol.
35. Cyclooxygenase -2 is inducible.
36. The plasma half life of aspirin is longer for anti-inflammatory doses compared to that for analgesic dose.
37. Long term use of aspirin in rheumatoid arthritis is that it is limited by its propensity to cause gastric mucosal damage.
38. Phenylbutazone use as an NSAID is restricted because it has potential to cause agranulocytosis.
39. Analgesic that itself can cause headache as a side effect is Indomethacin.
40. NSAID proposed to be acting via inhibition of COX-3 is Paracetamol.
41. Ibuprofen has been approved for use in children.
42. Drug of choice for acute gout is Indomethacin [NSAID].
43. Most common dose limiting adverse effect of colchicine is diarrhea
44. Rasburicase acts by increasing urate oxidation.
45. A drug that is effective for rheumatoid arthritis but is not appropriate for osteoarthritis is Infliximab.
46. Mechanism of action of aspirin in MI is inhibition of Thromboxane synthesis.

47. Drug of choice for the treatment of peptic ulcer caused due to chronic use of NSAIDs is Esomeprazole.

Respiratory System

1. Salbutamol is drug of choice for acute attack of asthma both exercise induced and aspirin induced.
2. Corticosteroids are given for prophylaxis.
3. Ipratropium is prescribed to acute attack of asthma in pregnancy.

COUGH

1. Long acting 02 adrenoreceptor agonist is Salmeterol.
2. Zafirlukast acts as a leukotriene receptor antagonist.
3. Hypokalemia is a side effect of beta 2 agonist.
4. Beclomethasone can be administered by inhalation.
5. Phenylbutazone if used along with tolbutamide (sulfonylurea), may cause hypoglycemia.
6. Theophylline is used in asthma due to PDE-4 inhibitor.
7. Ipratropium bromide is absolutely contraindicated in urinary retention.
8. Tiotropium is used for the treatment of Asthma.
9. To prevent exercise induced bronchial asthma drug used is Sodium cromoglycate.
10. The loading dose of aminophylline is 5-6 mg/kg.
11. Inhibition of 5-lipoxygenase is useful in bronchial asthma is Zileuton
12. The drug not used in acute asthma is Montelukast.
13. Inflammation in the airways can be reduced by Fluticasone.
14. The most prominent and dose related side effect of salbutamol is muscle tremor.

Diuretics / Anti-Diuretics&Cardiovascular System

1. Desmopressin is drug of choice for central diabetes insipidus, thiazides for nephrogenic diabetes insipidus and amiloride is prescribed for lithium induced diabetes insipidus.
2. Sacubitril is neprilysin inhibitor useful in chronic heart failure.
3. Niacin inhibit lipolysis. It causes hepatotoxicity and hyperuricemia.

4. Statins inhibit HMG CoA reductase. Metabolized by CYP3A4.
5. Statins absorption increases with food, most common side effect is myopathy.
6. Simvastatin and lovastatin crosses the blood brain barrier.
7. Nitrates are predominant venodilators.
8. Hydralazine is predominant arterio dilator.
9. ACE inhibitors and ARB are mixed dilators.
10. Phentolamine is drug of choice cheese reaction and clonidine withdrawal.
11. Labetalol is drug of choice in hypertensive pregnant female
12. Fibrates are given in hypertriglyceridemia
13. Flecainide is drug of choice for WPW syndrome
14. Adenosine is drug of choice for PSVT
15. Verapamil is given for prophylaxis for PSVT
16. Lignocaine is drug of choice for digitalis induced arrhythmia
17. Magnesium is drug of choice for torse de pointes'
18. Bosentan is drug of choice for pulmonary hypertension
19. ACE inhibitors are prescribed for diabetic nephropathy
20. Decompensated heart failure is treated with dobutamine and compensated heart failure ,we give ACE inhibitors or ARB
21. Nitroglycerine is given for acute attack of angina and esophageal spasm
22. Amyl nitrite is given for cyanide poisoning
23. Nifedipine and amlodipine is given for Raynaud's phenomenon
24. Reteplase/ alteplase is thrombolytic therapy given for STEMI
25. Hypertension
    a. With BHP- prazosin
    b. With DM-ACE inhibitors
    c. With IHD- beta blockers
    d. With CHF- ACE inhibitors
26. Acute digitalis toxicity:Digibind
27. Side effects of amiodarone
    a. Hypothyroidism
    b. Neuropathy
    c. Pulmonary fibrosis
    d. Photosensitivity
    e. Corneal deposit

28. ACE inhibitors are contraindicated in pregnancy, bilateral renal artery stenosis, hyperkalemia
29. Digitalis is contraindicated in hypercalcemia, hypokalemia, WPW syndrome, AV block, renal failure
30. Thiazides can cause hypokalemic metabolic alkalosis.
31. Furosemide is used in pulmonary edema.
32. Sodium reabsorption in PCT is prevented by Mannitol.
33. Dose of digoxin is not decreased in Hepatic failure .
34. Gynecomastia is commonly seen with Spironolactone.
35. Diuretic preferred in cirrhotic ascites is Spironolactone.
36. Furosemide should not be administered with NSAIDs because latter inhibits prostacyclin synthesis.
37. Spironolactone is contraindicated with Enalapril.
38. Mannitol would be most useful in a patient with cerebral edema.

Angina

1. Perindopril is best for reducing proteinuria in a diabetic patient.
2. Coronary steal phenomenon is seen with Dipyridamole.
3. The diuretic of choice for rapid relief of congestive symptoms in a patient of CHF is Furosemide.
4. Impotence is caused beta blockers.
5. Ezetimibe acts by Decreased absorption of cholesterol.
6. Digoxin is contraindicated in hypertrophic obstructive cardiomyopathy.
7. Serum transaminase measurements is advisable when using lovastatin.
8. SLE is caused by Procainamide.
9. Isosorbide mononitrate does not undergo first pass metabolism.
10. Quinidine is contraindicated in Digitalis toxicity.
11. Sodium nitroprusside infusion may result in cyanide toxicity.
12. Postural hypotension is a common adverse effect of Alpha-receptor blockers.
13. Nimodipine is approved for the treatment of hemorrhagic stroke.
14. Alpha-methyldopa is used most commonly in pregnancy induce hypertension.
15. Tolazoline is used as a vasodilator before coronary catheterization.
16. Intrinsic activity is present in Pindolol.
17. Beta blocker is not used in treatment of pulmonary hypertension.

18. ACE inhibitor is contraindicated in pregnancy.
19. Mechanism of action of Nitric oxide is Increase cGMP.
20. Nimodipine is used for reversal of cerebral vasospasm and infarct following subarachnoid hemorrhage.
21. Ivabradine is indicated in the management of Angina pectoris.

Endocrinology

1. Metformin is drug of choice for type 2 DM, cause maximum reduction in HbAlc and it doesn't cause hypoglycemia or weight gain. Lactic acidosis is serious adverse effect.
2. Bisphosphonates is given for hypercalcemia in malignancy and Paget's disease.
3. Cabergoline is given for hyperprolactinemia.
4. Carbimazole is drug of choice for hyperthyroidism.
5. Propylthiouracil is given in pregnancy and lactation for hyperthyroidism.
6. Calcium gluconate is given for acute hyperkalemia.
7. Glucagon is given for beta blocker poisoning.
8. Hydrocortisone is given for adrenal insufficiency.
9. Sildenafil is given for erectile dysfunction.
10. Non contraceptive uses of OCP.
    a. Ovarian cyst
    b. Ectopic pregnancy
    c. Neoplasia of ovarian, breast
    d. Fibroid
    e. Endometriosis
11. Uses of mifepristone.
    a. morning after pill
    b. induction of labor
    c. fibroid
    d. Endometriosis
    e. receptor positive breast cancer
12. Fulvestrant is Selective oestrogen receptor down regulator. Given in case of receptor positive breast cancer resistant to antioestrogen therapy.

13. Denosumab is monoclonal antibody used against RANK ligand.
14. Canagliflozin is SGLT-2 inhibitor which inhibits the glucose reabsorption.
15. Cinacalcet isCalcimimetic drug which modulates the calcium sensitizing receptor.
16. Sitagliptin, vildagliptin are the DPP4 inhibitors which inhibit the degradation of GLP-1
17. Exenatide and liraglutide are the incretin mimetic drugs given via subcutaneous route.

Diabetes Meiiitus

1. Strontium is used in osteoporosis for decreasing bone resorption and increasing bone formation.
2. Drug causing hyperglycemia is Corticosteroids.
3. The primary mechanism of action of fluoride on topical application is conversion of hydroxyapatite to fluoro apatite by replacing the OH- ions.
4. Metyrapone is useful in testing endocrine function of Pituitary-adrenal axis.
5. Long-term use of glucocorticoid may lead to osteoporosis.
6. Oral contraceptive failure is seen with the concurrent use of Rifampicin.
7. The unique property of SERMs is that they act as agonists in some tissues and antagonists in other tissues.
8. Finasteride has efficacy in the prevention of male-pattern baldness by virtue of its ability to reduce the production of dihydrotestosterone.
9. DOC for prevention of postmenopausal osteoporosis is Raloxifene.
10. Octreotide is used in secretory diarrhea.
11. Bisphosphonates are not used in Vitamin D intoxication.
12. Metformin can cause vitamin B12 deficiency.
13. Hypospadias in the baby is caused by maternal use of Clomiphene.
14. Acarbose does not cause hypoglycemia.
15. Contraceptive that should be avoided in epilepsy is Oral contraceptives.
16. Prolonged testosterone treatment to a man results in azoospermia.
17. In spider nevi, dilatation of blood vessels is due to Estrogen.
18. Loeffler's syndrome is an indication for the use of corticosteroids.
19. Levonorgestrel is used in emergency contraception.

Central Nervous System

1. Drug of choice for parkinsonism is Ropinirole/ Pramipexole.
2. Most effective drug for parkinsonism- Levodopa+ Carbidopa.
3. Drug of choice for drug induced parkinsonism- Benzhexol.
4. Morphine is drug of choice for cancer pain.
5. Naloxone is given for acute opioid poisoning.
6. Naltrexone is given for maintenance of opioid poisoning.
7. Methadone is given for maintenance of opioid addiction.
8. Naltrexone is given to prevent relapse in opioid addiction.
9. Beta blockers are given for withdrawal of opioid addition.
10. Extrapyramidal side effects:
    a. Dystonia- Benzhexol
    b. Parkinsonism - Benzhexol
    c. Akathisia- Propranolol
    d. Neuroleptic syndrome- Dantrolene
    e. Tardive dyskinesia-Valbenazine
11. Carbamazepine is drug of choice for trigeminal neuralgia.
12. Pregabalin is drug of choice for post herpetic neuralgia and diabetic neuropathy.
13. Olanzapine is drug of choice for schizophrenia.
14. Acute mania is treated with lithium/antipsychotics/benzodiazepines.
15. Prophylaxis of mania is treated with lithium.
16. SSRI is drug of choice for depression(fluoxetine).
17. Indications for SSRI- Obsessive compulsive disorder, bulimia, phobia, post traumatic stress disorder.
18. Fomepizole is drug of choice for alcohol poisoning.
19. Chlordiazepoxide is given for maintain ace for alcohol poisoning.
20. Naltrexone is given to prevent craving in alcohol dependence.
21. Benzodiazepines are the drug of choice for Generalized anxiety disorder and panic attacks.
22. Flumazenil is drug of choice for benzodiazepines poisoning.
23. Valproate is drug of choice for generalized tonic clonic, absence, myoclonic, Atonic seizures.
24. Infantile spasm is treated with ACTH.

25. Lorazepam- Status epilepticus.
26. Magnesium sulfate - Eclampsia seizure.
27. Diazepam - Febrile seizures.
28. Valproate -LennoxGastaut syndrome.
29. Disulfiram like reaction is seen with cefoperazone, griseofulvin,metronidazole,procarbazine.
30. Side effects of valproate.
    a. V-Vomiting
    b. A-Alopecia
    c. L-Liver damage
    d. P- Pancreatitis
    e. R- Rash
    f. O- Obesity
    g. A-Agranulocytosis
    h. T-Tremors
    i. E- Epigastric pain
31. Side effects of Phenytoin:
    a. Hirsutism
    b. Osteomalacia
    c. Teratogenic
    d. Megaloblastic anaemia
    e. Ataxia
    f. Hyperglycemia
    g. Vitamin K deficiency
32. Amantadine is known to cause livedo reticularis.
33. Pimavanserin is drug approved for hallucination and delusion in parkinsonism.
34. Perampanel is AMPA antagonist used for partial onset seizures.
35. Suvorexant is Orexin antagonist used in case of insomnia.

Antiepileptic drugs

1. Depression of deep tendon reflexes is an early sign of magnesium toxicity.
2. In a patient taking oral contraceptive pills, the chance of pregnancy increases after taking Phenytoin.
3. Disulfiram like reactions to alcohol is due to accumulation of Acetaldehyde.

4. Flumazenil is a specific antagonist of benzodiazepine receptors.
5. Phenytoin shows zero order kinetics.
6. Carbamazepine can be used in treatment of trigeminal neuralgia.
7. Granulocytopenia, gingival hyperplasia and facial hirsutism are all possible side effects of Phenytoin.
8. Bromocriptine is a Dopamine agonist.
9. Drug contraindicated in porphyria is Phenobarbitone.
10. Ethosuximide acts via the T-type calcium channel antagonism.
11. Imipramine is Antidepressant drug that can be used in nocturnal enuresis is Imipramine.
12. Buprenorphine is partial agonist at Mu Receptor. And antagonist at Kappa
13. Obstructive sleep apnea, is an FDA approved indication for use of modafinil as an adjunct.
14. Fetal-hydantoin syndrome is seen in case of Phenytoin.
15. Most effective drug for myoclonic seizures is Sodium valproate.
16. Flumazenil is a specific antagonist of benzodiazepine receptors.
17. Buspirone is an anti-anxiety drug.
18. Narcolepsy is an FDA approved indication for use of modafinil.
19. Carbamazepine can be used in treatment of trigeminal neuralgia.
20. Bone marrow depression is maximum with Clozapine.
21. Vigabatrin does not act via sodium channel blockade.
22. Carbamazepine is not contraindicated in pregnancy.
23. Phenytoin, At very low doses, zero order kinetics occurs
24. Naltrexone is used in a case of opioid dependence to prevent relapse.
25. Naloxone is a 'specific' opioid antagonist. Used in opioid poisoning
26. Ondansetron does not act on opioid receptor.
27. Buprenorphine is an opioid with strong analgesic property.

Antidepressants

1. Most common cardiac defect caused due to lithium is Ebstein's anomaly.
2. Clozapine causes metabolic syndrome.
3. The therapeutic serum levels of lithium is 0.8-1.1 mmol/L.
4. Increased suicidal tendency is associated with alteration in the brain levels of Serotonin.
5. Antipsychotic drug with the longest elimination half life is Aripiprazole.

6. Drug-induced agranulocytosis is commonly seen with Clozapine.
7. SSRIs are much less effective than tricyclic in the management of chronic pain of neuropathic origin.
8. Imipramine is used in attention deficit hyperkinetic disorder, enuresis, and chronic pain.
9. Conjunctival reddening is likely to occur with marijuana.
10. "Date rape" drug is chemically known as Gamma-hydroxybutyrate.
11. Tianeptine is not a serotonin-norepinephrine reuptake inhibitor.
12. The drug of choice for obsessive compulsive disorder is Fluoxetine.
13. Risperidone increases the risk of extrapyramidal symptoms.
14. Mother is on lithium during pregnancy is tested for cardiac anomaly.
15. Carbamazepine can be used with MAO inhibitors.

1. Uses of PPI:
    a. Duodenal ulcer.
    b. Gastric ulcer.
    c. Stress ulcer.
    d. NSAID induced ulcer.
    e. Zollinger-Ellison syndrome.
    f. GERD.
2. Vomiting- drug of choice:
    a. Chemotherapy- Palonosetron.
    b. Migraine-Metoclopramide.
    c. Levodopa induced- Domperidone.
    d. Radiation induced-Ondansetron.
    e. Pregnancy- Doxylamine and pyridoxine.
    f. Cisplatin induced-Aprepitant.
3. Corticosteroid are given for Crohn disease.
4. 5_ASA- Ulcerative colitis.
5. Lactulose- Hepatic encephalopathy.
6. Misoprostol is a Prostaglandin El analogue.
7. Neostigmine increases gastrointestinal motility.

8. Drug implicated for prolonging QT interval in a premature baby is Cisapride.
9. Dimethyl polysiloxane acts as defaming agent.
10. Proton pump inhibitors are most effective when given before meals.
11. Ondansetron is a potent antiemetic.
12. Omeprazole is a PPI with CYPP450 enzyme inhibiting activity.
13. Promethazine is an anti-emetic drug that also decreases acid secretion due to its action on Hl receptors.
14. Pentoxifylline is used to prevent hepatorenal syndrome in case of alcoholic hepatitis.
15. Most potent anti-emetic is PA alosetron.
16. Lubiprostone is used in irritable bowel syndrome with constipation.
17. Glipizide is the anti-diabetic drugs can cause vitamin B12 deficiency.
18. Octreotide is used in secretory diarrhea.
19. Octreotide is useful in medical treatment of variceal bleeding.
20. Metoclopramide enhances gastric motility.
21. For chemotherapy induced vomiting, 5HT3 antagonist having maximum potency is Palonosetron.
22. Cinnarizine is not an antiemetic/ anti vertigo
23. Anti emetic action is produced through decreased CTZ stimulation.
24. Ondansetron acts by acting on CTZ.
25. Gynecomastia can occur as a side effect of Cimetidine.

BLOOD

1. Prasugrel is aantiplatelet drug irreversible inhibitor of P2Y12 receptor, is a prodrug and is contraindicated in stroke patient.
2. Antiplatelet drug:
   a. Thromboxane A2 inhibitor- Aspirin.
   b. ADP receptor inhibitor:
      i. Irreversible- Prasugrel.
      ii. Reversible-Ticagrelor.
   c. GPIIB/IIIA- tirofiban, abciximab.
   d. Thrombin receptor antagonist- Atopaxar.
   e. Phosphodiesterase inhibitor- Dipyridamole,cilostazol.

3. Parenteral direct thrombin inhibitors- Lepirudin, Bivalirudin, Argatroban.
4. Oral direct thrombininhibitor-Dabigatran.
5. Oral factor XA inhibitor- Rivaroxaban, apixaban.
6. Drug of choice:
    a. Iron deficiency- Ferrous sulfate.
    b. Megaloblasticanemias-Vitamin B12.
    c. Anaemia due to chronic kidney disease- Erythropoietin.
    d. Iron poisoning- Desferrioxamine.
    e. Cyanide poisoning- Hydroxy cobalamine.
    f. DVT- Warfarin/ LMW heparin
    g. Pulmonary embolism-LMW heparin.
    h. Chronic atrial fibrillation- Warfarin
7. LMW heparin have better bioavailability, predictable response, no monitoring, low risk of HIT syndrome.

Hematinics

1. Heparin is introduced in cardiac patient with pregnancy 36 weeks.
2. Antagonist of heparin is Protamine sulfate.
3. Filgrastim is used for Neutropenia.
4. Drug used to prevent hepatorenal syndrome in case of alcoholic hepatitis Silymarin.
5. Heparin in pregnant female if given, should be supplemented with Calcium.
6. Streptokinase is used as fibrinolytic. The following is its mechanism of action It activates the conversion of plasminogen to plasmin.
7. Interaction between erythromycin and terfenadine is Torsades de pointes
8. The laboratory data for your pregnant patient indicate that she does not have macrocytic anemia but instead has microcytic anemia. Optimal treatment of normocytic or mild microcytic anemia associated with pregnancy uses Ferrous sulfate tablets
9. If this patient has a young child at home and is taking iron-containing prenatal supplements, she should be warned that they are a common source of accidental poisoning in young children and advised to make a special effort to keep these pills out of her child's reach. Toxicity associated with acute iron poisoning usually includes Necrotizing gastroenteritis, shock, and metabolic acidosis

Download From: AghaLibrary.com

10. Relative to filgrastim (G-CSF), Sargramostim (GM-CSF) Stimulates production of a wider variety of hematopoietic stem cells
11. If a fibrinolytic drug is used for treatment of this woman's acute myocardial infarction, the adverse drug effect that is most likely to occur is Hemorrhagic stroke
12. Anti-coagulant of choice in heparin induced thrombocytopenia is Argatroban
13. Antagonist of heparin is Protamine sulfate
14. A patient on aspirin will have increase in BT
15. Filgrastim is used for neutropenia
16. Clopidogrel is a prodrug
17. If Heparin if given in pregnant female, it should be supplemented with calcium

Antimicrobials General

1. Beta lactam, vancomycin, fluoroquinolones, aminoglycosides are bactericidal.
2. Tigecycline is resistant to efflux pumps and does not require dose reduction in renal failure.
3. Drug of choice:
    a. MRSA-Vancomycin.
    b. Pseudomonas-Ceftazidime +aminoglycoside.
    c. Anaerobes- Metronidazole.
    d. Salmonella-Ceftriaxone.
    e. Mycoplasma- Azithromycin,
    f. Burkholderia- Cotrimoxazole.
4. Protease inhibitor are- Indinavir, lopinavir, ritonavir, saquinavir.
5. Raltegravir and dolutegravir are integrase inhibitor.
6. Zidovudine / lamivudine - Nucleoside inhibitor.
7. Tenofovir- Nucleotide.
8. Efavirenz and nevirapine is non nucleoside inhibitor.
9. GP41 binding- Enfuvirtide.
10. CCR5 binding- Maraviroc.

11. CD4 cell binding- Ibalizumab.
12. Guidelines of HIV patients:
    a. Start therapy to all patients irrespective of CD4 count.
    b. First line in adults- Tenofovir+ Lamivudine+ Efavirenz.
    c. Nevirapine is used to prevent mother to child transmission.
13. Amphotericin b creates pores in membrane by binding to ergosterol.
14. Tafenoquine is single dose drug approved for radical cure of plasmodium vivax malaria.
15. Antitubercular drug side effects.
    a. Isoniazid- Peripheral neuropathy/hepatotoxic.
    b. Rifampicin- Orange color secretions/hepatotoxic.
    c. Pyrazinamide- Hepatotoxic/hyperuricemia.
    d. Ethambutol-Optic neuritis.
    e. Streptomycin - Ototoxic/nephrotoxic/NM blockade.
    f. Bedaquiline and delamanid- QT prolongation.
16. Oseltamivir, zanamivir(nasal) and Peramivir(parenteral) is given for bird flu and swine flu.
17. Meningococcal meningitis:
    a. Empirical-Ceftriaxone.
    b. Definitive- Penicillin G.
    c. Prophylaxis- Ciprofloxacin/ rifampicin.

    Metronidazole is given for extraintestinal amoebiasis.
18. Acyclovir- Herpes simplex.
19. Valacyclovir- Herpes zoster.
20. Ganciclovir- Cytomegalo virus.
21. Voriconazole is given for invasive aspergillosis.
22. Pauci bacillary- Rifampicin + dapsone.
23. Multibacillary- Rifampicin+ dapsone+ clofazimine.
24. Corticosteroids are given for Lepra reactions.
25. Nitrofurantoin is given for cystitis and fluoroquinolones is given for
26. pyelonephritis in UTI.

    Gonococcal infection - Ceftriaxone + Azithromycin.
27. Benzathine penicillin- Syphilis.
28. Doxycycline - Community acquired pneumonia.
29. Mefloquine, atovaquone, chloroquine halofantrine, artesunate and
30. quinine are fast acting antimalarials.

31. Metronidazole is used in - Giardiasis, peptic ulcer, pseudomembranous enterocolitis, anaerobic infections and amoebiasis.
32. Drug used for both HBV and HIV- Lamivudine, emtricitabine, tenofovir.
33. Macrolides are first line for- Chancroid, Legionella, atypical pneumonia and pertussis.
34. Adverse effects of tetracycline:
    a. Kidney failure.
    b. Photo toxicity.
    c. Liver failure.
    d. Dentition problem.
    e. Fanconi syndrome.
    f. Vestibular dysfunction.
35. Antipseudomonal penicillin:
    a. Carbenicillin.
    b. Ticarcillin.
    c. Azlocillin.
    d. Piperacillin.
36. Penicillinase resistant penicillin:
    a. Cloxacillin.
    b. Oxacillin.
    c. Nafcillin.
    d. Methicillin.
37. Erythromycin Is Given in Intestinal Hypomotility Because It Binds To Motilin Receptors.
38. Mechanism of Multi Drug Resistance Is Mainly Acquired Through Mutation in The DNA.
39. The Cephalosporin which Can Be Used In JzGFR Cefoperazone.
40. The Dose Of Cephalosporins Is Not To Be Decreased In Kidney Failure Cefoperazone.
41. A Girl OnSulphonamides Developed Abdominal Pain And Presented To Emergency With Seizure. Acute Intermittent Porphyria is the probable cause.
42. Cefaclor is Not Used For Methicillin Resistant Staph. Aureus (MRSA) Cefaclor
43. Piperacillin is Effective in Pseudomonas Infection.
44. Treatment of Choice for Neurosyphilis is Penicillin G.

45. Amikacin is not Effective In Treatment Of Typhoid.
46. Streptomycin Is Nephrotoxic.
47. Doxycycline Inhibit Protein Synthesis.
48. Streptomycin and Other Aminoglycosides Inhibit Bacterial Protein Synthesis By Binding To 80S Ribosomal Particles.
49. Tetracycline is The Most Effective Agent In The Treatment of Rickettsia Infections.
50. Pentamidine is Used In Pneumonia Caused By P. Carinii.
51. Compared With Most Other Cephalosporins, The Administration Of Cefoperazone, or Cefotetan Is Associated With A Higher Incidence of Bleeding Tendencies In Patients Taking Warfarin.
52. The Amikacin Differs From Gentamicin Mainly In That It Has Broadest Spectrum Against Gram-Negative Bacilli.
53. Cilastatin Is Added To Imipenem Because It Decreases The Metabolism Of Imipenem In The Kidneys.
54. Ciprofloxacin / Fluoroquinolones Are Contraindicated In Children Because They Cause Arthropathy.
55. Resistance To Fluoroquinolones Develops By Alteration In The Binding Site Of DNA Gyrase, Decreased Uptake Of Drug
56. Penicillin G is Not Metabolized By Liver.
57. The Clavulanic Acid, Is Added To Some Proprietary (Manufactured) Penicillin Combination Products is to Inhibit Inactivation of Penicillin By p-Lactamase Producing Bacteria.
58. Vancomycin Cannot Be Given In Renal Failure.
59. Methicillin causes Interstitial nephritis.
60. Single-Strand Breaks In DNA During DNA Replication Is Mediated By Topoisomerase.
61. Clindamycin Inhibits Protein Synthesis.
62. For Legionella infection, DOC is Erythromycin.
63. Renal Toxicity of Aminoglycosides does not increase with concomitant Penicillin administration.
64. The dosage of Ceftriaxone need not be decreased in mild renal failure
65. In Unconjugated Hyperbilirubinemia, the risk of kernicterus increases with the use of Sulphonalmide.
66. Cyproterone Acetateis used to treat acne in a women with acne and menstrual disturbances.

67. Bleomycin toxicity affects type 1 Pneumocyte.
68. Topical MITOMYCIN-C is used in Laryngotracheal Stenosis.
69. Cefepime acts by inhibiting cell wall synthesis.
70. Cefaclor is not useful for MRSA.
71. Drug of Choice for Diphtheria Chemoprophylaxis is Erythromycin.
72. Treatment of choice for neurosyphilis is Penicillin.
73. Streptomycin is Nephrotoxic.
74. Doxycycline inhibits protein synthesis.

Antimicrobials - Specific Infections

Anti amoebicDrugs

1. A patient with AIDS is treated with a combination of agents, one of which is zidovudine. This drug exerts its main effects by inhibiting of the Nucleoside reverse transcriptase.
2. DOC in severe complicated falciparum malaria is Quinine.
3. Cephalosporin is not immunosuppressive.
4. Nevirapine is non nucleoside reverse transcriptase inhibitor (NNRTI).
5. Drug causing maximal peripheral neuropathy is Stavudine.
6. OC pills are contraindicated in patients Rifampicin.
7. Anti-malarial used for resistant P. falciparum malaria in children is Lumefantrine.
8. Drug of choice for Diphtheria chemoprophylaxis is Erythromycin.
9. Digoxin levels are increased by addition of Quinidine.
10. Pulmonary fibrosis is a common complication with Bleomycin.
11. The 'most bactericidal' drug in leprosy is Rifampicin.
12. Intestinal amebiasis is treated with Diloxanide furoate.
13. Chloroquine is most effective against Blood schizont.
14. Discoloration of urine is not seen with the use of Quinidine.
15. Streptomycin is not hepatotoxic.
16. Itraconazole is used for treating aspergillosis.
17. Hypokalemia is caused by amphotericin B
18. "Flu-like syndrome is usually seen in people taking rifampicin on daily basis during TB therapy.

19. Amphotericin B toxicity can be lowered by incorporating it in liposomal complex.
20. Pancreatitis occur with Didanosine.
21. DOC in severe complicated falciparum malaria is Quinine .

Cancier Chemotherapy

1. Olaparib is a poly ADP ribose polymerase inhibitor used for ovarian cancer.
2. Atezolizumab act on programmed cell ligand 1.
3. Pembrolizumab is approved for non small cell lung cancer.
4. Cycloserine and tacrolimus are calcineurin inhibitors.
5. Basiliximab and daclizumab is monoclonal antibodies against CD25.
6. Sirolimus and everolimus inhibits mTOR.
7. Drugs causing pulmonary fibrosis:
    a. Carmustine.
    b. Cyclophosphamide.
    c. Busulfan.
    d. Amiodarone.
    e. Bleomycin.
8. Sunitinib Anssorafenic is approved for renal cell carcinoma.
9. Imatinib is drug of choice for CML and GIST.
10. Erlotinib and gefitinib are the tyrosine kinase inhibitor indicated for non small cell lung cancer.
11. Doxorubicin and daunorubicin are cardiotoxic.
12. Methotrexate is drug of choice for choriocarcinoma.
13. Tocilizumab is IL-6 inhibitor used for rheumatoid arthritis.
14. Nephrotoxicity is seen with Tacrolimus.
15. Mesna is given orally. For hemorrhagic cystitis
16. 5-FU is an antimetabolite agent
17. Ifosfamide is an alkylating agents
18. EGFR antagonist, Cetuximab is used in cases of palliative t/t of head and neck cancer
19. Vinblastine is cell cycle specific
20. Bleomycin toxicity affects Type 1 Pneumocyte
21. 'Hand Foot' syndrome can be caused by 5-FU Capecitabine

22. Topical MITOMYCIN-C is used in urinary bladder cancer
23. Allopurinol should be avoided, or reduced doses should be used if given with Mercaptopurine
24. Carmustine causes persistent leucopenia.
25. Temozolomide is an alkylating agent.
26. Alkalinization of urine ameliorates the toxicity of Methotrexate
27. Finasteride acts by 5- alpha reductase Inhibition.
28. L-asparaginase causes hypercoagulable syndrome.
29. Methotrexate resistance is due to overproduction of DHFR ase.
30. High dose methotrexate is given in osteosarcoma.
31. Imatinib mode of action competitively antagonizes the ATP binding site.
32. Paclitaxel acts by exaggerating polymerization and causes the stabilization of the microtubules.
33. Bleomycin is an anti-cancerous drug .
34. Drug of choice for chronic myeloid leukemia is Imatinib.
35. ATRA is useful in the treatment of Promyelocytic leukemia.
36. Leucovorin is used as Rescue therapy for patients who are on Methotrexate.
37. Peripheral neuropathy is the most likely adverse response to occur as a result of Vincristine.
38. Most important side effect of cisplatin is nephrotoxicity and vomiting
39. Mechanism of action of Pentostatin is adenosine deaminase enzyme inhibition.
40. Cyclosporine is active against T lymphocyte.
41. Irinotecan is topoisomerase I inhibitor.
42. Infliximab is directed against Tumor necrosis factor-a (TNF-a).
43. Maintenance of a high urinary pH is important during methotrexate treatment in this patient because Methotrexate is a weak acid.
44. Sterility is caused by alkylating agents.
45. Hemorrhagic cystitis is caused by Cyclophosphamide.
46. FDA approved drug for treatment of breast cancer which is ER positive is Tamoxifen.
47. Dose-limiting toxicity of anticancer chemotherapy is myelosuppression
48. Hypomagnesemia is caused by Furosemide .
49. Drug causing oligospermia is corticosteroids.
50. Lapatinib is HER-2 and EGF receptor antagonist.

51. Tyrosine kinase inhibitors are most commonly used in GIST
52. Thalidomide not used in HIV associated neuropathy
53. Cerebellar ataxia is caused by Cytosine arabinoside
54. 'Hand Foot' syndrome can be caused by Capecitabine
55. 5-FU is eliminated by lung.
56. Vincristine can cause syndrome of Inappropriate ADH secretion (SIADH).
57. Decitabine acts by hypo methylation.
58. High dose methotrexate is given in Osteosarcoma.
59. The mode of action of Imatinib is competitively antagonizes the ATP binding site.
60. Methotrexate is an antimetabolite.
61. Fk-506 is macrolide antibiotic.
62. Paclitaxel acts by exaggerating polymerization and causes the stabilization of the microtubules.

Recent & High Yield Updated LMRPs

1. Best drug for mass prophylaxis of meningococcal meningitis isRifampicin.
2. In drugs coagulation monitoring is required in Heparin.
3. Sacubitril used in congestive heart failure works by Inhibitor of neutral endopeptidase.
4. Mechanism of amphotericin B is Inhibition of plasma membrane synthesis.
5. Vancomycin is a bacteriostatic drug.
6. Serotonin is 5 hydroxy tryptamine.
7. Basiliximab mechanism of action is on IL 2.
8. Teriparatide stimulate Osteoblast.
9. Mechanism of action of curare is Blocking acetylcholine receptor
10. Drug that can cause maximum prolactin secretion is Risperidone.
11. Pirenzepine is used inGastric ulcer.
12. Drug does not act on anaerobic organism is Aminoglycoside.
13. Mycoplasma is inherently resistant to Ceftriaxone.
14. The Antibiotic will act in ESBL producing KlebsiellaPneumoniae is Beta-lactam antibiotic with lactamase inhibitor.
15. Drugs is centrally acting alpha -2 agonist muscle relaxant is Tizanidine.
16. Drug that inhibit synthesis of glucocorticoids is Metyrapone.

17. Colchicine mechanism of action in gout isto Decrease neutrophil migration.
18. Drugs that can be used both in AIDS and Hepatitis B is Emtricitabine.
19. The mechanism of action of apixaban is Direct factor Xa inhibitor.
20. Act through G protein coupled receptors isACh Muscarinic receptors.
21. The Antifungal drug is developing drug resistance and has not been prescribed for tinea cruris **and tinea** corporis for the last 2 years is Griseofulvin.
22. Drugs should be sold only **oq** prescription of a registered medical practitioner is Schedule H drugs.
23. The rate of drug absorption in **plasma** concentration graph are Tmax and Cmax.
24. The routes, bioavailability of the drug is likely to be 100 percent is Intravenous.
25. Hepatic First pass metabolism will not bypassed by the routes of drug administration is Oral
26. Latest drug recently approved for Amyotrophic Lateral Sclerosis isEdaravone.
27. The following drugs is not used in Rheumatoid arthritis is Febuxostat.
28. A patient requires 180 mg ceftriaxone. The vial contains 500 mg/5ml of ceftriaxone. You have a 2ml syringe with 10 divisions per ml. 18 divisions in the 2 ml syringe will be fill to give 180mg ceftriaxone.
29. Drugs that is not typhoid fever Amikacin.
30. A patient from north-eastern states was diagnosed to have infection with P. falciparum malaria. The most appropriate drug for this patient is Artemether plus lumefantrine.
31. Drug that is commonly used in treatment for cancer associated with thromboembolism is Low molecular weight heparin.
32. Drug of choice for scrub typhus isDoxycyqline.
33. Effect of Potassium ionophore valinomycin on beta cells ofPancrease is to Decrease the secretion of insulin.
34. Hypoglycemia is not an adverse effect of salbutamol.
35. Drug causes flagellate pigmentation of skin is Bleomycin.
36. Drug that is commonly used for community acquired pneumonia in OPD is Azithromycin.
37. Dryness of mouth is the side effect of escitalopram.

38. A medical student presented to the ED with protracted vomiting. For this he was given an antiemetic following which he developed abnormal posturing. The most likely drug to be given is Metoclopramide.
39. Stoppage of the drugs that can result in anxiety and insomnia causing discontinuation syndrome is Venlafaxine.
40. Heparin acts via Antithrombin adjuvants.
41. Therapeutic index is a measure ofSafety.
42. Loading dose of a drug depends uponVolume of distribution.
43. The Drug is correctly matched with its mechanism of action is Dolutegravir - Inhibits integration of Viral DNA into host.
44. Variation in sensitivity of response to a different doses of the drug in different individuals can be obtained from Quantal DRC.
45. DOC for prophylaxis of diphtheria is Erythromycin.
46. Drug causing ocular hypotension with apnea in an infant is Brimonidine.
47. Drug inhibit granulocyte migration is Colchicine.
48. The oral factor xa inhibitor isRivaroxaban.
49. High plasma protein binding of a drug result in decreased GFR.
50. Drug used for hypertensive and pulmonary edema due to scorpion sting is Prazosin.
51. Mannitol is used for treatment of Acute congestive glaucoma.
52. Most specific antiemetic for chemotherapy induced vomiting is Granisetron.
53. Drug of choice for mastitis is Cloxacillin.
54. FQ with highest oral bioavailability is Levofloxacin.
55. True about fixed dose combination of drugs is Adverse effect of one drug may be neutralized by the other.
56. K channel opener is Nicorandil.
57. A patient of RA is taking methotrexate, steroids and NSAIDs since 4months but activity of disease progression is same. Next step is Stoporal methotrexate and start parenteral methotrexate.
58. Tolvaptan is used for SIADH.
59. Mechanism of action of oseltamivir is Neuraminidase inhibition.
60. Drug used for differentiating myasthenia gravis from cholinergicCrisis is Edrophonium.
61. Mechanism of action of curare type drugs is Competitive inhibitor ofACh receptors.

62. Buspirone acts on 5HT1A.
63. Carbapenem with maximum risk of seizures is Imipenem.
64. True statement about PEGylatedfilgrastim is to Reduces neutropenia.
65. True statement about teduglutide is GLP2 agonist.
66. Imipenem is combined with cilastatin to Cilastatin prevents degradationof imipenem in kidney.
67. Mechanism of action of triazole is Inhibit ergosterol synthesis.
68. Advantage of cisatracurium over atracurium is to Releases less histamine.
69. Drug used for smoking cessation is Varenicline.
70. The Inhalationalanaesthetic agent causes maximum respiratory irritation is Desflurane.
71. True about clinical trials is Randomized controlled trial in patients is done in phase 3.
72. DOC for Cyclospora is Cotrimoxazole
73. The following drugs is safe for administration during renal failure is Doxycycline.
74. Drugs are to be sold only on prescription is Schedule H.
75. Storing a drug in a cool place refers to 15 degree.
76. DOC for prevention of acute mountain sickness is by Acetazolamide.
77. CCB's along with P-blockers, can aggravation congestive heart failure is Resulting in heart block.
78. Vitamin K1 (phytonadione) is the antidote of warfarin. It decreases the effect of oralanticoagulants.
79. Phase 1 clinical trial is used for Safety.
80. Loading dose depends onVolume ©f distribution.
81. MOA of dapsone is PABA inhibition.
82. The most probable drug used by mother in last trimester resulting in hyperbilirubinemia of a newborn is Cotrimoxazole.
83. Morphine is not indicated in Biliary Colic.
84. A non-competitive inhibitor (Like Acetazolamide) decreases Vmax of an enzyme.
85. Nephrolithiasis is side effect of Indinavir drug.
86. Acetylcholine reduces heart rate by causing delay through AV node.
87. Drug has gametocidal action against all species of plasmodium is Primaquine.

88. Active metabolite of sodium nitroprusside act via activation of Guanylate cyclase.
89. Mechanism of action, does nitrates help in treatment of angina isby decreasing pre-load.
90. DOC for Open angle glaucoma is Prostaglandin analogues.
91. DOC for Angle closure glaucoma is Pilocarpine.
92. DOC for Decurarization (in general) is Neostigmine.
93. DOC for Diagnosis of Myasthenia Gravis is Edrophonium.
94. DOC for Diagnosis of bronchial air hyperreactivity is Methacholine.
95. DOC for Acute asthmatic bronchospasm is Albuterol.
96. DOC for Anaphylactic shock is Adrenaline.
97. DOC for Beta blockers poisoning is Glucagon.
98. DOC for Anticholinergic syndrome is Physostigmine.
99. DOC for Carbamate poisoning is Atropine.
100. DOC for Acute glomerulonephritis is Prednisolone
101. DOC for Steroid Resistant Nephrotic syndrome is Oral cyclosporine.
102. DOC for Steroid relapsing nephrotic syndrome is Levamisole, cyclophosphamide.
103. DOC for Severe salicylate poisoning is Urinary alkalinization with bicarbonate.
104. DOC for Acetaminophen poisoning is Acetylcysteine.
105. Lumacaftor 200 mg/ivacaftor 125 **mg** is FDA approved for treatment of cystic fibrosis.
106. Reslizumab is FDA approved for **treatment** of severe asthma.
107. Tezacaftor; ivacaftor is FDA **approved** for treatment of cystic fibrosis in patients age 12 years and older.
108. Selexipag is FDA approved **for** treatment of pulmonary arterial hypertension.
109. Sacubitril/valsartan is FDA approved drug of heart failure.
110. Ivabradine is FDA approved drug **to** reduce hospitalization from worsening heart failure.
111. Edoxaban is FDA approved drug to reduce the risk of stroke and systemic embolism in patients.
112. Lixisenatide is FDA approved for treatment of improve glycemic control.
113. Desmopressin acetate is approved for treatment of nocturnal polyuria.

Microbiology

General Microbiology

1. Germ theory was given by Louis Pasteur. He is the Father of microbiology. He laid the principles of sterilization and disinfection.
2. Principles of asepsis in surgery was introduced by Joseph Lister.
3. Robert Koch discovered the causative organism for tuberculosis and Cholera.
4. Prokaryotes have N acetyl muramic acid and N acetyl glucosamine in their cell wall. They lack nuclear membrane and cytoplasmic organelles.
5. The cell wall of gram negative bacteria contains Lipopoiysaccharide, periplasmic space and outer membrane.
6. The cell wall of gram positive contain teichoic acids.
7. Diaminopimelic acid is an amino-acid found only in peptidoglycan of the bacterial cell wall.
8. Endotoxins are Polysaccharide and lipid complex, heat stable and have low antigenicity.
9. Endotoxic activity of gram negative bacteria is present in lipid A part.
10. Limulus amebocyte lysate assay is positive in Gram negative bacteria.
11. Fever, leukopenia, DIC, hypotension and endotoxic shock is initiated by Cytokine release from immune cells.
12. Exotoxins are highly antigenic, polypeptides actively secreted by the bacteria.
13. The only exotoxin released only on lysis of the bacterium is botulinum toxin.
14. Sterols are present only in the cytoplasmic membrane of Mycoplasma.
15. The only bacterium lacking cell wall is Mycoplasma.
16. Darting motility is found in Vibrio and Campylobacter.
17. Stately motility is of Clostridium and Salmonella.

18. Dipicolinic acid present in Spore core is responsible for the resistance of spores to heat.
19. Bacillus and Clostridium are the only pathogenic bacteria that form spores.
20. Silver impregnation method of staining (Levaditi's stain and Fontana stain) is used to demonstrate Spirochetes
21. Ashby modification of the Schaeffer Fulton stain (Malachite green with safranine as counterstain) is used for staining bacterial endospores.
22. Wayson stain is used for staining Yersinia pestis in specimens.
23. Metachromatic granules are stained by Albert stain, Neisser's stain and Ponders stain
24. Correct sequence of bacterial growth curve is Lag Phase, Log phase Stationery phase, Decline phase.
25. There is exponential increase in the bacterial number during log phase.
26. Obligate anaerobes grow in absence of 02. Eg: Clostridium, Bacteroides, Actinomyces.
27. A facultative anaerobic is ordinarily an aerobe but can grow in absence of 02.Eg. Staphylococcus and Streptococcus.
28. Campylobacter and Helicobacter are microaerophilic bacteria.
29. Capnophilic bacteria are Brucella abortus, Pneumococcus, Neisseria and hemophilus.
30. Optimum pH growth of bacteria is 7.2.
31. Vibrio grow in alkaline pH (8.28.4)
32. Bacterial resistance to antibiotics is most commonly transmitted through conjugation (R plasmids).
33. R plasmids are made of Resistance transfer factor and r determinants.
34. Transmission of drug resistance was first observed in Shigella
35. The role of plasmids in conjugation was first described by Lederberg and Tatum in Escherichia coli
36. Transduction is gene transfer mechanism by a Bacteriophage. It is the most common mechanism of gene transfer in bacteria.
37. Uptake by a recipient cell of soluble DNA released from a donor cells is defined as Transformation.
38. Transformation was first demonstrated on Pneumococcus by Griffith.
39. F factor integrates with bacterial chromosome to form Hfr cells(high frequency recombination cells).

40. Viral genome integrated into the bacterial genomes are known as Prophage.
41. Packaging of chromosomal DNA into a virus produces Transducing phage.
42. In the extracellular medium, DNA destroying enzymes would likely prevent transfer of DNA by natural transformation.
43. Basal medium provides a source of carbon and nitrogen. Nutrient agar, Nutrient broth and peptone water are basal medium.
44. Selective media contains chemicals which prevents growth of unwanted organisms.
45. A medium enriched/supplemented with egg, blood or serum is an enriched medium.
46. Blood agar, chocolate agar and Loeffler's medium are enriched medium.
47. Usual concentration of blood used for blood agar is 5 -10%.
48. Liquid selective medium is an enrichment medium. Eg. APW, selenite F.
49. Blood agar, MacConkey agar, CLED, TCBS are differential medium.
50. In blood culture broth the ratio of blood to broth is 1:10.
51. Robert Koch assistant advised him to use agar instead of gelatin for solidifying culture media for cultivation of bacteria as gelatin melts at temperature above 24° C
52. Staphylococcus is catalase positive and oxidase negative, whereas Streptococcus is catalase and oxidase negative.
53. Lawn culture is used for antibiotic sensitivity testing by disc diffusion and E test.
54. Streak culture is used for isolation of bacteria in pure culture from clinical specimen.
55. Quellung reaction is associated with capsular swelling and delineation.
56. Biofilm formation is responsible for antibiotic resistance in bacteria due to slime production
57. Cystine lactose electrolyte deficient medium (CLED) is preferred over MacConkey's medium (selective for gram negative) in isolating urinary pathogens because it allows the growth of Staphylococcus and Candida .
58. E-strip method and dilution is used for minimum inhibitory concentration of antibiotics. Hence are quantitative tests. Disc diffusion is a qualitative test.
59. The steps in PCR are denaturation, annealing and extension. Heat stable (Taq) polymerase derived from Thermus aquaticus is used as it remains

stable at the high temperature of denaturation (94-98° C).

60. Bacteria protect themselves from viruses by fragmenting viral DNA upon entry by endonucleases called Restriction enzymes. The first restriction enzyme discovered is Hindi.
61. Bacterial DNA is not cleaved by their own restriction enzymes because bacteria add methyl groups to their own DNA.
62. The first step in genetic engineering experiments is isolation of the gene to be inserted (insert). The second step is the production of recombinant DNA by cloning the gene insert into the vector (eg plasmid, phage, cosmid).
63. When sticky ends are paired in recombinant DNA technology, they are joined by ligases
64. In 1980, interferon was produced by splicing a human gene into the genome of bacteria
65. The size of objects seen by light microscope is larger than 0.2 micron.
66. In a light microscope it is the transmitted light that reaches the observer's eye.
67. The strength of magnification of oil immersion lens of a light microscope is 100 X.
68. The strength of magnification of high dry objective lens of light microscope is 40 X
69. The maximum useful magnification power of a light microscope obtained is 1000 times
70. The size of objects seen by electron microscope is larger than 0.2 nm.
71. Electron microscope was first introduced by Knoll and Rustka. Wavelength of electrons used is 0.005 nm.
72. The maximum useful magnification power of electron microscope obtained is 1 lac times.
73. Gram stain was introduced by a Dutch scientist Christian Gram. It is a differential stain.
74. In Gram's stain primary stain is Crystal violet, the mordant is Gram's iodine. The decolorizer is alcohol/acetone. Counterstain is safranine.
75. Acid fast stain was introduced by Paul Ehrlich. It is a differential stain.
76. Primary stain in acid fast stain is Carbol Fuchsin (basic fuchsin in phenol). Decolorizer is sulfuric acid. Counterstain is methylene blue or malachite green.

77. M. leprae is acid fast with 5 % H^2SO^4.
78. M. tuberculosis and Atypical Mycobacteria are acid fast with 20% H2SO4.
79. Bacterial spores, Nocardia, Rhodococcus, Legionella micdadei are partially acid fast.

Sterilization and Disinfection

1. Prion are least susceptible to disinfectants and antiseptics.
2. Thermal death point is the lowest temperature that kills all microbes in 10 minutes.
3. The decimal death time is the time required to kill 90% of cells at a particular temperature
4. 'Disinfectant' kills the pathogenic microorganisms.
5. Sterilant kills all microorganisms and spores.
6. Most effective method of sterilization by heat is steam under pressure (moist heat).
7. Moist heat destroys the microbes by denaturation and coagulation of cellular proteins.
8. Best method of sterilization by steam under pressure is autoclaving
9. Best method to sterilize by dry heat is hot air oven.
10. Dry heat acts by denaturation of proteins and oxidative damage.
11. For hot air oven holding time at 160°C is 2 hour.
12. Oil, dusting powder and grease are sterilized by hot air oven
13. Best method of sterilization of metallic instruments is hot air oven
14. Glass pipettes and flasks are sterilized by dry heat sterilization
15. Tyndallization is a method of sterilization using moist heat at 100°C.
16. Instrument used for tyndallization is Koch and Arnold steam sterilizer.
17. Pasteurization is done for checking milk borne infections
18. In Flash method of pasteurization, moist heat at 72 degree C for 15-20 sec is used, followed by rapid cooling.
19. Coxiella burnetii is resistant to moist heat and can survive Holder method.
20. Pasteurized milk is tested most commonly by Phosphatase test.
21. Pasteurization does not kill endospores
22. Culture media are sterilized by autoclaving
23. Culture media containing egg or serum is typically sterilized by using

inspissation (moist heat at 85°C).

24. The essential parameters of steam sterilization are time, temperature, saturated steam and pressure.
25. If the bioburden is too high, the established sterilization parameters may not be adequate rendering the sterilization process ineffective.
26. Browne's tube no. 1 is used for steam sterilization efficacy.
27. The best way to dispose of hospital soiled dressings, human pathological material and animal carcasses is incineration.
28. Volume reduction of infectious hospital waste is 85%.
29. Best method of sterilization of disposable gloves and syringes is Gamma rays (ionizing radiation).
30.
31. Use of gamma rays is called cold sterilization.
32. In gamma radiation, radioactive isotope commonly used is Cobalt 60
33. Membrane filtration is best to sterilize heat labile solutions.
34. Most commonly used filters are membrane filters.
35. Membrane filters are made of polyester, polycarbonate or cellulose esters.
36.
37. Vaccines and serum are sterilized by filtration.
38. Concentration of Lysol used as disinfectant is 3%.
39. Concentration of phenol used as disinfectant is 5%.
40. Concentration of Cidex (Glutaraldehyde) used as disinfectant is 2%.
Cystoscope and bronchoscopes are disinfected/sterilized by Cidex.
41. Heat labile instruments for use in surgical procedures can be best sterilized by ethylene oxide (ETO) gas.
42.
43. Ethylene oxide is effective for sterilizing mattresses, sutures and plastic Petri plates
44. ETO sterilized products require 8-12 hours of aeration
45. Ethylene Oxide is a highly toxic agent, which destroys microorganisms by the process of alkylation.
46. Gas plasma sterilization uses hydrogen peroxide gas and radiofrequency
47. emissions.
48.
49. Gas plasma is not compatible with paper products.
Gas plasma efficacy is tested by spores of B. stearothermophilus.

Dettol is 4.8 % chloroxylenol.
Savlon contains 3% Cetrimide + 0.3% chlorhexidine.
Quaternary ammonium compounds like Cetrimide are cationic surface

active agents.

50. Soaps are anionic surface acting agents
51. Phenol coefficient indicates efficacy of a disinfectant.
52. Total/Plate count, Resazurin test and methylene blue reduction test done to detect bacterial contamination in raw milk.

Immunity

1. Administration of a vaccine stimulates artificial active immunity.
2. Natural active immunity results following infection due to a pathogen
3. Passive natural immunity -transplacental transfer of antibodies to foetus
4. When transfer factor is given as treatment, it results in adoptive immunity
5. First barrier encountered by microorganisms for common exposed sites is Skin.
6. Lymph node consists of an outermost cortex and an inner medulla. The cortex is composed of an outer cortex of B cells organized into lymphoid follicles, and deep, or paracortical, areas made up mainly of T cells and dendritic cells.
7. In Spleen, T cell concentrate in the Peri arteriolar lymphoid sheath (PALS) of the white pulp. B cell localise in the follicles around the PALS.
8. CRP is P 1 globulin synthesized in the liver. It is an acute phase reactant. It reacts with the somatic 'C' carbohydrate antigen of Pneumococcus. The gene is located on the chromosome 1. Half-life of CRP is 18 hours.
   Normal concentration in healthy human serum is between 5 and 10 mg/L.CRP levels rise within two hours of the onset of inflammation, up to a 50,000fold.
9. Natural killer cells are part of innate immunity. The main function of the NK cells is to patrol the body looking for cells that have lost the expression of MHC class I molecule. This is the major mechanism in protection from virus infected cells and cancerous cells. CD16 (Fc receptor for IgG antibody) is required for lysis of IgG coated target cells (antibody dependent, cell mediated cytotoxicity) by NK cells.
10. Proteins have the highest antigenicity and lipids have the least.
11. The main aim of an adjuvant is to increase antigenicity. More antibodies are produced when an adjuvant is added.

12. T Dependent antigens are those that do not directly stimulate the production of antibody without the help of T cells. Eg. Proteins.
13. T independent antigens are antigens which can directly stimulate the B cells to produce antibody without the requirement for T cell help. Eg. Bacterial capsule, flagella, lipopolysaccharides.
14. Structurally distinct or discreet areas on an antigen which are recognized by the T cells and the B cells and to which immune response develops are called epitopes.
15. A discontinuous/ Non sequential/Conformational antigen Epitope is produced by amino acid residues on nonadjacent polypeptide sequences, they are recognized generally by B cells.
16. A linear/sequential Epitope is formed by amino acid sequences next to each other; they are recognized by both B orT cells.
17. Same/ closely related antigens present are present in different biological species/ classes/ kingdoms are called Heterophile antigens.
18. A protein or other substance that is present in only some members of a species is called isoantigens.
19. Superantigens do not need processing by antigen presenting cells and cause activation of very large number of T cells irrespective of their antigenic specificity (T cell mitogen).
20. Antibodies are secreted by plasma cells. Each antibody molecule consists of 2 identical heavy chains of 50 kda or more and 2 identical light chains of 25 kda each.
21. L chains: 2 varieties, kappa and lambda. H chains5 varieties; a, y, p, e and 6.
22. H chain type is class specific antigenic determinant of the antibody.
23. Treatment of antibody with pepsin forms one F(ab)2 and small peptides.
24. Treatment of antibody with papain forms 2 Fab and 1 Fc fragments.
25. Antigen binding part of antibody (Idiotypic determinants) are located within hypervariable regions of heavy and light chains (N terminus).
26. Different immunoglobulin chains are coded by different chromosomes. H chain is encoded on chromosome 14 and L chain genes on chromosome 2 (kappa) and 22 (lambda)
27. Most abundant immunoglobulin in serum is IgGl. IgE has least concentration in serum.

28. IgM is present as pentamer in the serum. It is also called Millionaire molecule. It has a valency of 2 or 10.
29. IgM and IgD act as B cell receptor on B cells.
30. IgA is the most abundant antibody in mucosal secretions.
31. The secretory component of IgA is formed by epithelial cells of lining mucosa not by the plasma cells.
32. Anti sera are prepared in rabbits.
33. Antigen antibody precipitation is maximally seen in equivalence of antibody and antigen.
34. Weil Felix, Paul Bunnel and Widal are tube agglutination reactions.
35. Coombs' test is an Agglutination test.
36. Wasserman reaction is a complement fixation test.
37. Rose Waaler test is a passive agglutination test.
38. Eleks test is a gel precipitation test.
39. Schick test is a neutralization test.
40. Lancefield sero grouping is by ring precipitation.
41. VDRL is a slide Flocculation/precipitation test.
42. DNA is detected by Southern blot. RNA is detected by Northern blot. Protein is detected by Western blot.
43. Most complement proteins are enzymes.
44. Ag Ab complex activates the classical complement pathway IgM and IgG.
45. Patient with C5 through C9 complement deficiencies are most likely to be susceptible to meningococcal infection.
46. Centre of complement pathway is C3. All 3 pathways converge on C3.
47. C3 convertase in alternate complement pathway is C3bBb.
48. C5 convertase in alternate complement pathway is C3bBb3b.
49. C3 convertase in classical complement pathway is C4b2a.
50. C5 convertase in classical complement pathway is C4b2a3b.
51. Complements formed in liver are C3, C6 and C9.
52. IPS and Snake venom act by alternate pathway.
53. Most abundant complement in serum is C3.
54. C5a and C3a are chemoattractant.
55. Membrane attack complex is C5-9.
56. Opsonizing complement C3b.
57. Guinea pig is the source of complement.

58. Neonatal thymectomy leads to decreased size of paracortical areas of lymph nodes.
59. Marker of T cells CD3.
60. Marker of helper T cells CD4.
61. Marker of cytotoxic T cells CD8
62. The most important cytokine of Thl cells IFN gamma. The most important cytokine of Th2 cells IL 4.
63. Rosette formation with sheep RBC's (E rosettes) indicate functioning of T Lymphocytes.
64. Most potent stimulator of naive T cells is mature dendritic cells
65. Perforin and granzymes are released by activated TC cells and NK cells.
66. CD19 is a pan B lymphocyte marker.
67. B cells form EAC rosettes.
68. Memory T cells can be identified by using the following marker CD45 RO. Naive T cells have the isoform CD45 RA.
69. Clonal selection implies that antigens increase mitosis in specific lymphocytes (which recognize antigen).
70. IgG, IgA and IgE are produced from class switching from IgM.
71. Isotype switching by B cells is dependent on the interaction between CD40 on the B cell surface and its ligand on activated T cells, CD40L.
72. Synthesis of immunoglobulin in membrane bound or secretory form is determined by differential RNA processing.
73. Cell type which lacks HLA is Red blood cell.
74. MHC class II molecules are found on B cells, dendritic cells and macrophages.
75. Helper T cells are MHC II restricted.
76. Cytotoxic T cells are MHC I restricted.
77. MHC restriction of T cells is due to positive selection in the thymus.
78. Allergy/ Atopy is mediated by IgE
79. Guinea pig is most susceptible to anaphylaxis.
80. Casoni's test is an examples of type I hypersensitivity
81. Goodpasture's syndrome is a type II hypersensitivity.
82. Serum sickness is a type III hypersensitivity.
83. In tuberculin test there is delayed hypersensitivity
84. Type I Lepra reaction is Type IV hypersensitivity.
85. In contact dermatitis, T cells play a major role

86. A xenograft is best described as transplant from one species to another species
87. Isograft is best suited for renal transplantation.
88. In transplantation reaction, Eichwald - Silmer effect is unilateral sex linked histocompatibility
89. Adenosine deaminase deficiency is seen in severe combined immunodeficiency
90. There is defective Phagocytosis in Job's syndrome (Hyper IgE).
91. Schwachman disease is a disorder of Phagocytosis.
92. Chronic Granulomatous disease is a disorder of Phagocytosis.
93. In hyper IgE syndrome, there is early onset of eczema
94. The NBT reduction assay is used to determine whether PMN's can produce superoxide.
95. Candida infection is commonest in neutropenia.
96. IL- 2 is produced by helper T cells.

Gram Positive Cocci

1. Hugh Leifson test and oxidase test differentiates micrococci from staphylococci.
2. Catalase test differentiates Staphylococcus from Streptococcus.
3. The principal reservoir for the pathogenic staphylococci is humans.
4. S. aureus is the only species that produces bound and free coagulase and ferments mannitol.
5. Most common site of staphylococcus aureus carriage is nose (Anterior nares).
6. Pathogenicity of staphylococci is because of Coagulase.
7. Synergohymenotropic toxins of S. Aureus include Gamma hemolysin and Panton valentine leucocidin.
8. The most common disease by S. aureus is skin and soft tissue infections.
9. Staphylococcus cause boils, stye, ecthyma, folliculitis and bullous impetigo.
10. Ritter's disease or scalded skin syndrome is caused by S. aureus. SSSS is caused by epidermolytic toxins

11. Short incubation food poisoning caused by Staphylococcus aureus, is due to ingestion of preformed heat stable enterotoxin.
12. Toxic shock syndrome is produced by staphylococcal enterotoxin F or TSST1. This is a superantigen.
13. Treatment of S. aureus infection with penicillin is often complicated by the production of penicillinase by S. aureus
14. Transfer of Penicillin resistance in Staphylococcus is most commonly by transduction.
15. Resistance of Staphylococcus aureus to methicillin (MRSA) is caused by alteration of the major target for the drug.
16. MRSA is due to mec A gene. Gold standard for diagnosis of MRSA is PCR for the mec A gene.
17. S. Saprophyticus is novobiocin resistant. It causes UTI in young females.
18. Staphylococcus epidermidis is a normal skin commensal.
19. It is the most common cause of bacteremia in IV catheresis patients
20. Streptococcus is classified on the basis of cultural characteristics into 3 groups alpha, beta and gamma hemolytic.
21. Classification of beta hemolytic Streptococci into groups A, B, C, D is based on antigenicity of cell wall carbohydrate
22. S. Pyogenes is group A beta hemolytic Streptococci. S. agalactiae is group B beta-hemolytic.
23. Transport media for Streptococcus pyogenes is Pike's medium
24. Most important virulence factor of Group A beta hemolytic streptococci is M protein in the cell wall. It is used for Griffith typing.
25. Streptodornase or Dnase depolymerize DNA. Most antigenic is Dnase B.
26. Toxin involved in the streptococcal toxic shock syndrome is Pyrogenic or Erythrogenic toxin.
27. Streptolysin 0 is oxygen labile and hence inactivated on exposure to air. It is antigenic.
28. ASO titer is used in RF.
29. Necrotizing Fascitis is caused by S. pyogenes.
30. Erysipelas and cellulitis is caused by Streptococcus pyogenes.
31. Nonsuppurative lesion seen in streptococcal infection is glomerulonephritis and Rheumatic fever.
32. Streptococcal GN is best diagnosed by Anti Dnase B titer.

Download From: AghaLibrary.com

33. Capsular polysaccharide (Hyaluronic acid) of S. Pyogenes cross reacts with synovial fluid.
34. Most common agents responsible for human bite infections are S. anginosus, Staphylococcus aureus and anaerobic streptococci.
35. CAMP test is used for the diagnosis of group B Streptococci.
36. Most common agent associated with neonatal bacterial meningitis is Streptococcus agalactiae and E. coli.
37. Identification of possible high risk births by rectal and lower vaginal swabs at 35-37 weeks of pregnancy is most likely to reduce the incidence of group B streptococcal disease in an infant
38. Polysaccharide capsule is the primary virulence factor of Streptococcus pneumonia.
39. Capsular polysaccharide is a specific soluble substance of pneumococci which protects the organism from Phagocytosis.
40. There are 103 capsular serotypes of Pneumococcus.
41. Pneumococcus can be differentiated from viridans streptococcus by bile solubility and optochin sensitivity.
42. Most common organism causing otitis media, sinusitis and meningitis is Pneumococcus.
43. Most common organisms responsible for post splenectomy infections are Streptococcus pneumoniae & H. influenza.
44. Treatment of Pneumococcus is Penicillin.

Gram Positive Bacilli

1. All corynebacteria are resistant to potassium tellurite.
2. Diphtheroids are normal flora in conjunctiva and URT.
3. Metachromatic or volutin granules are seen in Corynebacterium.
4. Volutin granules are stained by Albert stain or Neisser stain or Ponder stain.
5. C.diphtheriae is also called Klebs Loeffler's bacillus.
6. C. diphtheriae can be grown within 6-8 hours on Loeffler's serum slope.
7. Diphtheria toxin is the most important virulence factor of C. diphtheria.
8. DT was discovered by Roux and Yersin.
9. DT is due to Lysogenic conversion of C. diphtheria by beta phage.

10. The diphtheria toxin production depends on concentration of iron. Level of iron determines toxin production.
11. The DT has affinity for myocardium, adrenals and nerve endings.
12. The mechanism of action of the exotoxin produced by C. diphtheriae can be characterized by inhibiting protein synthesis via adenosine diphosphate (ADP) ribosylation of EF2.
13. Bull's neck is characteristically seen in diphtheria.
14. Elek's gel precipitation test is done for diphtheria toxin.
15. Positive Schick's test indicates that person is ssusceptible to diphtheria
16. Prophylactic drug of choice for diphtheria is Erythromycin.
17. Ehrlich phenomenon is seen in C. diphtheria.
18. Erythrasma is caused by C. *Minutissimum.*
19. Bacillus are the most common commensal of culture media.
20. The bacteria used to check efficacy of autoclave is Bacillus stearothermophilus.
21. The only Bacillus species that is nonmotile and capsulated is B. Anthracis.
22. Medusa head appearance of the colonies are seen in Bacillus anthracis.
23. McFadyean's reaction is employed for the presumptive diagnosis of Anthrax. It demonstrates the capsule.
24. Malignant pustule and Hide porter's disease are terms for Anthrax ulcer.
25. Pulmonary anthrax is also called Wool sorter's disease.
26. Selective medium for B. Anthracis is PLET medium.
27. Anthrax toxin3 fractions; EF, LF and protective antigen.
28. Ascoli's thermoprecipitation (Ring precipitation test) test helps in confirming the laboratory diagnosis of Anthrax.
29. Anthrax vaccine developed in 1881 by Louis Pasteur.
30. Incubation period for B. Cereus emetic type food poisoning is 1-6 hours.
31. Incubation period for B. Cereus diarrheal type food poisoning is 8-16 hours
32. MYPA agar is used for selecting B. cereus.
33. Most Clostridium are strict anaerobes.
34. Clostridium form bulging spores.
35. Nonmotile species C. perfringens and C. tetani VI.
36. RCM broth is used for culture.
37. In botulism, trypsin activates the protoxin to active form.
38. It prevents the acetylcholine release at the cholinergic terminals.
39. Botulism (food borne) is due to canned food with preformed toxin.

40. Infant botulism and wound botulism, the toxin is formed *invivo.*
41. Botulism is characterized by flaccid paralysis.
42. Botulinum toxin is used for treatment of strabismus, tics, blepharospasm and dystonia.
43. Clostridium tetani has drum stick appearance.
44. Filde's agar is used for C. tetani.
45. Main site of action of tetanus toxin is presynaptic terminal of spinal cord.
46. Mechanism of action of tetanospasmin is inhibition of GABA and glycine release at the inhibitory terminals in the spinal cord.
47. Incubation period of tetanus is 6-10 days.
48. Risus sardonicus and lockjaw are seen in tetanus.
49. Neonatal tetanus (8^{th} day disease) and uterine tetanus are the most severe types.
50. The most effective way of preventing tetanus is tetanus toxoid.
51. Clostridium perfringens is nonmotile and has subterminal spores.
52. Stormy fermentation is seen with C. perfringens.
53. The most important toxin of C. perfringens is alpha toxin.
54. Opacity around colonies of C. perfringens is due to alpha toxin/ lecithinase (Nagler's reaction).
55. The most common organism responsible for gas gangrene is Clostridium perfringens.
56. Pigbel is caused by C. perfringens
57. Spore (heat resistant) contaminated meat is responsible for food poisoning of C. Perfringens type A.
58. Clostridium difficile causes antibiotic associated diarrhea and pseudomembranous colitis.
59. Nocardia is partially acid fast and is a strict aerobe.
60. Nocardia can cause actinomycetoma. It causes pulmonary nocardiosis in deficient CMI and severe COPD.
61. The drug of choice for Nocardiosis is Sulfonamides.
62. Actinomyces are anaerobes and nonacid fast.
63. Colonies resembling molar teeth in solid media and fluffy balls in bottom of liquid media are produced by Actinomyces.
64. Sulfur granules are seen in actinomycosis.
65. Most common cause of actinomycosis A. Israelii.
66. DOC for Actinomycosis is penicillin

67. Listeria are facultative intracellular pathogens.
68. Listeria monocytogenes has tumbling motility, only at room temperature.
69. CAMP test and Anton's test is used for the identification of Listeria monocytogenes.
70. PALCAM agar is selective medium for Listeria monocytogenes.
71. It causes neonatal meningitis and meningitis in elderly.
72. It also causes chorioamnionitis leading to abortions.

Gram Negative Cocci

1. Neisseria meningitides appear as diplococci with adjacent sides flattened (half moon shaped).
2. Neisseria gonorrhoeae appear as diplococci with adjacent sides concave (bean shaped).
3. Neisseriae are present as a part of the normal flora in the URT. Eg. N.lactamica, N.flava, N.flavescens.
4. The two pathogenic Neisseria species, N. meningitidis and N. gonorrhoeae, differ from the nonpathogenic
5. Neisseria species in that the pathogenic species grow well in selective media.
6. Meningococci differ from gonococci in the presence of a polysaccharide capsule.
7. Transport medium Stuart's and Arnie's.
8. Selective medium is ThayerMartin medium.
9. ThayerMartin medium contains vancomycin, Colistin and Nystatin.
10. The source of Neisseria meningitidis is the nasopharynx of asymptomatic human carriers.
11. There are 13 capsular subtypes of N. meningitidis.
12. Most common cause of human meningococcal disease are types A, B and C.
13. Meningitis with hemorrhagic rash is seen in N.meningitidis
14. Waterhouse friedrichsen syndrome (septicemia, severe shock and DIC) is caused by Neisseria meningitides.
15. Incubation period of gonorrhea is 2- 8 days.
16. The majority of infected females are asymptomatic in gonorrhea in

contrast to men.

17. Most common site of asymptomatic gonococcal infection in women is endocervix
18. Least susceptible to gonococcal infection is testis.
19. Plasmid mediated Penicillin resistance is common in gonococcus.
20. Treatment of gonorrhoea is Ceftriaxone 250 mg I/M.
21. Moraxella catarrhalis is the causative agent of sinusitis, bronchitis, and pneumonia

Gram Negative Bacilli

1. Enterobacteriaceae is oxidase negative, catalase positive and nitrate reduction positive.
2. Nonmotile members of Enterobacteriaceae are Shigella, Klebsiella and Salmonella gallinarum pullorum.
3. On culture, Escherichia coli and Klebsiella produce pink/LF colonies on MacConkey's medium.
4. On culture, Shigella, Proteus and Salmonella produced pale / NLF colonies on MacConkey's medium.
5. Transmission of drug resistance was first observed in Shigella.
6. Shigella have plasmid mediated invasiveness, leading to bacillary dysentery.
7. The only Species of Shigella that produces exotoxin is *Shigella dysenteriae.*
8. Shiga toxin acts by inhibiting protein synthesis.
9. Infective dose of Shigella is 10-100 bacilli.
10. For Shigeila organism best specimen for culture is stool culture.
11. Diagnostic test for Shigella and EIEC is HeLa cell invasion and Sereny test.
12. Friedlander's bacillus is *Klebsiella pneumoniae.*
13. The verotoxin producing E. coli belong to Enterohemorrhagic *E. coli* (EHEC).
14. *E. coli* 0157 H7 belongs to EHEC.
15. Culture medium used for diagnosis of EHEC 0157: H7 is Sorbitol MacConkey medium.
16. Enterotoxigenic *E. coli* (ETEC) is a common cause of diarrhea in children in developing countries and the most common cause of traveler's diarrhea.

17. Enterotoxigenic *E. coli* produce heat labile toxin and heat stable toxin.
18. In vitro test for enterotoxin production is rabbit ileal loop assay, cytotoxicity on Y1 adrenal tumor cell assay and Chinese hamster assay.
19. In addition to ETEC another strain of *E. coli* that causes traveler's diarrhea is EAEC
20. Persistent diarrhoea is due to EAEC.
21. Most common cause of bacterial diarrhea in infants is EPEC.
22. Uro pathogenic *E. coli* have P pili.
23. Only serotype of Salmonella which is nonmotile is S. Gallinarum pullorum.
24. Only species of Salmonella which is anaerogenic is S. *Typhi.*
25. Vi antigen is present in S. *Typhi, S, paratyphi C* and S. *Dublin.*
26. Growth factor required for Salmonella is Tryptophan.
27. Flagellar antigen is most immunogenic in Salmonella.
28. Agglutination of 0 antigen of *S. Typhi* with specific antibodies is inhibited by Vi antigen.
29. Widal test is a type of Tube agglutination test.
30. Widal test detects H and 0 antibodies in serum.
31. In Widal test, H Antigen titre remains positive for several months.
32. Diagnosis of typhoid in first week is by blood culture.
33. In enteric fever, absence of Vi antibody indicate poor prognosis.
34. Best test for diagnosis of typhoid carrier is stool or duodenal aspirate culture.
35. DT104 strain is an MDR of *Salmonella typhimurium.*
36. A urinary tract infection as a result of *Proteus mirabilis* facilitates the formation of kidney stones because the organism produces a potent urease.
37. PPA test is positive in Proteus, Morganella and Providencia.
38. Swarming growth on agar is seen in Proteus.
39. Vibrio are alkaliphile and halophilus.
40. Darting movements are seen in Vibrio.
41. Vibrio cholerae is transported in V.R. medium.
42. TCBS is a selective and differential medium for Vibrios.
43. Cholera toxin acts by stimulating adenyl cyclase activity in ileal mucosal cells, by ADP ribosylation of Gs protein.
44. Classical and EIT or are biotypes of V. Cholerae 01.

45. EIT or biotype is VP positive, agglutinates chick RBC, hemolysis sheep RBC's.
46. V. Cholerae 0139 was first isolated in Madras. It is also called Bengal strain. It is capsulated. It has 0139 LPS.
47. V. parahemolyticus shows Kanagawa phenomenon.
48. Pseudomonas is catalase and oxidase positive.
49. *P. Aeruginosa* produces pyocyanin pigment and hence forms green colored colonies.
50. Exotoxin A of *P. aeruginosa* acts by inhibiting protein synthesis by inhibition of EF2.
51. Quorum sensing is seen in Pseudomonas.
52. Swimmer's ear, Shanghai fever and Jacuzzi syndrome are caused by P. Aeruginosa.
53. Ventilator associated pneumonia is most often caused by P. aeruginosa.
54. Local application of acetic acid is used for eradication of Pseudomonas from wounds.
55. Melioidosis or the Vietnamese time bomb is caused by Whitmore's bacillus/ Burkholderia pseudomallei.
56. Most common organism causing pulmonary disease in cystic fibrosis is Pseudomonas aeruginosa (mucoid), SCV's of S. Aureus and Burkholderia cepacia.
57. Glanders disease is caused by Burkholderia mallei.
58. Pasteurella multocida is oxidase, indole and catalase positive and does not grow on MacConkey agar. It is commensal in URT of several animals, Eg. dogs/ cats. It causes wound infections of cat and dog bites.
59. *Francisella tularensis* is a gram negative bacillus which causes tularaemia/ Rabbit fever. Voles, rabbits, and muskrats are reservoir hosts. Most common type, ulceroglandular (60-70%).
60. Bacteroides fragilis is an nonmotile, nonsporing anaerobic gram negative bacillus. It has a zwitterionic capsule. Its LPS has altered structure.

Gram Negative Spiral

1. 42°C (107.6°F) microaerophilic on Ski row's medium are the special laboratory conditions needed to recover Campylobacter jejuni

2. Urease production is an important distinguishing characteristic of H. pylori as compared to Campylobacter species
3. C. jejuni causes a zoonotic food poisoning.
4. Poultry is the main source of infection.
5. IP is 2-7 days. Abdominal pain may initially mimic appendicitis pseudoappendicitis.
6. Maximum urease is produced by H. pylori
7. H. pylori is transmitted via fecal oral route.
8. About 50% of world population affected. 80-85% of population is infected in some developing countries.
9. Colonization's of the gastric mucosa is asymptomatic
10. H. Pylori causes chronic atrophic gastritis, peptic ulcer, gastric adenocarcinoma and MALToma.
11. The most specific test for detection of H. pylori infection is culture of biopsy.
12. The most rapid test to detect H. pylori is the urease test or urea breath test
13. Dark ground microscopy, silver staining and negative staining is useful for Treponema Pallidum
14. Average incubation period of syphilis is 3 weeks (9-90 days).
15. Characteristic of primary chancre is painless punched out indurated ulcer.
16. The most infectious lesion in secondary syphilis are condyloma lata
17. Gummas, Tabes dorsalis and general paresis of the insane are the complications seen in tertiary syphilis.
18. Nontreponemal tests use cardiolipin antigen. Egg. Wasserman, Kahn and VDRL.
19. VDRL is a slide flocculation test.
20. FTA-ABS is the first serological test to be positive in syphilis.
21. Most sensitive test for syphilis is FTA-ABS.
22. FTA Abs is an indirect fluorescent antibody test.
23. Most specific test for syphilis is TPI and TPHA/TPPA.
24. Biological false positive reaction are false positive nontreponemal tests. Eg. pregnancy, SLE, Infectious mononucleosis.
25. Congenital syphilis can be best diagnosed by IgM FTA-ABS
26. Treatment of syphilis is benzathine Penicillin.
27. Yaws, pinta and endemic syphilis are called nonvenereal treponematosis.

28. Lyme's disease is caused by Borrelia burgdorferi.
29. Reservoir for Lyme's disease is rodents and the vector is hard tick.
30. Erythema Chronicum Migrans is feature of Lyme's disease.
31. Bell's palsy and arthritis are seen in chronic stage.
32. Kelly's medium (BSK medium) is used for Borrelia burgdorferi
33. Relapsing fever (RF) is caused by Borrelia species.
34. These species show antigenic variations in surface proteins.
35. Borrelia recurrentis transmitted by louse and causes epidemic RF.
36. Borrelia turicata and B. Duttonii are transmitted by soft ticks and cause endemic RF.
37. Leptospirosis is the most common zoonoses.
38. Culture medium for Leptospira interrogans is EMJH, Fletcher's and Korthoff's medium.
39. Leptospira is transmitted by rat urine to humans.
40. Fishermen, farmers and sewer workers are at risk.
41. Jaundice, hemorrhages and renal failure are seen in Weil's disease.
42. Microscopic agglutination test is the most specific serologic test.
43. DOC for Weil's disease is Penicillin.

Gram Negative Coccobacilli Bordetella, Brucella, BBI Hemophilus. Mycoplasma. Legionella [HI

1. Bordetella pertussis is a nonmotile, nonsporing strict aerobe.
2. The capsule is nonantigenic.
3. It produces Mercury drop colonies or bisected pearl appearance on Bordet Gengou medium.
4. Pertussis toxin acts by increasing adenyl cyclase activity by ADP ribosylation of G protein.
5. Pertussis toxin and adenyl cyclase toxin inhibit function of phagocytes.
6. The incubation period for pertussis is 7-14 days.
7. Catarrhal stage is the most infectious stage.
8. A child with pertussis should be isolated for 3-4 weeks
9. Whooping cough can best be diagnosed by culture of respiratory secretion (nasopharyngeal swab) on Regan Lowe agar or Bordet -Gengou medium.
10. Erythromycin should be given to contacts of pertussis.

11. Acellular pertussis vaccine (in DTaP) contains Pertactin, fimbrial hemagglutinin, fimbriae and pertussis toxoid.
12. Brucella is a nonmotile, nonsporing, non capsulated strict aerobe.
13. Capnophilic Brucella is B. abortus
14. Animal reservoir for Brucella species B. melitensis, B. Abortus, B. Suis and B. Canis.
15. Brucella causes spontaneous abortion and has tropism for placental tissue due to the presence of erythritol in allantoic and amniotic fluid of the reservoir host.
16. Main virulence factor is the ability to survive intracellularly in the reticuloendothelial cells.
17. Malta or Mediterranean or undulant fever is caused by Brucella.
18. Arthritis, osteomyelitis, spondylitis, meningitis, epididymo-orchitis, prostatitis, salpingitis and pyelonephritis are seen in chronic brucellosis.
19. Castaneda's biphasic method is used for blood or bone marrow culture.
20. Serology is the most widely used method for diagnosis. Standard agglutination test (IgM), 2mercaptoethanol agglutination test (IgG) and Direct Coombs' test are used.
21. Doxycycline with rifampicin for 6 weeks is the treatment.
22. The first bacterium whose genome was sequenced completely is Hemophilus influenzae.
23. Haemophilus influenzae is nonmotile, nonsporing GNCB.
24. Capsulated and non capsulated. Six capsular serotypes a, b, c, d, e and f. Hib has PRP in its capsule.
25. X factor (Hemin) and V factor (NAD) are required for the growth of Haemophilus Influenzae.
26. Satellitism is seen in H. influenzae.
27. Invasive infections (meningitis, pneumonia) are most commonly associated with encapsulated strains (Hib).
28. Third generation Cephalosporins are used for of H. Influenzae meningitis.
29. For prophylaxis of H. Influenzae meningitis, drug used is Rifampicin
30. 'School offish' appearance under microscope is seen in chancroid caused by H. ducreyi.
31. H. aegyptius causes pink eye and Brazilian purpuric fever.
32. Mycoplasma needs cholesterol and other lipids for growth.

33. Mycoplasma lack cell wall and contain sterols in the cell membrane.
34. Diene s's stain is used for Mycoplasma.
35. Colonies have fried egg or mulberry appearance.
36. Primary atypical pneumonia is caused by Mycoplasma. It can occur in healthy persons.
37. M. pneumoniae induced pneumonia may be rapidly identified by Cold agglutinin test and Streptococcus MG test.
38. Erythromycin is the treatment for Mycoplasma lung infections.
39. Mycoplasma hominis can cause nongonococcal urethritis in humans.
40. Ureaplasma urealyticum is associated with nongonococcal urethritis in humans
41. Ureaplasma is naturally resistant to Cephalosporins
42. Legionella pneumophila is a motile gram negative bacillus.
43. It requires supplemental ingredients like iron and cysteine to grow in laboratory media.
44. BCYE medium is used to culture of L. pneumophila.
45. Reservoir for Legionella is aquatic environment. It can survive intracellularly in free living amebae.
46. Legionnaire's disease due to L. pneumophila is an important cause of pneumonia in renal transplant patients, DM, elderly and smokers.
47. Most commonly used test for diagnosis is antigen detection in urine by ELISA.
48. Pontiac fever is caused by L. Pneumophila

Rickettsia, Bartonella & Chlamydia

1. Rickettsia are gram negative coccobacilli, obligate intracellular, form basophilic inclusion bodies that stain with Castaneda or Giemsa stain.
2. Chlamydia psittaci forms LCL bodies inside cells.
3. Flea is a vector in endemic typhus (R. typhi).
4. Louse is the vector for epidemic typhus (R. prowazekii).
5. Neil Mooser reaction/tunica reaction is useful to differentiate between R. typhi and R. prowazekii
6. Tick is the vector in humans for Rocky Mountain spotted fever, Indian tick typhus and Boutonneuse fever.
7. Zoonotic tetrad is in Scrub typhus.l) It is transmitted by chiggers of

Trombiculid mite, 2) Small mammals (rat, field mice), 3) Secondary scrub vegetations/forests, 4) Wet/Rainy season.

8. Weil Felix reaction is based on Heterophile antigen. Agglutination with OXK is seen in Scrub typhus.
9. Weil Felix reaction is negative in rickettsial pox, trench fever and Q fever.
10. Coxiella burnetii exhibits phase variation and can survive Holder method.
11. Transmission of Q fever is inhalation of aerosol, ingestion of raw contaminated milk or percutaneous (there is no insect vector).
12. Bartonella are not obligate intracellular.
13. Louse is the vector for trench fever caused by Bartonella quintana.
14. Cat scratch disease and Bacillary angiomatosis is caused by Bartonella henselae.
15. Verruga peruana and Oroya fever are caused by Bartonella bacilliformis
16. Ehrlichia is transmitted by the bite of a hard Ixodid tick.
17. Ehrlichia ewingii causes Human granulocytic Ehrlichiosis
18. E. chaffeensis causes Human monocytic Ehrlichiosis.
19. Chlamydia are obligate intracellular bacteria.
20. Basophilic inclusion bodies.
21. HeLa and McCoy cell culture and yolk sac of chick embryo useful for cultivation of Chlamydia.
22. Biphasic life cycle. Elementary body is metabolically inactive.
23. Genital chlamydiosis is the most common bacterial STD.
24. Chlamydia trachomatis D to K infections in the genitourinary tract can pass from mother to fetus causing inclusion conjunctivitis and infant pneumonia.
25. The most sensitive method for detecting cervical Chlamydia trachomatis infection is PCR or nucleic acid probes.
26. Best for treating chlamydial infection is Tetracycline
27. DOC of Chlamydia in pregnancy is Amoxicillin
28. Lymphogranuloma venereum is caused by Chlamydia trachomatis LI, L2 and L3.
29. Chlamydia pneumoniae has only one serotype. Chronic infection can cause atherosclerosis.

Mycobacterium

1. The tubercle bacillus was discovered by Robert Koch.
2. National Institute of Tuberculosis is located at Bangalore.
3. TB day24th March.
4. ZN stain and Kinyoun stain are used for acid fast staining.
5. Auramine 0 and Rhodamine B are fluorescent dyes that bind to mycolic acids in their cell wall.
6. M. tuberculosis shows growth on solid media in 2-8 weeks.
7. Solid media with egg used for culture of TB bacilli is LJ medium and Dorset media.
8. Mycobacterium tuberculosis is niacin positive.
9. The best diagnostic procedure of M. tuberculosis infection is sputum culture.
10. Most common agent causing opportunistic infection in AIDS patient in tropical countries is Mycobacterium tuberculosis.
11. MDRTB is resistance to both INH and Rifampicin.
12. Susceptibility tests are absolute concentration, resistance ratio and proportion methods MGIT, MODS and PCR too.
13. Tuberculin test is a delayed hypersensitivity reaction.
14. Methods to assess prevalence of TB in a community are Tuberculin test and IFN y release assays.
15. One Tuberculin unit contains 1 unit of PPD RT23.
16. RNTCP diagnosis is based on Sputum microscopy.
17. A scotochromogen forms pigmented colonies on solid media whether grown in dark or light. Eg. M. scrofulaceum and M. szulgai.
18. M. gordonae is the tap water scotochromogen.
19. Mycobacterium avium intracellulare and M. ulcerans are nonphotochromogen.
20. Mycobacterium marinum causes swimming pool granuloma.
21. The only mycobacterium which produces exotoxin is M. ulcerans. It causes Buruli ulcer.
22. Rapid growers are M. Chelonei and M. Fortuitum.
23. Mycobacterium leprae retain their acid fastness up to sulphuric concentration of 5%.
24. It is non cultivable on cell free media.

25. First grown on foot pad of mice.
26. Leprosy bacilli are best grown in Armadillo.

General Virology

1. Quantitative assays like plaque assay and pock assay are done for quantifying the number of infectious virus particles
2. Quantal assays indicate only presence or absence of infectious viral particles.
3. Von Magnus phenomenon: When a large number of influenza virus are inoculated in a hen's egg, a number of defective or incomplete viruses are synthesized; as a result the amniotic fluid has a high hemagglutinin titer but low infectivity.
4. An abortive infection is one in which progeny virus is not produced
5. Size of viruses can be estimated by pore diameter of the finest gradocol filter that permits the passage of the virion or by ultracentrifuge using the Stokes' law.
6. Smallest pathogenic virus is Parvovirus B 19 (18-26 nm). Largest are the Poxviruses (300 X 200 nm).
7. The protein core which surrounds the nucleic acid of animai viruses is called Capsid.
8. Lipid envelope is found in Herpes virus, Hepadna and Pox viruses (DNA).
9. Lipid envelope is found in all RNA viruses except Picorna, Astro viruses, Reo viruses and Caliciviruses.
10. A negative stranded viral RNA requires a RNA dependent RNA polymerase in the virion. Eg. Rhabdo, Orthomyxo and Paramyxoviruses.
11. Transfection with naked nucleic acid would result in active virus replication with all DNA viruses (except Hepadna and Pox) and all +stranded RNA viruses (except Retroviruses).
12. Genetic reassortment is seen with Rotavirus and Influenza virus as they have a segmented RNA genome.
13. Double stranded RNA virus is Reo viruses. Eg, Rotavirus.
14. Retroviruses replicate through a DNA intermediate (have RT). Eg. HIV.
15. Hepadna virus replicate through a RNA intermediate (have RT). Eg. HBV.
16. Suckling mice are used for cultivation of Arbovirus and Coxsackie virus

17. Pocks on chorioallantoic membrane of chick embryo are formed by poxviruses and Herpes simplex 1 and 2.
18. Enders, Weller and Robbins grew polio viruses in human embryo cell lines for the first time.
19. WI38 (Human embryonic lung strain) is diploid cell line.
20. Chick embryo fibroblast and monkey kidney is a primary cell line.
21. HeLa, Hep2, Vero, McCoy are continuous cell lines.
22. Rounding and aggregation of cells is the cytopathic effect of Adenovirus
23. Hemagglutination is used for the detection and assay of the influenza virus in specimens, titration of killed influenza virus vaccines.
24. Myxoviruses agglutinate fowl, guinea pig, human RBC's. Rabies virus agglutinates goose RBC at 4°C
25. Hemagglutination by myxovirus can be reversed by neuraminidase.
26. Hemagglutination inhibition used for detection of antiviral antibody in serum.
27. Viruses which survive chlorination HAV, Polio
28. Vaccines produced in Chick embryo Influenza, yellow fever, rabies
29. Latent infections are seen in Herpesviruses, HIV and Polyoma viruses
30. Oncolytic viruses are therapeutically useful anticancer viruses that will selectively infect and damage cancerous tissues.

Nonenveloped DNA Viruses Parvo., Adeno., IfclJ Papilloma. and Polyoma viruses

1. Parvovirus B19 has a single stranded DNA genome. It is the smallest pathogenic virus.
2. Parvovirus B19 preferentially infects erythrocyte precursors.
3. Parvovirus B19 causes fifth disease/ Erythema infectiosum (slapped cheek rash).
4. It causes aplastic crises in patients with hemolytic anemia and pure red cell aplasia in immunodeficient.
5. Parvovirus B19 following transplacental transfer in a pregnant female can cause hydrops fetalis.
6. Adenovirus have an icosahedral capsid made of penton and hexon.

7. Hexon is the adenovirus protein which comprises the majority of capsomers making the capsid.
8. The 12 penton have fibers with knobs.
9. They are used as gene vectors and for oncolysis.
10. Hemorrhagic cystitis, diarrhea, RTI's and epidemic conjunctivitis are caused by them.
11. Oncogenes of human papilloma virus code for early viral proteins that inhibit tumor suppressor genes leading to malignant transformation.
12. There are more than 150 genotypes.
13. Human papillomavirus is most commonly associated with Condyloma acuminatum.
    Human papillomavirus is the most common sexually transmitted infection
14. HPV16 and HPV18 are the most important genotypes associated with genital cancers
15. HPV related cervical intraepithelial neoplasia can be diagnosed by the presence of cytoplasmic vacuolization and nuclear enlargement of cells.
16. JC virus causes PMLE in immunodeficient.
17. BK virus causes nephropathy in renal transplant recipients.

Enveloped DNA Viruses Herpesviruses and Poxviruses

1. Latent infection is seen in Herpesvirus.
2. Vesicular rash is seen in HSV.
3. Most common primary infection disease d/t HSV 1 is gingivostomatitis.
4. Latency of HSV 1 is trigeminal ganglia.
5. Most common recurrent disease d/t HSV I is Herpes labialis
6. Most common primary and recurrent disease d/t HSV 2 is genital herpes.
7. HSV2 becomes latent in Sacral ganglia.
8. Tzanck smear HSV1 and 2 and Varicella zoster virus produces the cytopathologic findings of multinucleated giant cells.
9. Most common cause of sporadic encephalitis is HSV1
10. The most sensitive test for the diagnosis of herpes simplex (HSV) meningitis is HSV PCR. On CSF.

11. Drug useful for treating is Acyclovir
12. Cytomegalovirus (CMV) remains latent in salivary glands and kidneys.
13. CMV causes Infectious Mononucleosis like syndrome.
14. CMV infection can be transmitted across the placental barrier to cause cytomegalic inclusion disease. It is the most common agent transmitted transplacentally.
15. HIV opportunistic infection d/t CMV when CD4 counts < 50/cumm. Chorioretinitis is the M/C manifestation.
16. Infectious Mononucleosis is also called as Kissing Disease. Atypical lymphocytosis and Heterophile antibodies appear in blood, agglutinates sheep or horse red blood cells.
17. Paul Bunnel Test is used to detect Infectious mononucleosis.
18. Paul Bunnel is a type of tube agglutination reaction.
19. Incubation period of chicken pox is 2-3 weeks.
20. Centripetal rash is present in chicken pox. Pleomorphic; dew drops on rose petal.
21. Most common extra cutaneous complication of chicken pox involves the CNS (cerebellar ataxia).
22. Fetal varicella syndrome (transplacental transfer) skin scarring, CNS defects, hypoplastic limbs and chorioretinitis.
23. Varicella zoster becomes latent in Trigeminal ganglion.
24. Herpes Zoster/ shingles is caused reactivation of VZV. It can involve a dermatome or involve the eye.
25. Vesicle fluid should be collected to confirm diagnosis of VZV infection
26. Ramsay Hunt syndrome: Shingles of the geniculate ganglion.
27. Zoster sine herpete dermatomal pain but no vesicles.
28. Guarneri bodies are aggregations of viral particles of Vaccinia virus, Paschen bodies are seen in infection with Variola virus.
29. Centrifugal rash is present in small pox.
30. Vaccinia virus (LAV) used for small pox eradication provided cross reactive immunity.
31. Bollinger bodies are seen in Fowl pox.

Hepatitis Viruses

1. Hepatitis A virus belongs to genus Enterovirus of family Picornavirus.
2. Hepatitis A virus infection is best diagnosed by IgM antibodies in serum.
3. Hepatitis A is the only cultivable hepatitis virus.
4. Vaccine contains inactivated virus and is effective in around 95% of cases.
5. HBV replicates through an RNA intermediate.
6. Marker of infectivity of serum in Hepatitis B is HBE Ag.
7. Acute Hepatitis B infection is diagnosed by Anti Hbc IgM
8. Chronic hepatitis B is defined as having serum HBsAg for more than six months
9. IgM Anti Hbc can be used to differentiate acute from chronic Hepatitis B infection
10. The precore mutants in hepatitis B have a notable absence of HBeAg. Extrahepatic complications Polyarteritis nodosa, serum sickness and nephrotic syndrome.
11. HBV cannot be cultured
12. Hepatitis B vaccine -recombinant HBsAg.
13. Hepatitis C virus is a Flavivirus. Enveloped ss RNA virus.
14. Chance of chronicity in HCV is 70-80% or more.
15. 25-50% develop cirrhosis.
16. Hepatitis C virus transmission to the foetus in pregnancy depends on levels of HCV RNA.
17. HDV is defective virus that requires its helper HBV to provide an envelope protein.
18. HBV vaccine provides immunity to HDV.
19. Hepatitis E virus, earlier a Calicivirus now classified in Herpesviridae.

RNA Viruses Myxovirus and Rhabdo viruses

1. Myxovirus like Influenza virus are cultured on amniotic cavity and allantoic cavity of chick embryo.
2. Orthomyxovirus (Influenza virus) have a segmented genome. Genetic recombinant strains due to this kind of genome.
3. Hemagglutinin and Neuraminidase antigens are strain specific in influenza

viruses.

4. The type specific antigen (A, B, or C) of influenza viruses is found on Nucleocapsid protein.
5. The principal reservoir for the generation of variants of influenza virus A (due to antigenic shift) are Pigs, horses and fowl.
6. Antigenic drift is seen in Influenza are due to mutations.
7. Best specimen for the laboratory diagnosis of influenza is Nasopharyngeal washings
8. RT PCR is preferred for its speed, sensitivity and specificity.
9. Reye's syndrome is most often seen with Influenza B.
10. Secondary bacterial Pneumonia in influenza mainly caused by S. Aureus, Pneumococcus and H influenza.
11. Avian influenza is due to H5N1
12. Parainfluenza virus is the leading cause of croup syndrome
13. Aseptic meningitis can complicate Mumps.
14. Orchitis (usually unilateral) is the most common complication in postpubertal males.
15. Mumps infection is preventable by immunization, LAV using the Jeryl Lynn strain.
16. Measles: The patient is infectious 4 days before to 5 days after rash
17. Koplik's spots are seen in prodromal phase
18. 'Warthin Finkeldey cells' are present in infection with measles
19. Most common cause of death in measles is Diarrhea.
20. Giant cell (Hecht's) pneumonia is seen in measles.
21. Least common complication of measles is Subacute sclerosing Panencephalitis. SSPE is a progressive demyelinating disease involving both white and grey matter
22. LAV strain is Edmonton Zagreb.
23. RNA of rabies virus has negative polarity.
24. M/C transmitted by bite of domestic dogs
25. In the axon, following bite of the animal, rabies virus progresses at the rate of 3 mm/hr
26. Rabies characteristically presents with Hydrophobia.
27. Rabies is identified by Negri bodies in hippocampus and cerebellum.
28. Rabies can be diagnosed by immunofluorescence test.

29. Post exposure vaccination is given for Rabies, cell culture derived inactivated vaccines. Eg. HDCV, PCEV.
30. The first rabies vaccine was introduced in 1885 by Louis Pasteur.
31. Rabies free zone in India in Lakshadweep
32. Rabies free country is Australia.

RNA Viruses Arboviruses and Robo viruses

1. Arbovirus are transmitted by insect vectors.
2. In Japanese Encephalitis pigs acts as amplifiers.
3. Vertebrate reservoir of Japanese encephalitis are water birds.
4. Culex tritaeniorhynchus and Culex vishnui are the vector of JEV.
5. Dengue virus has 4 serotypes.5^{th} one added now.
6. Dengue hemorrhagic fever is most often seen with type 2 (especially with a previous infection with type 1)
7. First human disease proved to have a viral etiology was Yellow fever.
8. Yellow fever is not reported in Asia.
9. Torres bodies are inclusion bodies of yellow fever virus.
10. Councilmann bodies are seen in liver biopsy.
11. Yellow fever reference centre in India is Central Research Institute, Kasauli
12. Kavasanur Forest Disease is caused byFlavivirus
13. KFD is transmitted by ticks.
14. KFD infects monkeys (amplifier host)
15. Chikungunya virus belongs to Togaviridae
16. The first recognized outbreak of Chikungunya disease occurred in 1952 in Tanzania
17. The major vector for Chikungunya virus in Asia is Aedes aegypti
18. Diagnosis of Chikungunya can be confirmed by Serological test
19. Hantavirus pulmonary syndrome and Hemorrhagic fever renal syndrome is caused by inhalation of rodent feces

RNA Viruses Rubella, Reo viruses and Picornaviruses

1. Rubella virus belongs to Togaviridae, Genus Rubivirus.
2. Age group most prone to Rubella is 3-10 years

3. Congenital Rubella syndrome (defective organogenesis), Cardiac defects, deafness, cataract.
4. Rubella in the first two months of pregnancy Maximum risk of CRS (65-85%).
5. LAV RA 27/3 strain
6. Rotavirus: Segmented ds RNA genome. Nonenveloped.
7. Genetic resentments occur readily.
8. Rotaviruses are the most important causes of diarrheal disease in infants and young children worldwide.
9. Picorna virus: Nonenveloped, ss RNA viruses.
10. About 100 serotypes of enteroviruses and more than 150 serotypes of Rhinoviruses.
11. Enterovirus 72 is Hepatitis A.
12. Herpangina, acute hemorrhagic conjunctivitis, HFMD are caused by Coxsackie A.
13. Enterovirus associated with acute hemorrhagic conjunctivitis is Serotype 70.
14. Bornholm's disease, Infantile pericarditis and myocarditis are caused by Coxsackie B.
15. The commonest viruses causing epidemic encephalitis is Enteroviruses.
16. The primary pathologic effect of polio viral infection is a result of destruction of infected cells.
17. Diagnosis of polio is by detection of polio virus in stool.
18. Both killed and live virus vaccines are available.
19. OPV produces gastrointestinal resistance.
20. The primary reason for the replacement of live oral polio vaccines by inactivated polio vaccine in many countries where polio has been eradicated is a greater risk of vaccine induced disease than wild virus induced disease.
21. Common cold is usually caused by Rhinovirus.

RNA Viruses Retroviruses and Prion

1. Retroviruses have a diploid +ss RNA genome and replicate through a DNA intermediate that integrates with the host genome. All retroviruses contain reverse transcriptase enzyme

2. HTLV1 causes Human T cell leukemia.
3. HIV belongs to Genus Lentivirus.
4. First case of HIV was reported in 1981
5. The causative agent of AIDS was discovered in 1983
6. AIDS is most commonly caused by HIV1. based on env gene sequences, 3 distinct virus groups, M, 0 and N.
7. Quasispecies due to high mutation rates, infected hosts have ' swarms' of closely related viral genomes.
8. The first country in SEAR to report AIDS was Thailand.
9. State with highest prevalence is Manipur (1.15%).
10. p24 is a core antigen of HIV
11. Receptor of HIV is CD_4. HIV most commonly infects CD 4 helper ceils
12. HIV encodes an envelope glycoprotein gpl20 which binds to viral Coreceptor on the cell surface.
13. Coreceptor CXCR4 for lymphocyte tropic strains and CCR5 (for macrophage tropic strains).
14. The ne/gene in HIV is for decreasing viral replication.
15. HIV window period is time period between infection and detection of HIV antibodies.
16. Window period in HIV is 3-12 weeks.
17. During clinical latency there is a high level of ongoing viral replication and a decline of CD4T cells.
18. Specific test for HIV antibodies is Western blot test
19. HIV can be detected and confirmed by Reverse Transcriptase PCR.
20. The viral load in blood has prognostic value and crucial for monitoring effectiveness of antiviral therapy.
21. In India, the most common cause of pulmonary disease in HIV is M. tuberculosis.
22. The major cause of morbidity in HIV infected are opportunistic infections
23. that usually occur when CD4 counts fall below 200/cumm.
24. Multifocal tumor of vascular origin in a patient of AIDS is Kaposi sarcoma.
25. CMV retinitis in HIV occurs when the CD 4 count falls below 50 per microliter.

    Most common organism causing acute meningitis in AIDS is Cryptococcus neoformans.

26. The chance that a health worker gets HIV from an accidental needle prick is 0.3%.
27. There is as yet no vaccine available.
28. Prion are infectious and composed of only proteins.
29. Prion catalyze abnormal folding of other proteins.
30. Prion are very resistant to inactivation, including formaldehyde, boiling, proteases and radiation. They can be inactivated by bleach and autoclaving.
31. Prion diseases (transmissible spongiform encephalopathies) are scrapie in sheep, CJD in humans and mad cow disease in cattle. These progressive neurologic diseases have long incubation periods.

Protozoa Pseudopod and flagellates

1. The infective form of Entamoeba histolytica is the quadrinucleate cyst
2. The trophozoite of E. histolytica extends ectoplasmic pseudopodia rapidly. The nuclear membrane is lined by fine chromatin.
3. Amoebic chromatoidal bars seen in the cyst of E. histolytica are composed of Ribonucleoprotein.
4. Amebic liver abscess complicates amebic dysentery when trophozoites enter portal circulation.
5. Granulomatous amebic encephalitis is caused by Acanthamoeba and Balamuthia.
6. Acute primary amoebic meningoencephalitis is caused by Naegleria fowleri and is diagnosed by trophozoite in CSF.
7. Lobopodia are present in trophozoites of Naeglaria.
8. Giardia lamblia is the only protozoan parasite found in the lumen of small intestine
9. Giardia lamblia infection by ingestion of quadrinucleate cyst.
10. Recurrent Giardiasis is associated with common variable immunodeficiency
11. The normal habitat of Giardia are duodenum and upper jejunum.
12. Giardia is the most common parasitic cause of steatorrhea.
13. Entero test is done for giardiasis.
14. The most common parasitic STD is Trichomoniasis.

15. Trichomonas has only one stage in its life cycle -Trophozoite.
16. Strawberry appearance of cervix is seen in Trichomoniasis.
17. The drug of choice in treating vaginal trichomoniasis is Metronidazole.
18. Vector for sleeping sickness is tsetse fly.
19. Winterbottom sign of sleeping sickness refers to posterior cervical lymphadenopathy.
20. Vector for Chaga's disease is Reduviid bugs.
21. Romana's sign is seen in Chaga's disease.
22. Nifurtimox or bamnidazole are used for treatment of Chagas' disease.
23. Romana's sign is seen in Chaga's disease.
24. Nifurtimox or benznidazole are used for treatment of Chagas' disease.
25. Reservoir of Kala Azar in India is man only.
26. Vector for Kala azar is Phlebotomus argentipes.
27. Amastigote form of Leishmania donovani resides in cells of the reticuloendothelial system.
28. Stained smears from organ of kala azar patient will demonstrate amastigote form.
29. NNN medium is used for cultivation of Leishmania.
30. Best animal model for Leishmania donovani is Golden hamster
31. Most common cause of cutaneous leishmaniasis is Leishmania tropica.
32. Most common cause of disseminated cutaneous leishmaniasis is L. Mexicana.
33. Most common cause of mucocutaneous leishmaniasis is L.brasiliensis.

Ciliates and Apicomplexan protozoa

1. The protozoan causing dysenteric symptoms is Balantidium coli.
2. Largest protozoa and the only ciliate infecting man is B. coli.
3. In malaria, infective stage injected into human subjects by the mosquito is sporozoite.
4. Definitive host in Plasmodium is female Anopheles.
5. The sites of preerythrocytic cycle of malaria are the parenchymal cells of liver.
6. 'Hypnozoite[1] are latent forms n liver P. ovale and P. vivax.
7. Duration of preerythrocytic schizogony in P. Falciparum is 5 days, for P.

vivax is 8 days.

8. Erythrocytic schizogony of Plasmodium liberates merozoites from the RBC's.
9. P ovale has special affinity for reticulocytes, P. vivax for young RBC's.
10. P malariae has special affinity for senescent RBC's.
11. P. falciparum is characterized by infection of all ages of erythrocytes.
12. Banana shaped gametocytes in peripheral smear are seen in infection with Plasmodium falciparum.
13. Maurer's dot are seen in infection with Plasmodium falciparum.
14. Schuffner's dots' are seen in malaria by P. Vivax
15. Erythrocytes are enlarged in infection with P. Vivax and P. Ovale.
16. Blackwater fever results from intravascular hemolysis.
17. Plasmodium malariae causes nephrotic syndrome
18. Cerebral malaria most commonly attends infection with Plasmodium falciparum
19. In patient with P. Malariae malaria, the fever has periodicity of 72 hours.
20. Sporogony occurs in the female anopheles.
21. Definitive host in Babesia is hard tick.
22. Symptomatic Infection with Babesia is most commonly observed in patients without a spleen
23. Maltese cross is associated with Babesia microti.
24. Definitive host in Toxoplasma is cat.
25. Sabin Feldman dye test is done for Toxoplasma.
26. Toxoplasmosis in fetus is best confirmed by IgM antibodies against Toxoplasma in fetus
27. Cryptosporidium, Isospora and Cyclospora cyst can be identified by Acid fast stain of stool.
28. Cryptosporidium is the M/C cause of diarrhea in HIV infected.
29. Autoinfection is seen in Cryptosporidium.
30. Cyst of Cryptosporidium can survive routine chlorination of water.

Helminths Cestodes

1. Diphyllobothrium latum infection produces megaloblastic anemia due to B12 deficiency.

2. Human diphyllobothriasis results from consuming infected freshwater fish with plerocercoid larva.
3. Taenia saginata spreads to man from eating poorly cooked cow meat with the larval stage called cysticercus bovis.
4. Taenia solium spreads to man from eating poorly cooked pig meat with the larval stage called cysticercus cellulosae.
5. Man can become intermediate host in T. solium not in T. saginata.
6. Commonest parasite of CNS in India is cysticercosis,
7. Most common site of neuro cysticercus in humans is cerebral hemispheres.
8. Coenurus is the larval form of Taenia Multiceps
9. The egg of Hymenolepis nana parasites consists of polar filaments arising from either end of the embryophore.
10. The smallest tapeworm of man is H. nana. The longest tapeworm of man is D. latum.
11. Man is intermediate host for Echinococcus granulosus. Definitive host is dog.
12. Vital layer of Hydatid Cyst is germinal Layer/endocyst.
13. Hydatid cyst is most often found in the liver.
14. Casoni test is an immediate hypersensitivity test for diagnosis of hydatid cyst.
15. Polycystic Echinococcosis is caused by Echinococcus vogeli
16.

Helminths Nematodes

1. Prepatent period in filariasis is entry of parasite to detection of first microfilaria in blood
2. Commonest filarial agent in India is Wucheraria bancrofti
3. The third stage larva of W. bancrofti spread to humans by bite of *Culex, Aedes, Anopheles.*
4. Microfilariae of W. bancrofti are sheathed, tail tip free of nuclei and have a nocturnal periodicity.
5. The third stage larva of Brugia malayi is mainly spread by Mansonia.
6. Microfilariae of Brugiai are smaller, sheathed, two nuclei in tail tip and have a nocturnal periodicity.

7. In the diagnosis of filariasis the blood sample is collected for identification of microfilaria is stored in EDTA.
8. Hetrazan test (DEC provocation test) is used for detection of microfilaria in filariasis.
9. Involvement of genitals does not occur in filariasis due to Brugia.
10. 'Mayers Kouwenaar syndrome' is Occult filariasis
11. Diagnosis of occult filariasis can be made by detection of antibody in blood
12. Simulium/black fly is the vector for Onchocerca volvulus.
13. Unsheathed microfilaria of O. volvulus are non periodic and present in dermis.
14. Onchocerca volvulus causes river blindness and leopard skin.
15. Mango fly is the vector for Loa loa.
16. Loa loa shows sheathed microfilaria with terminal nuclei which show diurnal periodicity.
17. Calabar or fugitive swelling is seen in Loa loa.
18. Man is the definitive host of guinea worm.
19. Intermediate host for guinea worm is Cyclops.
20. Dracunculosis is acquired by ingestion of water containing Cyclops with larvae.
21. Nematode residing in Caecum and appendix is Trichiura and Enterobius vermicularis.
22. Rectal prolapse, coconut cake rectum and iron deficiency anemia is seen in trichuriasis.
23. Eggs of Trichiura are bile stained, unembryonated and barrel shaped with mucus plugs at the poles.
24. Pruritus ani is caused by Oxyuriasis/ Enterobiasis.
25. NIH swab is used to collect eggs from the perianal skin for enterobiasis.
26. Eggs of Enterobius are planoconvex, non bile stained and embryonated.
27. Autoinfection via contaminated nails and hands can occur in enterobiasis,
28. Strongyloides stercoralis causes opportunistic infection in AIDS.
29. Free living sexual forms in soil are seen in Strongyloides
30. For Strongyloides stercoralis, infecting stage for man is filariform larva.
31. Infection with Strongyloides is acquired by penetration of skin by filariform larva that develop in soil from rhabditiform larva.
32. S. stercoralis is ovoviviparous.
33. 'Larva currens' is caused by Strongyloides larva

34. Diagnosis of strongyloidiasis is done by detection of rhabditiform larva in stool by Baermann funnel technique or Harada Mori filter paper technique.
35. Ascaris lumbricoides is the largest roundworm infecting man.
36. Ascariasis of the small intestines manifests as malnutrition, growth retardation and vitamin A deficiency.
37. Bile stained fertilized and unfertilized eggs of A. lumbricoides are detectable in stools.
38. Chandler's index is no. of hookworm eggs/gm of stool.
39. Ancylostoma duodenale and Necator americanus infection is acquired by penetration of skin by filariform larva that develop in soil from rhabditiform Larva.
40. Microcytic hypochromic anemia is seen in hookworm infection.
41. Cutaneous larva migrans is produced by nonhumanAncylostoma braziliense, A. caninum and Uncinaria
42. Consumption of uncooked pork is likely to cause infection with Trichinella spiralis.
43. Eosinophilic meningitis is caused by Angiostrongylus cantonensis.
44. 'Visceral larva migrans' is due to nonhuman roundworms, eg. Toxocara canis and T.cati.

Helminths Trematode

1. Trematode/Flukes are helminths with absent body cavity and incomplete alimentary canal.
2. Gynecophoral canal is seen in male worm of Schistosoma.
3. The intermediate host in the life cycle of Trematode is snail.
4. The 2nd intermediate hosts are fresh water fish/plants.
5. Infective form for humans is metacercaria except in schistosomes where it is cercariae.
6. Largest trematode infecting man is Fasciolopsis buski.
7. Natural habitat of Schistosoma japonicum is superior mesenteric plexus.
8. Natural habitat of Schistosoma mansoni is inferior mesenteric plexus.
9. Natural habitat of Schistosoma hematobium is vesical plexus.
10. Fairley's test is positive in Schistosomiasis.
11. Katayama fever is acute schistosomiasis.

12. Ova/eggs with terminal spine is a feature of Schistosoma haematobium.
13. Finding of eggs in urine is diagnostic of Schistosoma hematobium.
14. Ova/ eggs with lateral spine is a feature of Schistosoma mansoni.
15. Squamous cell carcinoma of the bladder is associated with infection with Schistosoma haematobium.
16. Oriental/ Chinese liver fluke is Clonorchis sinensis.
17. Cholangiocarcinoma is associated with Clonorchis sinensis. And Opisthorchis.
18. Sheep liver fluke is Fasciola hepatica.
19. 'Endemic hemoptysis' occurs in infection with Paragonimus westermani.
20. P^ositis causing lung infestation is Paragonimus westermani.
21. Crab/ Cray fish are the 2nd intermediate host in Paragonimus.
22. Trematode in the GIT lumen- Fasciolopsis buski, Gastrodiscoides and Metagonimus.

Mycology

1. 'Perfect state' of a fungus is when it forms perfect sexual spores.
2. Fungi without sexual cycle are classified as Fungi imperfecti/Deuteromycetes.
3. Mycelia are mesh of intertwined branching hyphae.
4. Methenamine silver stains fungi.
5. Culture media for fungi routinely used is Sabouraud's agar.
6. Tinea versicolor is caused by M. furfur.
7. Tinea nigra is caused by Horae werneckii.
8. White Piedra is caused by Trichosporon.
9. Black piedra is caused by Piedrae hortae.
10. Trichophyton, Epidermophyton and Microsporum are dermatophytes.
11. Favus is caused by Trichophyton schoenleinii and T. violaceum.
12. Kerion is caused by T. Verrucosum.
13. Tinea imbricate is caused byT. concentricum.
14. The most common cause of mycetoma in India is Actinomadura madurae.
15. In a mycetoma, there are multiple discharging sinuses. The granules in the discharge are called as Sulphur granules.
16. Botryomycosis is caused by Staphylococcus, Pseudomonas, Proteus, S.

pyogenes.

17. Brown, spherical, septate bodies in pus are diagnostic of Chromoblastomycosis
18. Sclerotic or Medlar bodies are seen in Chromoblastomycosis
19. In India, Rhinosporidiosis is prevalent in Tamil Nadu.
20. Rhinosporidium is now classified as a protista subgroup mesometazoa
21. Rhinosporidium is noncultivabie.
22. The genus Candida reproduces by Blastospore formation
23. Candida is a normal flora in the oral cavity, on skin and in GIT.
24. White membrane in throat is seen in infection with Candida called thrush.
25. Reynold Braude phenomenon or germ tube test is characteristic of Candida albicans.
26. Most common fungal infection in non HIV (immunocompetent) individuals and HIV infected is Candidiasis
27. Assimilation tests are used for identification of Candida species
28. Cryptococcus neoformans is a yeast.
29. Capsulated fungus is Cryptococcus.
30. Urease test is positive for Cryptococcus neoformans.
31. Eucalyptus camaldulensis is reservoir of Cryptococcus.
32. Environmental source of Cryptococcus neoformans is Pigeon droppings.
33. Latex agglutination study of the antigen in CSF or blood helps in the diagnosis of Cryptococcus neoformans.
34. The most common cause of acute meningitis in AIDS patient is Cryptococcus neoformans.
35. Aspergillus is the most common fungal agent in paranasal sinus mycoses.
36. Most common cause of otomycosis is Aspergillus niger
37. Fungus capable of forming fungus ball is Aspergillus.
38. Cerebral infarction is seen in invasive Aspergillosis.
39. Aflatoxin are produced by Aspergillus flavus.
40. Zygomycetes are aseptate/ pauci septate molds.
41. Sporangiospore are formed in asexual reproduction of Zygomycetes.
42. Zygomycosis/Mucormycosis/Phycomycosis most often presents as rhinocerebral disease.
43. Most important risk factor for zygomycosis is metabolic acidosis.
44. Vascular invasion is a common feature of Mucormycosis.
45. Asteroid bodies and cigar shaped yeast cells are seen in Sporotrichosis.

46. North American blastomycosis is caused by Blastomyces.
47. Broad based budding yeasts are seen in blastomycosis.
48. The portal of entry in all dimorphic except Sporothrix is Respiratory tract.
49. Desert rheumatism or San Joakin valley fever is caused by Coccidioides immitis.
50. Tuberculate spores are diagnostic in Histoplasmosis.
51. Soil contaminated with bat or bird droppings is associated with Histoplasma capsulatum.
52. Penicillium marneffei produces a diffusible red pigment when grown on standard culture media.

Cfmical / Applied Microbiology

1. Widal test shows raised antibodies from 2nd week.
2. Streptozyme test is a passive hemagglutination test.
3. S. aureus causes food poisoning with incubation period < 6 hours.
4. S. aureus causes acute endocarditis in l/v drug abusers.
5. CMV may cause pneumonia 1-4 months after renal transplant.
6. Oriental sore is caused by L. tropica.
7. Serology is more helpful in diagnosis of extra intestinal amebiasis.
8. H. influenzae vaccine is a capsular polysaccharide vaccine.
9. Recognition sequences vary between 4 & 8 nucleotides.
10. Rheumatoid factor is IgM against IgG.
11. T. Pallidum is destroyed by storing blood for at least 4 days in the refrigerator.
12. M.C mode of transmission of nosocomial infections is through the inadequately cleaned hands of hospital personnel.
13. QA = QC + IQA +EQ.A
14. Hematogenous (descending UTI) is seen is S. aureus, S. typhi, Candida & M.TB.

Recent & High Yield Updated LMRPs

1. Predominant organisms associated with VAP are GNB including Acinetobacter and Pseudomonas.
2. HHV8 is associated with Kaposi sarcoma, Primary effusion lymphoma and Castleman's disease and not associated with T-cell leukemia.
3. Oocyst of Cryptosporidium measures 4-5 micron in size and that of Cyclospora and Isospora measures 6-12 and 20-33 microns respectively. These protozoan parasites are important cause of diarrhea in HIV/AIDS patients.
4. Dark field microscopy is used for visualization of thin slender organisms like Leptospira in patients suffering from hepatorenal syndrome.
5. Incubation period of LGV is 3-40 days.
6. y6 T cell is associated with First line defense against bacterial peptides. They do not require antigen processing and MHC presentation of peptides.
7. STERRAD is a gas plasma sterilizer which uses low temperature H_2O_2 gas plasma to sterilize surgical instruments.
8. A non structural protein-NSP4, acts as enterotoxin in Rotavirus, which is most common cause of infant diarrhea.
9. SD plasma eliminates the risk of transmission of enveloped viruses i.e. HIV, HBV&HCV.
10. Australia antigen in context of hepatitis is HBsAg.
11. Parvo B19 virus has tropism for Erythroid progenitor cells.
12. Shingles is caused due to Varicella zoster.
13. In herpes the virus is hidden in Dorsal root ganglion (Latency).
14. Actinomycosis, especially actinomycetoma presents with multiple draining sinus having sulphur granules at mandible.
15. Pasteurization of milk is done at 63°C for 30 mins (Holder method) & at 72°C for 20 seconds followed by rapid cooling to 13°C (Flash method).
16. Larva migrans is not caused by Angiostrongylus vasorum (a canine nematode).
17. Echinococcus granulosus adult worm is found in Dog.
18. Most common gram-positive cause of acute prostatitis is Enterococcus.
19. Urease breath test done for H pylori.

20. Sabin Feldman dye test done for Toxoplasma.
21. The scombroid poisoning occurs after ingestion of fish with high histamine levels due to improper processing or storage. Histamine is produced by decarboxylation of histidine, induced primarily by enteric gram negative bacteria i.e. Escherichia coli, Morganella spp., Klebsiella sp etc in fish.
22. Fruit bats of the Pteropodidae family are the natural host of Nipah virus.
23. Giardia infection presents with mucus discharge and diarrhea.
24. Interferon Beta is secreted during infection of Virus.
25. The recommended isolation period in Measles is 15 days.
26. Antibody dependent cell mediated cytotoxicity was seen in Neutrophil, Macrophage, NK cell.
27. Naive T cell can be activated by dendritic cells.
28. Kinyoun stain, is an acid-fast procedure used to stain any species of the genus Mycobacterium, Nocardia and Cryptosporidium species.
29. Albert's A solution are Toluidine blue, malachite green, glacial acetic acid, and ethyl alcohol.
30. Albert’s B solution are Iodine and Potassium iodide in water.
31. Flask ulcer: Entamoeba histolytica.
32. Hand foot mouth disease : Coxsackie A.
33. Conjunctival hyperemia : Leptospirosis.
34. Disc diffusion method of AST: Kirby Bauer, Stokes.
35. Neuro cysticercosis : Cysticercus cellulosae.
36. Legionella culture medium : BCYE.
37. Skin pustule : Bacillus anthracis.
38. Labeled antibody not used in : Hemagglutination test.
39. Blood spills in Wards cleaned by Sodium Hypo chlorite solution.

Forensic Medicine

Legal Procedure

1. In case of death in custody (Police, jail, psychiatric hospital, borstal school) the inquest must be conducted by Judicial Magistrate.
2. The best type of inquest is Medical examiner system.
3. If a woman died due to some unnatural cause within 7 years of her marriage inquest is done under 176 Cr. P.C, punishment in 304B IPC.
4. Juvenile court usually presided by first class magistrate.
5. Non-compliance of court summon from a criminal court may be punished under section 174 IPC.
6. For attending summon in criminal cases a witness may claim Conveyance charges & daily allowance.
7. Dying declaration is best given to a Magistrate.
8. In dying deposition Cross-examination is permitted.
9. If a person survives after giving dying declaration, declaration is not admitted but has corroborative value.
10. The most important type of evidence in a court of law is Oral.
11. A hostile witness is one who Gives false evidence or conceals part of the truth.
12. Perjury is Willful utterance of falsehood under oath.
13. Punishment of perjury is given in section 193 IPC.
14. Age limit of taking oath in court before giving evidence is 12 years (the oaths act 1969)
15. In case of a prosecution witness, examination-in-chief is conducted by Public prosecutor.
16. Leading questions are permitted in Cross-examination.
17. In case of a defense witness cross examination will be done by Public prosecutor

18. If a witness is declared hostile, leading questions are allowed also in : Examination - in-chief.
19. There is no Time limit for cross-examination.
20. Re-examination of a witness is conducted by Public prosecutor.
21. While giving evidence in court the Judge can question in any stage.
22. The Juvenile Justice (Care and Protection of Children) Act, is passed in 2015
23. Juvenile Any child (whether boy or a girl) below the age of eighteen years
24. A juvenile may spend a maximum of three years in institutional care (special home, etc.) but cannot be sent to an adult jail. However, any 16- 18 yr old who commits a "Heinous Offence" may be tried as an adults.
25. Heinous offences" includes offences for which minimum punishment is seven years or more.
26. Juvenile Justice Boards will discharge its functions relating to juvenile crimes. Board consists of :-
    a. Metropolitan Magistrate or a Judicial Magistrate of First Class
    b. Two social workers, of whom at least one shall be a woman.
27. PCPNDTAct

Punishment to Doctors for sex determination

Offence	**MCI Suspension**	**Imprisonment**	**Fine**
1st offence	For 5yrs	Upto Syr	Upto Rs. 10,000
Subsequent offence	Permanent removal of name	Upto 5yr	Upto Rs. 50,000

28. A summons case is where the punishment is less that 2 years and warrant case is where the punishment it is more than 2 years.

Medieial Law & Ethics

1. Medical etiquettes-Conventional laws of courtesy which guide a doctor in his dealing with other doctors. A doctors is not bound to follow them but it is good if a doctor follows them.

2. The modernized version of the Hippocratic Oath is Declaration of Geneva
3. Schedules of MCI

Schedule I	Medical qualifications granted in India and Recognized by MCI
Schedule II	Medical qualifications granted outside India and Recognized by MCI
Schedule III, Part A	Medical qualifications granted in India, not included in schedule 1.

Example -

Granted before 15th august 1947 in territories which are now part of Pakistan

Granted before before 1st April 1937 in territories which are now part of Burma

Schedule III, Part B	Recognized medical qualifications granted outside India, not included in schedule 2

4. Warning notices in relation to medical profession can be issue by Both Indian Medical council & State Medical council.
5. Warning notice is issue for Violation of medical ethics.
6. Disciplinary control over a registered medical practitioner in under State medical council
7. During registration in a State Medical Council each applicant is given a copy of the declaration of Geneva following declaration to read and agree to abide the same.
8. Red Cross emblem can be used by only members of medical services of armed forces.
9. "Professional Death sentence" is Erasure of name from the register of medical practitioner.
10. Appeal against the Professional Death sentence after exhausting all the remedies in State Medical Council is made to Central Health Ministry.
11. Infamous conduct is Serious professional misconduct.
12. Receiving commission for referring case is known as Dichotomy (fee splitting).
13. Privileged Communications means exception to the general rule of Professional Secrecy.

14. A doctor is justified in divulging professional secrets in Infectious diseases
15. A medical practitioner can be charged of criminal negligence if he Exhibits gross lack of competency.
16. Section of IPC in which a doctor is punishable if convicted of criminal negligence is 304 A.
17. In case of a medical malpractice, a suit of damages against a doctor can be filed up to 2 years.
18. Contributory negligence may be used as defense in cases of Civil negligence suit.
19. Last clear chance doctrine is related to Contributory negligence.
20. A doctor is not held guilty of negligence if He has exercised reasonable care and skill.
21. An example of "Res Ipsa Loquitur" Operation on a wrong organ.
22. The principle of respondent superior is related to Vicarious liability.
23. The minimum age required to give consent for surgery is 18 years.
24. An accused person can petition the Magistrate for his medical examination under Section 54 of criminal procedure code.
25. In an unconscious patient with head injury requiring emergency surgery, if there are no relatives to give consent, the doctor should operate without consent (sec 92 IPC).
26. An accused person can be forcefully examined if requested by an investigating officer not below the rank of sub-inspector under section 53 Cr. P.C.
27. If informed consent with full disclosure would adversely affect a patient or cause him to refuse life saving treatment, a physician can exercise Therapeutic privilege.
28. Paternalism is Abuse of medical knowledge to distort doctor-patient relationship.
29. Passive Euthanasia has been legalized in India. Active euthanasia remains illegal.

Guidelines for passive euthanasia

a. A decision has to be taken to discontinue life support by family / friend.

b. Decision requires approval from the High Court concerned.

30. A civil negligence case with a claim of 50 lakhs rupees should be tried at State consumer court.
31. Human Organ Transplantation act was passed in 1994.
32. Maximum fine for commercial dealings of human organs as per the recent amendment of the Transplantation of Human Organs & Tissues Act 1994 is rupees 1 crore.

Identification

1. Cephalic index and Nasal Index is related to determination of Race

Nasal Index	Race
Leptorrhine	Caucasians
Mesorrhine	Mongolians
Platyrrhine	Negros

Cephalic Index	Race
Dolico- Cephalic	Negros
Mesati- Cephalic	Caucasians
Brachy- Cephalic	Mongolians

2. Presence of Davidson body helps in determination of Sex.
3. Krogman formula is related to Sex determination.

KROGMAN'S TABLE

Bone	Degree of accuracy in sex determination
Entire Skeleton	100%
Pelvis + Skull	98%
Pelvis alone	95%
Skull alone	90%
Long Bones alone	80%

4. Bone gives the maximum idea about the sex of the individual is Pelvis.
5. Corporobasal Index is more in male compare to female Corporobasal index, is measured using Sacrum.
6. For determination of sex in child single most reliable feature of pelvis is Greater sciatic notch.
7. Female pelvis has greater sciatic notch bigger then male pelvis.
8. Ashley's rule is related to Sex.
9. Turner's syndrome is an example of Gonadal dysgenesis.
10. Eruption of deciduous teeth is normally completed by 2 and half year.
11. A boy of 5 years will have 20deciduous and 0 permanent teeth.
12. At birth, the rudiments of which permanent teeth is present in jaws : First molar.
13. Period of mixed dentition is 6 to 11 years.
14. Spacing of jaw is to make room for eruption of 3 rd molar.
15. The first deciduous tooth to erupt is Lower central incisor.
16. The first permanent tooth to erupt is First molar.
17. If a third molar is erupted it indicates that the individual is above 17 years.
18. The deciduous molars are replaced by permanent premolars.
19. Stage of life when the angle of mandible is almost right angle is Adult.
20. The most reliable criteria in Gustafson's method of age determination from teeth is Root transparency.
21. Two digits represent a tooth in charting system of FDI (Federation Dentaire International) system.
22. If hyoid bone is ossified age of the individual is above 40 years.
23. Skull sutures which fuses earliest is Metopic.
24. For age estimation from skull sutures, the most reliable is Sagittal.
25. For estimation of age 16 years x-rays is advised best is Elbow.
26. At the end of 1 year, the number of carpal bones seen in x-ray of hand is 2
27. if the triradiate cartilage is fused in x-ray pelvis, age of the individual is above 15 years.
28. The best single criterion for determining age from 3rd to 5th decades of life Symphysis pubis.
29. The xiphoid process unites with body of the sternum at the age of 40 years.
30. Cortex thickness of human hair in comparison with medullary thickness is five times (4 to 10 times).
31. Human hairs have scales.
32. Human hair differs from animal hair Medulla is this in human hair.

33. Feature which differentiate human hair when examined under microscope from animal hair is Fragmented medulla.
34. Hase Rule is used for Age estimation (foetus).
35. Karl Pearson's formula is used for determination of Stature.
36. Length of the bone for measuring the stature of an individual is best estimated by Osteo metric board.
37. The best method of identification of human is Dactylography (fingerprint).
38. The most common pattern of fingerprint is Loop. And least common pattern of fingerprint is Composite.
39. In dactylography, points of similarity should be matching for establishing identity is 16.
40. Fingerprinting as a method of identification is also known as Galton system.
41. Finger print which is not recorded for comparative study is Little finger.
42. A chance print in a fingerprint study is Latent print.
43. FINDER is computerized reading of Finger prints.
44. Permanent impairment of the fingerprint pattern occurs in leprosy.
45. Finger Print Bureau was first established in India (Kolkata).
46. Quetelet's Rule is related to Dactylography.
47. Locard's method of identification uses study of Pores of the fingers (poroscopy).
48. In identical twin finger print pattern are not same.
49. Part of the body which is used in superimposition method of identification is Skull.
50. Calligraphy is study of handwriting.
51. Bertillon system is method of identification using: Anthropometry.
52. Celioscopy is the study of Lip prints.
53. The most common lip print is Branching.
54. Rugoscopy is study of rugae of Hard palate.
55. A person who is under the guardianship of a court attains majority at the age of 21 years.
56. The minimum age of a person who can be punished under railway act 5 years.

Medicolegal Autopsy, Death & Its Causes & Postmortem Changes

1. Medico-legal autopsy required request from Police officer/Magistrate (10-investigating officer).
2. Virtopsy is conducted by using CT & MRI scan.
3. Psychological autopsy is related to investigation of Suicide.
4. Individual organs are removed one by one in Virchow's technique.
5. In situ organ removal Rokitansky technique.
6. Enmasse removal Lettule technique.
7. En block removal Ghon's technique.
8. Autopsy Incisions :-1 shaped, Y shaped , modified Y shaped, T shaped.
9. In a routine autopsy spinal canal is Not opened.
10. Exhumation can be done only after a written order by Executive magistrate.
11. There is no Time limit for exhumation in India
12. Thanatology deals with Death in all its aspects.
13. Bishop's tripod of life is related to Somatic death.
14. Winslow's test not used to test the cessation of circulation, (used for respiration).
15. Vegetative state is due injury to Cerebral cortex.
16. Modes of death are Coma, syncope & asphyxia.
17. Suspended animation is seen in death trances, newborn infants, drowning.
18. Kevorkian sign is fragmentation or segmentation of the blood columns in the Retinal vessels.
19. Tache noire is Artefact.
20. The earliest sign of cellular death is Pallor and loss of elasticity of skin.
21. Component of vitreous humor which is most important to estimate time since death is Potassium.
22. A steady rise in the level of potassium occur in vitreous humor after death up to 100 hours.
23. Ideal place to record temperature in dead body is from Rectum.
24. Algor mortis is Cooling of death body.

25. Vibices is Post mortem hypostasis.
26. Post-mortem hypostasis is caused due to capillo-venous distension form gravitational pooling of blood.
27. Post-mortem staining is not seen in Pressure points.
28. Post-mortem hypostasis is unlikely to develop in case of Drowning in a fast flowing river.
29. Post-mortem staining is seen in Both in internal organs and skin of dependent parts.
30. Nysten's rule is related to Rigor mortis.
31. Rigor mortis first appears in involuntary Muscle of Heart.
32. Rigor mortis is simulated by Cadaveric spasm.
33. When group of muscles of a dead body were in state of strong contraction immediately prior to death and remain so even after death, the condition is termed as Cadaveric spasm.
34. First visible sign of putrefaction is greenish discoloration of skin over right iliac fossa.
35. Enzyme which has maximum role in putrefaction Lecithinase.
36. Presence of marbling on a death body suggest time since death of 36 to 48 hours.
37. In Carbolic acid poisoning - putrefaction is delayed.
38. Correct sequence of putrefaction spleen-brain-heart-uterus.
39. Foamy liver is seen Putrefaction.
40. Last organ to putrefy in man is Prostate.
41. Last organ to putrefy in female non-gravid uterus.
42. Colliquative liquefaction is seen within 7 days after death (5 to 10 days).
43. Casper's dictum is related with Rate of decomposition in different media.
44. Sure sign of death Decomposition changes.
45. Mummification is due to Desiccation.
46. Arsenic &antimony poisoning may favor mummification.
47. Adipocere is offensive.
48. Adipocere is most commonly seen Damp and warm environment.
49. To be very satisfactory, embalming should be done within 6 hours of death.
50. Best embalming technique Discontinuous injection & drainage. Ethanol is not a constituent of embalming fluid.

Injuries & Medico-Legal Aspects

1. Abrasions may be confused with
    a. Ant bite marks
    b. Excreta excoriations in infants (Diaper rash)
    c. Bed sores
2. The most common abrasion is Graze.
3. Teeth bite mark is an example of Pressure.
4. Brush burn is A type of abrasion.
5. Scab or crust of an abrasion appears brown by 2-3days.
6. Auto run over a child, there is a mark of the tyre tracks over the body , it is an example of Imprint abrasion (pattern abrasion).
7. Battle's sign is an example of Ectopic bruise.
8. An artificial contusion can be produced using juice of Semi carpus anacardium (marking nut).
9. True bruise is distinguished from artificial bruise by Inflammatory signs with colour changes.
10. Tissue bridges are seen in Laceration.
11. Avulsion is a type of : Laceration.
12. A lacerated wound commonly appear like an incised wound when occurs at Scalp (other bony prominences).
13. Tentative cuts are suggestive of Suicide.
14. Incised wounds on genitals are commonly Homicidal.
15. A stab wound having an entry and exit wound is called Perforating
16. Hara-kiri is a type of Suicide.
17. In a stab injury, Langer's lines of cleavage determine gaping.
18. FG, FFG, FFFG etc used in describing gunpowder signifies size of grains.
19. Detonator cap is situated at Base of the cartridge.
20. Wads is associated with shotgun commonly.
21. For calibration of a shotgun the reference amount of lead used is 454 gm.
22. Choking is related with shotgun.
23. Minimum dispersion of pallets from a shotgun is seen in Full choked.
24. Grease collar is associated with Fire arm injury.

25. In a gunshot injury, blackening seen around the entry wound is due to Smoke.
26. Singeing of the margins does not occurs in the exit wound of firearm.
27. Billiard ball ricocheting effect is associated with use of Shotgun.
28. Puppe's Rule is related with determination of Sequence of bullets.
29. Kennedy phenomenon is related with Firearm injury.
30. When a bullet is recovered at autopsy, it should be picked up using Gloved hands (plastic forceps).
31. Bullet fingerprinting is related to Accidental characteristics.
32. A man fires a gun but the bullet gets stuck. When he fires again two bullets come out one after another. This is known as tandem bullet.
33. Wound produced by a ricochet bullet is usually large, irregular & elongated.
34. Tracer bullet leaves a visible mark in the pathway so that the person can see it.
35. Paradox gun is shotgun in which the muzzle end is rifled.
36. SEM-EDX is used for detection of gunpowder residue.
37. In a bomb explosion most commonly damage Tympanic membrane.
38. In underwater blast injuries occur mostly in Colon.
39. Injuries caused by the flying objects generated by the blast is known as Secondary blast injury.
40. The most common type of skull fracture is Fissured.
41. Pond fracture is usually seen in Infants.
42. 'Fractures ala signature' is Depressed fracture.
43. Fall from height and a person land's on his feet possible injuries are Ring fracture of foramen magnum + Lumbar spine injury.
44. Contre-coup injury is commonly seen in Brain.
45. The correct sequence of traumatic intracranial hemorrhage according to the frequency of occurrence: Subarachnoid>subdural>extramural.
46. Lucid interval is most commonly associated with Extradural hemorrhage.
47. Retraction balls are microscopic finding in case of Diffuse axonal injury.
48. Minimum amount of blood clot associated with fatalities in extradural hemorrhage is 100ml.
49. Whiplash injury is seen commonly in the occupants of the front seat of the vehicle.
50. The most commonly damage organ in blunt abdominal trauma is Spleen.

51. Primary impact injury is seen externally most commonly in the Legs.
52. The most common bumper fracture in children is in Femur.
53. Extensive abrasions found on the body of a pedestrian lying by the road side is due to secondary injury (tertiary impact injury).
54. In seat belt injury mesentery is injured.
55. Sparrow foot marks are seen in Windshield glass injury.
55. Motor cyclist fracture is Hinge fracture.
57. "Tail-gating" or" under-running refers to Drive into the back of a large vehicle.
58. Punchdrunk syndrome is associated with Boxing injuries.
59. Boxer fracture is fracture of Metacarpal.
60. "Boxers hemorrhage" is Pontine hemorrhage.
61. The most common cause of death in boxer is Subdural hemorrhage.
62. Grievous injury is defined under section 320 IPC.
64. The 6th clause of section 320 IPC (grievous hurt) permanent disfiguration of the head or face.
65. Abrasion of the face is not grievous hurt.
66. Voluntarily causing grievous hurt by dangerous weapon or means is punished under section 326 IPC.
67. Section 304-B of Indian Penal code is related to Dowry deaths.
68. Section 302 of Indian Penal Code is related punishment of murder.
69. Hypothermia is defined as an oral or axillary temperature of less than 35 degree Celsius.
70. Paradoxical undressing is seen in hypothermia.
71. Hide-and-die syndrome is reported with hypothermia.
72. A variable degree of fat necrosis of pancreas is the most constant post-mortem finding in case of hypothermia.
73. Heat stroke is 41°C rectal temperature.
74. Complete absence of sweating is seen in heat stroke.
75. Wilson's classification is used to classify burn injuries.
76. Pugilistic attitude is seen in deaths due to both in extensive ante mortem and post mortem burns.
77. The conclusive proof of death due to ante-mortem burns is soot particles in the air passages.
78. Albuminous bulla is found in antemortem burns.
79. The appearance of heat hematoma is closely resemblance with that of Extradural hemorrhage.
80. Curling ulcers is commonly found in First part of duodenum.

81. Marks like branching of a tree on front of chest & back, death due to Lightening injury.
82. Filigree burns does not correspond with the vascular channels.
83. Crocodile skin appearance is seen in High voltage burn.
84. Joule Burn is see in electrocution.
85. Falanga or bastinado is Beating on soles.
86. Telefono is Beating on both the ears.
87. An incised wound appears like a laceration on scrotum.

Mechanical Asphyxia & Starvation

1. In a typical hanging the knot of ligature is placed At the nape of the neck on the back (occipital).
2. Type of hanging in which constricting force is weight of the whole body is : complete hanging.
3. Most significant finding in case of ante-mortem hanging is dribbling of saliva from the angle of mouth.
4. 'Le facies sympathies' is a condition seen in cases of Hanging (antemortem).
5. Constricting force required obliterating carotid arteries in hanging is 4 to 5 kg.
6. The commonest cause of death in hanging is Combination of asphyxia & cerebral venous congestion.
7. Partial hanging is almost always suicidal.
8. Cause of death in Judicial hanging is Fracture or dislocation of cervical vertebrae.
9. Lynching is Homicidal hanging.
10. In death due to asphyxia, last to be opened in autopsy is Neck.
11. In hanging last to be occluded is vertebral arteries.
12. Glove and stocking distribution of hypostasis is usually seen Hanging.
13. Transverse tear of intima of carotid arteries and neck muscles may be seen in judicial hanging.
14. The position of knot in judicial hanging is angle of mandible.
15. Sexual asphyxias are commonly associated with Partial hanging.

16. Hyoid fracture is seen commonly in hanging is Antero-posterior compression.
17. Throttling is manual strangulation.
18. A typical homicidal strangulation is garroting.
19. Spanish windlass technique is a kind of Garroting.
20. Maximum congestion of face and neck is observed in Strangulation.
21. Most important sign of death of ligature strangulation is Horizontal ligature mark with ecchymosis around the edges.
23. Inward compression fractures of hyoid bone is seen in Throttling.
24. Hyoid bone fracture is most commonly associated with Throttling.
25. Death following a 'commando punch' is due reflex cardiac inhibition
26. A positive finding in case of traumatic asphyxia is Body upper half congested lower half normal.
27. A positive finding in case of smothering death is Abrasions on the inner side of the lips.
28. Burking consists of smothering & traumatic asphyxia
29. Cafe coronary is associated with Choking
30. Cause of death in cafe coronary is cardiac arrest due to vagal inhibition
31. Dry drowning is drowning where death is due to laryngeal spasm
32.. Hemodilution is not a feature of seawater drowning.
33. Feature which suggest that the drowning was ante-mortem is Weeds, twigs and leaves firmly grasped in hands, (cadaveric spasm)
34. In case of drowning post mortem hypostasis is most marked at face and neck
35. Fresh water drowning is associated with hyperkalemia.
36. Paltauf's hemorrhage occur at Subpleural region.
37. In fresh water drowning the death occurs within 5 minutes of submersion due to ventricular fibrillation. It is due to hemodilution, overloading of heart and hemolysis leading to release of potassium.
    Emphysema aquosum is seen in wet drowning
38. Gettler test is based on study chloride level of blood in heart chambers
39. Useful in case of drowning
40. Diatoms test help in diagnosis of Drowning.
41. A sure sign of death due to drowning Diatoms detected in bone marrow
42. Acid digestion test is used for Detection of diatoms in drowning.
43. Cause of death in Immersion Syndrome is Reflex cardiac inhibition.

44. Secondary drowning is Post immersion syndrome
45. The commonest type of drowning is accidental
46. Hydrostatic lung is seen When dead body is thrown in water.
47. Hyperventilation before jumping into water may cause death due to Air hunger
48. In starvation gall bladder may be Distended.
49. In chronic starvation only organ which does not show reduction in size and weight is Brain.
50. In case of starvation, part of the body where fat is spared till late stage is orbital area.

Sexual Offences & Perversions I

1. Outrage of modesty of a woman is punishable under section 354 IPC.
2. Sexual harassment is punishable under section 354 A IPC.
3. Stalking is punishable under section 354 D IPC.
4. Statutory rape is Rape of a girl under 18 years of age.(consent).
5. Valid consent for a sexual act can be given by a female above the age of 18 years.
6. Under section 376 IPC minimum punishments for committing rape is 7 years of rigorous imprisonment.
7. Minimum punishment for committing gang rape Rigorous imprisonment for 20 years.
8. The maximum punishment for rape can be Death sentence.
9. The punishment of a repeat offender of rape is given under section 376 E IPC.
10. Common position of hymen tears in a virgin (5/7 o'clock position, most common) (6 o'clock position, 2^{nd} most common).
11. For sexualintercourse with a prostitute : consent is necessary.
12. In case of rape small children hymen is usually not ruptured as it is deeply situated and opening is too small to allow penis to enter.
13. Camera trial is court proceeding used in examination of Rape victim.
14. Disclosure of name of rape victim is punishable under section 228A IPC.
15. Section 377 IPC deals with Sodomy (Unnatural sexual offences).

16. Catamite is Child acting as passive agent in sodomy.
17. POCSO Act (The Protection of Children from Sexual Offences) was passed in 2012.
18. The active partner in lesbianism is called Dyke or Butch.
19. The passive partner in lesbianism is called Femme.
20. Greek Love is Sodomy.
21. Lateral buttock traction test is used for examination of Passive agent of sodomy.
22. Sin of Gomorrah is Oral coitus.
23. The type of sexual perversion where gratification is obtained by wearing clothes of opposite sex Transvestic Fetichism.
24. Sexual perversion which is punishable is Exhibitionism.
25. Sexual gratification by rubbing against person in crowded place is known as Frotteurism.
26. Irresistible sexual desire in a male is otherwise known as Satyriasis.
27. Sexual perversion associated with obscene telephone calls is Scatologia.
28. Sexual asphyxia is associated with Masochism.
29. Bondage refers to combination of Sadism & masochism.
30. Oedipus & electra complexes are type of Sexual perversions (incest related).
31. Bobbitt syndrome is excision of penis.
32. The conclusive test for semen is Demonstration of spermatozoa.
33. Best test for detection of seminal stain in old stains is Acid phosphatase test.
34. Florence test is a chemical test for detection of Semen. Is positive due to presence of Choline.
35. Barberio's test is positive due to presence of spermine (seminal test).
36. The confirmatory test for the presence of seminal stain in case of a person suffering from azoospermia is Acid phosphatase test.
37. Glister Keen Rod.
    a. Hymen can be examined with the help of Glister Keen Rod.
    b. These are small glass or plastic rods having light at one end.
    c. They are inserted into vagina and brought close to hymen, so that hymen injuries can be easily seen.
38. Lugol's iodine test.
    a. Lugol's iodine is applied on glans penis.

b. If the person has done sexual intercourse, then a brown colour will occur due to reaction between Lugol's iodine and glycogen (present in vaginal epithelial cells, which get deposited on Gians penis during sexual intercourse).
c. This test is positive up to 4th day of sexual intercourse.

Impotence, Sterility, Virginity, Pregnancy, Delivery & Abortion

1. The feminine of impotence is Frigidity.
2. Presence of carunculae myrtiformes is indication of defloration.
3. Posthumous child means a child born after death of his father.
4. Super fetation means Fertilization of a second ovum in a woman who is already pregnant.
5. A single doctor can perform medical termination of abortion up to 12 weeks of pregnancy.
6.
7. For performing MTP consent is required from Pregnant woman.
Medical Termination of Pregnancy (MTP) Act allowed abortion up to 20 weeks of pregnancy.
8.
9. Atavism is resemblance of features of grandparents.
To call a child legitimate he/she must be born within 280 days after legal separation or divorce or death of the father.
10. As per the amended PNDT Act, if a doctor is convicted for violating the act, the respective State Medical Council can remove his name from register of the council for five year for the first offence PCPNDT Act.
11. Natal Diagnostic Techniques Act (PCPNDT Act)" Punishment to Doctors for sex determination.
12. The PNDT act of 1994 has been amended in 2002.
13. Causing voluntary miscarriage is punishable under section 312 IPC.
14. Artificial Insemination is of 3 types- husband '(AIH), donor (AID), mixed (AIHD).
15. Child birth due to artificial insemination is illegitimate.
16. Artificial insemination does not amount to adultery.

Infant Death, Battered baby & SIDS

1. For infanticide age of a newborn is up to 01 year.
2. Macerated fetus indicates Dead born foetus.
3. Spalding sign is seen with Dead born foetus.
4. Saponification is not a feature of dead-born foetus.
5. Abdominal cavity is opened first in autopsy of a newborn foetus.
6. The weight of lung is compared to body weight in an infant autopsy is Plouquet's test.
7. Breslau's second life test uses Stomach.
8. Hydrostatic test is performed in a case of infanticide.
9. False positive hydrostatic test is associated with Artificial respiration.
10. For hydrostatic test to be positive at all stages the must be present inside lung alveoli.
11. Vagitus uterinus is Child cry while in uterus.
12. Caffey's syndrome is related to Battered baby.
13. Shaking Baby syndrome is commonly associated with Subdural hemorrhage.
14. Infantile whiplash syndrome is commonly associated with Subdural hemorrhage.
15. Diagnostic feature in case of a Battered Baby Syndrome is Similar injuries of different age groups.
16. Munchausen's syndrome of proxy is related with Child abuse by mother.
17. Most commonly accepted hypothesis of Sudden Infant Death syndrome is Prolong sleep apnoea.

Blood Stain and Semen

1. The most reliable test for identification of a blood stain is Spectroscopic test.
2. The basis of chemical tests conducted for screening bloodstain is the presence in the bloodstain of enzyme Peroxidase.
3. For detection of blood stain Benzidine test has been banned due to carcinogenic effect.

4. Takayama reagent is used in Hemochromogen.
5. A positive Kastle Mayer test is indicated by development of stain area a pink colour.
6. Dark brown rhombic crystals are seen in positive cases of Teichmann's test.
7. Species identification of a bloodstain is done by Precipitin test.
8. The best method in case of a disputed paternity is DMA fingerprinting.
9. Group specific substance are not found in CSF.
10. The best specimen for DNA fingerprinting in a living person is blood preserved with EDTA.
11. The best post-mortem tissue sample for DNA fingerprinting in a decomposed body : bone marrow.
12. Tests is used for detection of an old blood stain Benzidine test.
13. Brain-mapping is lie-detection test.
14. The drug used for narco-analysis is Pentothal.
15. Brain fingerprinting uses EEG.
16. Semen has luminescence in UV light.
17. Florence test produces choline iodide crystals.
18. Barberio's test produces sperm in picrate crystals.
19. Acid phosphatase levels in semen are > 100 Bodansky units.

Forensic Psychiatry

1. McNaughton's Rule is accepted in India and included in section 84 IPC
2. The law of criminal responsibility of an insane person in India is based upon Me Naughty's Rule.
3. The most common form of hallucination in schizophrenia is auditory.
4. Maximum number of days during which a patient can be kept for observation for diagnosis of mental illness is 30.
5. Recommended number of examinations before certification of a mentally ill person is 3.
6. The Indian Lunacy Act was replaced by the Mental Health Act in 1987.
7. Delirium Tremens is the Person is NOT criminally responsible for his acts.

8. If a mentally ill person is detained against the provision of the Mental Health Act, the responsible person/authority can be punished with imprisonment up to 2 years.
9. Testamentary Capacity means Mental ability to make a valid will.
10. Lucid interval is seen in Insanity.
11. The number of visitors appointed in a panel of visitors are minimum 5.
12. At least 1 medical officer and 2 social workers in the panel.
13. Any 3 visitor has to visit a psychiatric hospital to call it a visit.

Sections For Criminal Responsibility

1. 84 IPC. Criminal responsibility of Mentally ill — NOT LIABLE
2. 85 IPC. Intoxicated against his will — NOT LIABLE
3. 86 IPC. Intoxicated voluntarily — LIABLE

Toxicology

1. Tube is used for gastric lavage of infants and children is Ryles tube.
2. Common preservative used for preservation of urine sample for chemical analysis is Thymol.
3. In autopsy of suspected poisoning case, common preservative used for toxicological analysis specimens is Saturated solution of common salt
4. The best preservative used for toxicological analysis specimens is 90% alcohol.
5. Rectified spirit should not be used as preservative in case phenol poisoning.
6. Cocaine poison cannot be detected from the decomposed body.
7. Cyanide poison may be produced by decomposition process giving false positive results in toxicological analysis.
8. The preservative used for biochemical analysis of vitreous is Na Fluoride
9. Administering of any poison, stupefying or intoxicating agent with intent to cause hurt and facilitate commission of crime is punishable under 328 IPC.
10. Cocaine, LSD, barbiturates are included in the list of banned drugs/substances under NDPC Act.

11. Minimum punishment involving commercial quantity of banned substances under NDPS Act is 10 years imprisonment & Rs. 1,00,000 fine.

Corrosives

1. Chalky -white teeth is seen in poisoning by Sulphuric acid.
2. Perforation of stomach most often occurs between 7-21 days.
3. Fatal dose of sulphuric acid is 5 to 10 ml.
4. Yellowish discoloration of tissues is seen in poisoning by Nitric acid.
5. Perforation of stomach is most common in Sulphuric acid.
6. Gastric lavage can be done in Carbolic acid poisoning.
7. Vitriol age is punishable under section 326-A IPC.
8. Parathyroid extract may be used in the treatment of severe Oxalic acid poisoning.
9. Antidote for oxalic acid poisoning is calcium gluconate.
10. Passing of greenish urine (carboluria) is suggestive of poisoning by Carbolic acid (phenol).
11. Ochronosis is seen in chronic poisoning of Carbolic acid.
12. Leathery stomach is seen in poisoning with Carbolic acid.
13. Oesophageal stricture is common in poisoning of Sodium hydroxide.
14. Boiled lobster syndrome is seen in poisoning by carbolic boric acid.
15. Hydrochloric acid also known as Spirits of salts.
16. Mucous membrane of stomach is black in poisoning due to Sulphuric acid.
17. Corrosive acid poisoning that causes miosis is Carbolic acid.

Agricultural Poisons

1. Intermediate syndrome may be seen in 1st week post exposure of OPG compound.
2. Intermediate syndrome involves involvement of small muscles of the body viz eyelids, intercostal muscles etc.

3. Delayed onset of polyneuropathy may be seen in OPG poisoning in 4-6 weeks post exposure and it involves bigger and bulkier muscles of the body most commonly lower limb muscles.
4. An organophosphorous insecticide is Malathion.
5. The treatment of choice of organophosphorous poisoning is Atropine.
6. The most specific laboratory test for the organophosphorous poisoning is estimation of Red cells cholinesterase level.
7. Oxime reactivators need not be given in a case of carbamates poisoning.
8. Chromodacryorrhea is a feature of poisoning by organophosphorous
9. 'Baygon' spray belongs to Carbamates.
10. Active compound in mosquito repellent 'All Out' is a Pyrethrin compound.
11. Plant penicillin is Endrin
12. The most toxic organophosphorous compound TEPP
13. Estimation of the blood cholinesterase level helps in the diagnosis of poisoning by malathion.
14. Kerosene-like smell may be found in the stomach contents in poisoning by Organo-phosphorous.
15. Atropine in appropriate doses must be continued in the treatment of organo-phosphorous until Tracheo-bronchial tree is cleared of secretions.
16. The most common compound associated with poisoning in India Organophosphorous.
17. Mechanism of action of Endrin Interferes with nerve impulse transmission.

Metallic Irritant Poisons

1. Chronic lead poisoning causes anemia, diagnosis of which is basophilic stippled RBC cytoplasm in peripheral smear.
2. The enzyme of heme synthesis most affected in chronic lead poisoning os ALA dehydratase.
3. Chelating agent of choice in arsenic poisoning is Dimercaprol (BAL).
4. Desferrioxamine is the specific antidote for poisoning of iron.
5. Antidote used in case of acute arsenic poisoning is Freshly precipitated hydrated ferric oxide.
6. Poison that can be detected in burnt bones is arsenic.
7. Test used for detection of arsenic is Marsh test.

8. Arsenic poisoning mimics Cholera.
9. Velvety appearance of stomach is seen in acute poisoning with Arsenic.
10. Raindrop type of pigmentation is seen in chronic poisoning of arsenic.
11. Aldrich-Mees lines is associated with chronic poisoning of Arsenic.
12. Hair and nail samples are required to be preserved in poisoning by Arsenic.
13. Estimation of arsenic level from hair and nail sample is done by Atomic absorption spectroscopy.
14. Chronic arsenic poisoning causes mixed sensory and motor neuropathy.
15. In chronic arsenic poisoning blood sample is not used.
16. Skin changes, alopecia, peripheral neuritis and foot drops are important, findings in case of a chronic poisoning by arsenic.
17. Garlicky odour is present in breath in poisoning by Arsenic.
18. Hydrargyrism is chronic poisoning by Mercury.
19. Glossitis and ulcerative gingivitis is seen in poisoning of Mercury.
20. Erethism is seen in chronic poisoning by Mercury.
21. Acrodynia or pink disease is associated with Mercury.
22. Mercury was responsible for Minamata Bay Epidemic.
23. Hatter's shake or Glass blower's Shake is seen in chronic poisoning of Mercury.
24. Treatment of choice in acute mercury poisoning is BAL.
25. Plumbism is the chronic poisoning of Lead.
26. Punctate basophilia in chronic lead poisoning is observed in the cytoplasm of RBCs.
27. Earliest sign of chronic lead poisoning is Facial pallor.
28. Burtonian line is seen in chronic poisoning by Lead.
29. Menstrual disorders, sterility in both sexes may be presenting features in chronic poisoning lead.
30. Dry-belly ache is a characteristic feature of chronic poisoning by Lead.
31. Treatment of choice in Plumbism is EDTA.
32. Feature is rare in adults compare to children in case of Plumbism is Encephalopathy.
33. Danbury tremors is associated with Mercury.
34. Wilson's disease is associated with toxicity of Copper.
35. Vineyard sprayer lung disease is due to chronic inhalation Copper.

Download From: AghaLibrary.com

36. Alopecia with loss of outer third of eyebrow with peripheral neuritis resembling Guillain-Barre syndrome is seen in poisoning by Thallium.
37. Thallium poison can be detected from ashes of the burnt body.
38. A Barium carbonate poison used as a rat poison characteristically associated with areflexia and paralysis.
39. Metal fume fever is seen commonly in chronic poisoning with Zinc.
40. Ouch-Ouch disease is seen in Cadmium.
41. Monday morning fever is due to inhalation of fume of Zinc.
42. Metallic poison can also be used as an antidote is Copper sulphate.
43. Green hair discoloration may be seen in chronic poisoning by Copper.

Mon-metallic irritant poison

1. Diwali poisoning is due to Phosphorous.
2. Poison preserved under water is Phosphorous.
3. Necrosis of the liver may be seen in Phosphorous.
4. Luminescent vomit and faeces are diagnostic of poisoning by Phosphorous.
5. 'Phossy Jaw' is seen in cases of chronic poisoning by Phosphorous.
6. Parotid gland swelling occurs in chronic poisoning with Iodine.

Organic Irritants

1. 'Suis' used for cattle killing is prepared from Abrus precatorius.
2. Bhilawanol is the active principle in marking nuts.
3. St. Anthony's Fire is seen in case chronic ergot poisoning.
4. TOX albumin 'ricin' is obtained from Castor seed.
5. Ophitoxemia refers to poisoning due to snake venom.
6. Polyvalent anti-snake venom is prepared by hyperimmunizing horses against the venoms of Cobra, Russell's viper, Common Krait and Saw scaled viper.
7. The most common type of poisonous snake in India is Common Krait.
8. Priapism may be a presenting feature in case of Spanish fly bite.

9. Hematuria occurs in bites by Viper.
10. Spectacle mark on the dorsum of the head is an identification feature of Common cobra.
11. The venom of krait is Neurotoxic.

CNS depressants

1. Surgical Spirit contain 95% of alcohol.
2. Me Ewan's sign is associated with Acute alcohol poisoning.
3. Huffing is a form of inhalation used in Solvent abuse.
4. Ethyl alcohol is given in methyl alcohol poisoning.
5. In India the statutory limit of alcohol as per Motor Vehicle Act is 30 mg %.
6. The most reliable method of estimating blood alcohol level? Gas liquid chromatography.
7. Concentration of alcohol in one ml. of blood is equal to that found in 2100ml of alveolar air.
8. Optic atrophy is characteristic feature of poisoning by methyl alcohol.
9. While collecting blood sample for estimation of alcohol concentration in a case of drunkenness, the preservative used is Sodium fluoride.
10. Misconduct in public place by a drunken person is punishable under section 510 IPC
11. Fomepizole is the drug which is preferred in the management of methyl alcohol poisoning.
12. Opium is prepared from unripe poppy capsule
13. Marquis test is used for detection of Opium.

Psychotropic drugs

1. Bagging& huffing is related to A method of substance abuse
2. Glue sniffing is inhalation of Petroleum distillate
3. Flash-back phenomenon is associated with use of LSD.
4. Illegal drugs packed in condoms then swallowed and transported is called Body packer.
5. 'Liquid Gold' is the urine of addicts of Amphetamine.

6. Ecstasy, a rave party drug is related to Amphetamine.
7. Meow is a designer drug made from Mephedrone.
8. Sensation of Synesthesia, seeing smells and hearing colors occur in LSD.
9. The term 'acid head' is related to use of LSD.

Deliriant poisons

1. The most widely used illicit drug in the world Cannabis .
2. Datura seeds resemble Capsicum.
3. The antidote for the Datura poisoning is Physostigmine.
4. Dryness of mouth, dilated pupil and delirium are seen in poisoningby Datura.
5. Threading of imaginary needle or pulling of threads from tips of fingers is seen in case of poisoning by Datura.
6. Bhang, Ganja, Charas, Hashish are different preparation of Cannabis.
7. The highest concentration of cannabinol is found in Charas.
8. Reefer or pot is related to marijuana.
9. An addict develops delusions, misleading hallucinations of sight and hearing and feeling of creeping things of grains of sand in the skin, he is addicted to Cocaine.
10. Magnan'S symptom is Formication.

Spinal poison

1. Anterior horn cells of spinal cord are affected in strychnine poisoning.
2. Most common posture during a strychnine poisoning convulsion is Opisthotonus.
3. Strychnine poisoning mimics Tetanus.
4. Logan in found in Nux vomica.
5. Fatal dose of nux vomica 1 crushed seed.

Cardiac poisons &asphyxiant

1. The most poisonous part of aconite plant is root
2. Hippus is seen in poisoning by Aconite.
3. In the breath smell is bitter almond is Hydrocyanic acid.
4. Non-toxic cyanide compound Potassium ferrocyanide
5. Cyanide poisoning acts by Inhibiting cellular respiration.
6. The cause of death in cyanide poisoning is histotoxic anoxia
7. Mechanism of action of sodium nitrite in treatment of cyanide poisoning is formation of Metahemoglobin.
8. Atropine is useful in the treatment of aconite poisoning.
9. Aconite poison is known as sweet poison.
10. People suffering from achlorhydria may not suffer from toxic effects of oral ingestion of potassium cyanide.
11. Carbon monoxide has systemic toxicity without irritation.
12. The cause of death in carbon monoxide poisoning is anaemic anoxia.
13. Mechanism of action of Carbon dioxide poisoning Prevention of tissues usage of oxygen.
14. The route of administration of amyl nitrite in cyanide poisoning is inhalation
15. The poisonous gas involved in Bhopal Gas tragedy was Methyl isocyanate

Miscellaneous poisons

Agricultural Poisons

Organophosphates (all are Irreversible inhibitors)		Carbamates	
ALKYL	**Aryl**	**A) Irreversible inhibitors**	**B) Reversible Inhibitors**
1) HETP	1) Parathion, (Follidol)	1) Aldicarb (temik)	1) Physostigmine
2)TEPP	2) Methyl Parathion	2) Aminocarb	2) Neostigmine
3) OMPA	3) Chlorthion	3) Aprocarb	3)Ambenonium
4) Dime fox			

5) Malathion 6) SULFOTEPP 7) Trichlorfon	4) Diazinon (TIK 20) 5) Paraoxon	(baygon) 4) Carbaryl (sevin) 5) Carbofuran 6) Propoxur	4) Demecarium 5) Rivastigmine

ORGANOCHLORINES

1) Chlordane	2) DDT	3) Lindane	4)Toxaphene
5) Aldrin	6) Endrin	7) Dieldrin	8)Gammexane
9) Strobane			

Colour of Post Mortem Staining in different conditions

Condition	**Colour of Post mortem staining**
Usual colour	Reddish purple
CO	Cherry red
HCN	Bright Red or Dark Red or Brick Red
Hypothermia, drowning	Bright Pink
Opium	Black
P or acute Cu poisoning-	Dark Brown or Yellow
Nitrites, potassium chlorate, Potassium bicarbonate, nitrobenzene, acetanilide, bromates, Aniline	Red Brown or Copper Brown or Chocolate Brown or Coffee Brown
Hydrogen Sulphide	Bluish green
CO2, Asphyxia, Aniline	Deep blue *(In Aniline Deep blue as well as Red Brown colour can occur)*
Haemorrhage, Anaemia	Pale
Clostridium Perfringens-	Bronze

Poisons that can be detected by smell

Smell	Poison
Kerosene like smell	Organophosphates
Almond like smell	HCN, Cyanides
Smell of Rotten eggs	Hydrogen Sulphide
Burnt Rope like smell	Cannabis
Garlic like smell	Arsenic, Phosphorus
Fishy Odour	Zinc Phosphide, Aluminium phosphide
Shoe polish like smell	Nitrobenzene
Paraldehyde, Chloral hydrate	Acrid smell, pear like smell
Sweet, fruity smell	Acetone, chloroform, ethanol

Poison	Fatal Dose
White Phosphorus, Nicotine	0.10 gm
Arsenic Trioxide	0.15 gm
Morphine, Aluminium Phosphide	0,2 gm
Opium, Charas	2gm
Barbiturates	2-4 gm
Ganja, Paracetamol	8gm
Tobacco	20 gm
Bhang	8g/kg body weight
Strychnine	01 crushed Seed
Dhatura	100 seeds
Methyl Alcohol	1.5 ml / kg OR lg/kg
Ethylene Glycol	2 ml / kg
Absolute Ethyl Alcohol	2.5 ml/Kg
Isopropyl alcohol	3 ml/kg

Recent & High Yield Updated LMRPs

1. Battered baby syndrome is not related to age.
2. Perjury punishment comes under Sec -193 IPC.
3. In Identical twins, the fingerprint ms are not same.
4. Rigor mortis first appear in myocardium and is first visible in eyelid.
5. Formalin is not used as Preservative of specimen preserved for chemical analysis.

6. Gastric lavage can be done in Carbolic acid poisoning.
7. Burning, blackening and tattooing all are found around the entry wound in firing from close range.
8. Vaginal swab in rape victim should be taken within 36 hours.
9. Rain drop pigmentation is seen in Arsenic poisoning.
10. In case of professional misconduct Patients records on demand should be provided within 72 hrs.
11. False virgin:
    - Labia Majora: Flabby, may gape on abduction of thigh
    - Labia the Minora loose, blackish-brown, cutaneous
    - Hymen Intact but thick
12. Bullet fingerprinting means matching of Secondary markings on the surface of bullet recovered from body with the test bullet recovered from dummy firing from alleged gun of offence.
13. Articles related to child rights are Article 24,39,45
14. Locard in forensics is famous for exchange principle.
15. Bluish discoloration of stomach is seen in acute copper sulphate poisoning.
16. Posthumous child is born after death of father.
17. Muscle pain, nephropathy cause by mercury poisoning.
18. Mummified body is odorless.
19. Basisphenoid fuses with basi occiput at age of 18-25 years.
20. Maastricht classification is of Non heart beating organ donors.
    a. Stage I - Brought in dead
    b. Stage II - Unsuccessful resuscitation
    c. Stage III - Awaiting Cardiac arrest
    d. Stage IV- Cardiac Death after brain stem death
    e. Stage V - Cardiac Arrest in a hospital inpatient.
21. Order of putrefaction in internal organs are larynx and trachea > stomach, intestines, pancreas and spleen> liver, lungs> Brain> Heart> kidney, bladder> uterus and prostate.

Ophthalmology

Conjunctiva

1. Subconjunctival hemorrhage occur in trauma, eye rubbing, vigorous coughing (pertussis)
2. In Vernal conjunctivitis there is severe itching of the eye with ropy discharge with symptoms mostly aggravating in summer season
3. Maximum density of goblet cells is seen in nasal conjunctiva
4. In Vernal keratoconjunctivitis there is recurrent bilateral conjunctivitis occurring with the onset of hot weather with symptoms of burning, itching, and lacrimation with polygonal raised areas in the palpebral conjunctiva
5. "SAFE"-strategy" has been developed for the control of Trachoma
6. Type IV hypersensitivity to Mycobacterium tuberculosis antigen may manifest as Phlyctenular conjunctivitis
7. Angular conjunctivitis is caused by Moraxella
8. Herbert's pits are seen Trachoma
9. Horner Trantas spots are seen in Vernal conjunctivitis
10. Severe pain is not a common symptom of conjunctivitis
11. Spring catarrh is caused by Hypersensitivity I and IV
12. Most common cyst of conjunctiva is Lymphatic cyst
13. Chlamydia causes swimming pool conjunctivitis
14. Corneal ulcer is a Complication of trachoma
15. Mass Azithromycin prophylaxis is indicated in a district when the prevalence of trachoma follicle is more than 10% in age group <9yrs.
16. Inclusion conjunctivitis is caused by Chlamydia trachomatis
17. Tetracycline is useful for treating chlamydial infection
18. Symblepharon is seen in Ocular cicatricial pemphigoid
19. Lymphoid aggregation in the conjunctiva is manifested clinically as follicles
20. Pterygium is characterized by excessive collagen degeneration of the subconjunctival tissue

Cornea

1. Keratoconus is an indication for keratoplasty (Penetrating)
2. Maximum visual impairment occurs in central Leucoma
3. Rose Bengal staining demonstrates devitalized epithelial cells
4. In leucoma of cornea, the treatment of choice is penetrating keratoplasty
5. Copper is deposited in descemet's membrane in Wilson's disease (K Fring) KF Ring
6. Termination of Descemet's membrane is Ring of Schwalbe's.
7. Satellite lesion in keratitis occurs due to fungal infection
8. Dendritic ulcer is caused by Herpes simplex
9. Steroids are contraindicated in corneal Ulcer.
10. Corneal sensation is lost in Herpes simplex.
11. Neisseria gonorrhoeae penetrates intact corneal epithelium
12. Pneumococcus causes ulcus serpens
13. Idoxuridine is used for treating herpetic keratitis
14. In Phlyctenular keratitis there is fascicular ulcer seen.
15. Green deposits in Descemet's membrane are seen in Wilson disease
16. Acanthamoeba does not depend upon a human host for the completion of its life cycle
17. The presence of keratic precipitates in the eye are proof of Iritis (Acute)
18. There is 30-40% loss of cells in automated endothelial keratoplasty
19. Macular dystrophy is least common stromal corneal dystrophy
20. Endothelial cell count is done by Specular microscopy
21. Natamycin is a local antifungal agent used in corneal fungal infection
22. Corneal endothelium ion exchange pump is inhibited by Anaerobic glycolysis activation
23. Deep corneal vascularization is seen in keratitis interstitial
24. PAS positive structures are Basement membrane, cerebrosides, Glycoprotein, Glycolipid, Glycogen.

25. Inferior steepening of cornea is seen in keratoconus
26. Neuroparalytic keratopathy involves Facial nerve
27. Neurotrophic keratopathy involves Trigeminal nerve
28. Hassall-Henle warts are peripheral excrescences of Descemet's membrane
29. In collagen cross-linking treatment of keratoconus, Riboflavin + UV-A are employed
30. The corneal stroma measures 500 urn thick
31. A thick cicatrix of cornea with incarceration of iris is known as adherent leucoma

Lens

1. Vossius ring is the impression of miotic pupil on lens After Trauma
2. Typical appearance of diabetic cataract is Snow flake opacities
3. Lens originates from surface ectoderm
4. In incipient cataract constantly changing refractive error is seen
5. Christmas tree cataract is seen in myotonic dystrophy
6. Laser used for management of after-cataract is Nd YAG(1064 nm wavelength)
7. Ideal intraocular lens is Posterior chamber lens
8. Finchams test differentiates cataract from acute narrow angle glaucoma
9. In children, the most common cataract is blue dot
10. In aphakia, the treatment of choice is posterior chamber IOL
11. Anterior lenticonus is seen in Alport syndrome
12. INH is associated with cataract
13. Posterior subcapsular cataract is steroid-induced cataract
14. Riders are seen in zonular cataract
15. Sunflower cataract is seen in Chalcosis
16. Rosette shaped cataract is caused By trauma
17. Early visual rehabilitation is seen in phacoemulsification
18. Opacification of posterior capsule is the most common late complication of extracapsular cataract surgery
19. A common criterion for cataract operation is Loss of vision
20. Posterior subcapsular cataract is the most common type of cataract following radiation

21. Ideal site for implantation of I.O.L. is In capsular bag
22. Subluxation of lens is seen in Homocystinuria
23. Rosette cataract is characteristic of concussion injury to eye
24. The phenomenon of "Second sight" is seen in Nuclear cataract
25. The molecule, which is the initiator of cataract formation in the eye lens and whose 1-phosphate derivative is responsible for liver failure is Galactitol
26. Complicated cataract is a type of Cataract due to existing ocular disease
27. Most common cause of blindness in children in India is Vitamin A Def (nutritional blindness).
28. The best accounted function of MIP-26 in lens is that it maintains lens transparency
29. The anterior surface of the lens has a greater radius of curvature than the posterior surface
30. Steroids is known to cause cataract
31. Lens has no sensory innervation
32. Hypermature cataract predisposes to phacolytic glaucoma
33. The major cause of blindness globally is cataract.
34. The IOL implantation rate is 94%
35. Hruby lens has a dioptric power of -58D
36. Weill-Marchesani syndrome may lead to positional myopia
37. Myopia of -20 D is a contraindication to IOL implantation
38. The advantage of IOL implantation in aphakia is minimal aniseikonia
39. Pseudoexfoliation syndrome is an acquired cause of subluxated lens
40. Persistence of anterior end of primary vitreous is Mittendorf's dot
41. Most common type of congenital/ developmental cataract is Blue dot/ punctate cataract.
42. Thickest basement membrane of body is lens capsule
43. Lens protein denaturation leads to nuclear sclerosis
44. Lens sutures are located in fetal nucleus
45. Intumescent cataract predisposes to phacomorphic glaucoma
46. Highest refractory index is at center of lens

Uvea

1. Dangerous area of eye is Iris Root, Pupil, CB-base, Equator
2. Snow-banking is seen in Pars planitis
3. Vortex vein invasion is commonly seen in malignant melanoma
4. Iris is thinnest at Base
5. Vortex veins drains the Uveal tract
6. Recurrent iridocyclitis with hypopyon is seen in Behcet's syndrome
7. Heterochromia of iris is seen in heterochromic iridocyclitis of Fuchs
8. In adults, the most common primary intraocular malignancy is malignant melanoma
9. Chronic Iridocyclitis is a feature of pauciarticular type I
10. Bruch's membrane has five well defined layers
11. Most common systemic association with acute anterior uveitis with arthritis is Ankylosing spondylitis
12. Lisch nodules are seen in Neurofibromatosis
13. Koeppe's nodule is seen at the pupillary margin of iris
14. Posner Schlossmann syndrome is a type of Hypertensive uveitis
15. Candle wax drippings seen in sarcoidosis is due to exudates from peripheral retinal periphlebitis
16. Pilocarpine should be used cautiously in aphakic glaucoma
17. Bacillus cereus is typically associated with post-traumatic endophthalmitis
18. Iris roseola are seen in Syphilis

Retina

1. After enucleation in retinoblastoma, Optic nerve tissue is sectioned and subjected to microscopic examination to find out metastasis
2. Cherry red spot is seen in central retinal artery occlusion
3. Tunnel vision is seen retinitis pigmentosa
4. In a patient with AIDS, chorioretinitis is typically caused by Cytomegalovirus

5. Hereditary retinoblastoma's develop the chromosomal deletion, 13 q 14
6. In diabetic retinopathy the earliest clinically visible sign is microaneurysm
7. In diabetic retinopathy the incidence increases with duration of disease
8. 100-day glaucoma is seen in CRVO
9. In ERG 'A' waves corresponds to rods and cones
10. Bull's eye retinal lesion is seen in chloroquine toxicity
11. Salt and pepper fundus is seen in Syphilis
12. Concentration of fluorescein used for topical use is 5%
13. The characteristic feature of diabetic retinopathy is hard exudates and Microaneurysm
14. NPCB strategy for screening of diabetic retinopathy is opportunistic screening
15. Retinal detachment with photopsia and floaters with scintillation are seen in rhegmatogenous detachment
16. Amsler grid is used in macular disorders
17. Neovascular glaucoma is seen in CRVO / 100 Day Glaucoma
18. "Flower-petal appearance" in fluorescein angiography is seen in cystoid macular edema
19. Night-blindness is seen in retinitis pigmentosa
20. Retinal hole formation is most common in presence of lattice retinal degeneration
21. Mizuo phenomenon seen in Oguchi disease
22. Late-onset endophthalmitis after intraocular lens implantation usually caused by Propionibacterium Acne
23. Treatment of choice in threshold ROP is Photocoagulation
24. Best diseases is an Autosomal dominant disease of macular dystrophy
25. Weiss reflex is seen in posterior vitreous detachment
26. Color vision involves opponent color cells
27. B- wave in ERG arises from Muller cells
28. Ophthalmodynamometry is best to differentiate CRVO from carotid artery occlusion
29. ICG angiography is primarily indicated in Occult CNV
30. Cats eye syndrome is associated with Partial trisomy 22
31. Rosettes are characteristically seen in Retinoblastoma
32. Differentiating classic and occult neovascular membranes is possible using Fundus fluorescein angiography

33. Photodynamic therapy (PDT) is useful in occult sub foveal neovascular membrane
34. Verteporfin used in photodynamic therapy, generates free radicals which causes blood clotting local to the lesion
35. Rubella retinopathy is a cause of pseudo retinitis pigmentosa
36. In CRAO, the cherry red spot is due to contrast between edematous, pale retina and reddish choroid
37. Most common site for BRVO is superotemporal quadrant
38.
39. Exudative retinal detachment is seen in pre-eclampsia
40. Pathognomonic feature of diabetic retinopathy is microaneurysm
41. Choroid is supplied by short posterior ciliary artery
    In Best disease the visual acuity is only moderately affected until late
42. stages
43. The most common presenting sign of retinoblastoma is Leukocoria
    The most common acute complication caused by diabetes mellitus in the
44. eye is Myopia
45. The earliest manifestation of radiation retinopathy is Cotton wool spot
    The most common ocular complication of Giant cell arteritis is Ischemic
46. optic neuropathy
47.
48. Hyaluronic acid is found in Vitreous Humor
    Absence of Lamina Cribrosa is seen in morning glory syndrome
49. Retinal pigment epithelium (RPE) isomerizes all-trans-retinal to 11-cis-
50. retinal
51. Most common cause of rubeosis iridis is CRVO
    Investigation for optic nerve damage is Perimetry
    ICG angiography is primarily indicated in choroidal vasculopathies

Squint

1. Muller's muscle is attached to upper margin of superior tarsus
2. Superior rectus receives crossed innervations
3. In lateral rectus muscle paralysis, the diplopia produced is uncrossed
4. The function of the superior oblique muscle is depression with inward rotation

5. Damage to nerve supplying Superior oblique causes diplopia in vertical and downward direction
6. Diplopia in left gaze is seen in 6th nerve palsy of left side
7. The most common cause of acquired fourth nerve palsy in adults is trauma
8. Oculomotor nucleus is located at the level of Superior colliculus

Neuro - Ophthalmology

1. The most common condition of inherited blindness to mitochondrial chromosomal anomaly is Leber's Hereditary optic neuropathy
2. The commonest cause of low vision in India is uncorrected refractive error
3. Nerve supply of dilator pupillae is Adrenergic fibers
4. Myelin of the nerves is produced by Schwann cell
5. The colour appreciation loss by damage of central cones of the foveo macular area are Blue and yellow
6. Ramsay Hunt syndrome is caused by Herpes zoster
7. Ophthalmic findings in vitamin B12 deficiency are centrocecal scotoma
8. Left lateral gaze saccade is controlled by right frontal cortex
9. Kappa angle is the angle between visual and pupillary axis at Nodal Pt.
10. Centrocecal scotoma is seen in Papillitis
11. Photophthalmia is seen with ultraviolet rays
12. Temporal lobe tumor causes superior temporal quadrant opia
13. Facial nerve palsy leads to exposure keratitis.
14. Ipsilateral optic atrophy with contralateral papilledema is seen in Foster-Kennedy syndrome
15. Consecutive optic atrophy occurs in retinitis pigmentosa
16. In unilateral afferent pupillary defect, when light is moved from the normal to the affected eye, there is dilatation on both pupils
17. Bilateral optic disc oedema with normal CT scan is caused by benign intracranial hypertension
18. Pseudo-convergent squint is seen in Broad epicanthus
19. In amblyopia, the treatment of choice is conventional occlusion (Intermittent)

20. Most common ophthalmic affection of diphtheria is isolated ocular muscle palsy
21. Color vision is due to cones
22. For every 1,00,000 population the highest prevalence of blindness in the world is seen in Sub-Saharan Africa
23. The commonest field change in neuritis is central scotoma
24. The portion of optic nerve affected in Posterior ischemic optic neuropathy (PION) is intraorbital
25. Bitemporal hemianopia may be seen in aneurysm of circle of Willis
26. Most common primary malignant intraocular tumor in children is Retinoblastoma
27. The typical field defect seen in tobacco amblyopia is enlarged blind spot
28. Ipsilateral cavernous sinus thrombosis with painful Ophthalmoplegia with headache and Cavernous sinus enlargement is feature of Tolosa-Hunt syndrome
29. Final centre for horizontal movements of eye is Abducent nucleus
30. Vertical nystagmus occurs in Phenytoin toxicity
31. Phenothiazines cause pseudotumor cerebri
32. The triad of adenoma sebaceum, mental retardation and seizures is considered pathognomonic of Tuberous sclerosis
33. 20% of normal population have physiological anisoiconia
34. The earliest sign of optic nerve disease is relative afferent pupillary defect
35. "Pie in the sky" field defect is seen in lesion of Temporal lobe

Refraction & Optics & Community Ophthalmology

1. "Jack in the box" phenomenon is because of prismatic deformity
2. Most common complication of high myopia is retinal detachment
3. In anisometropia there is high difference of refractive errors between the two eye
4. Shortest acting Mydriatic is Tropicamide 6 hrs.
5. The most important factor determining convergence of light rays on the retina is curvature of the cornea .
6. The power of the eye is 58 D to + 60 D.

7. Pilocarpine is a parasympathomimetic and miotic drug
8. Aniseikonia is corrected with contact lens / SFIOL
9. In myopia Posterior staphyloma is the commonest
10. When refraction of the two eyes is different, it is called anisometropia
11. Aniseikonia means difference in the size of images formed by the 2 eyes Size & shape.
12. TBUT(tear break-Up Time) employs Fluorescein
13. Purkinje images are produced by the phenomenon of reflection
14. Worth's four-dot test is used to test Retinal correspondence.
15. Total internal reflection is applicable in Porro prism
16. IOL master is based on low coherence interference
17. Haidinger brushes employs the phenomenon of Polarization
18. Fuchs$^{1\,2}$ spots are seen in degenerative myopia
19. In old age, the type of astigmatism usually seen is astigmatism against the rule
20. Pin-cushion distortion seen with the use of aphakic glasses is due to spherical aberration
21. Convex lens used in indirect ophthalmoscopy
22. According to WHO criteria, blindness is defined as visual acuity with available correction below 3/60
23. According to NPCB criteria, blindness is defined as visual acuity with available correction below 3/60
24. According to WHO criteria, low vision is defined as visual acuity below 6/18
25. Length of eyeball is 24 mm
26. Maturation of visual reflexes is accomplished by 6 months
27. In ophthalmology, ultrasonic wave frequency used is 8-10 MHz
28. Indication for radial keratotomy is myopia

Glaucoma

1. In acute congestive glaucoma prophylactic Peripheral Laser Iridotomy is done in fellow eye

2. Latanoprost used topically in glaucoma primarily acts by increasing uveoscleral outflow
3. The drug C/l in hypertensive uveitis is Latanoprost
4. In acute attack of angle closure glaucoma, the drug of choice is Iv acetazolamide
5. Anterior chamber has the least depth in closed angle glaucoma
6. The commonest complication of topical steroids is glaucoma.
7. Best treatment of primary angle closure glaucoma is iridectomy.
8. Ring synechiae is seen in iris bombe
9. Hypersecretory glaucoma is seen in epidemic dropsy
10. Red congested painful eye with mild dilated vertical oval pupil is seen in acute congestive glaucoma
11. Buphthalmos may be associated with Sturge Weber syndrome
12. Trabeculectomy is done in Glaucoma
13. The cause of a colored 'Halo' in narrow angle glaucoma is corneal oedema
14. The average intra ocular pressure of a normal human eye is 11-21 mm Hg (EGS)
15. Operation of choice in chronic open angle glaucoma is trabeculectomy
16. Ocular finding of Von Recklinghausen disease is Glaucoma
17. Intractable glaucoma characteristically occurs is Diffuse iris melanoma
18. Raised LDH levels in Aqueous is seen in Retinoblastoma
19. Direct-acting cholinergic agonists is Pilocarpine
20. Carbonic anhydrase inhibitors is act by inhibiting carbonic anhydrase found in the non-pigmentary ciliary epithelium.
21. Phenylephrine directly stimulates the alpha-adrenergic receptors
22. Enlargement of the optic cup is a sign of glaucomatous optic nerve damage (Vertical)
23. In uveoscleral pathway, aqueous drains into suprachoroidal space
24. The major mechanism of aqueous humor formation is active secretion
25. Van Herrick's method is estimation of anterior chamber depth
26. Prone position test is a provocative test for Primary angle closure glaucoma
27. Water drinking test is a provocative test for Primary open angle glaucoma
28. Aqueous flare is best demonstrated by narrow beam of slit lamp
29. Tonography is useful in determining total facility of aqueous outflow
30. In Iridocorneal Endothelial Syndrome there is progressive diffuse iris atrophy

Orbit

Ocular Injury

1. Wall most often fractured in a blowout fracture of orbit due to fist (Blowout) injury is the inferior wall
2. Hutchinson's pupil is seen in extradural hematoma of brain.
3. The first sign in sympathetic ophthalmia is Retrolental flare
4. The best treatment in cortico cavernous fistula is balloon embolization
5. Frill excision is done in Panophthalmitis
6. 'Inert' intraocular foreign body is Gold
7. Treatment of choice for 'advanced' panophthalmitis is Enucleation
8. Blow out fracture of orbit leads to fracture in postero-medial part of floor of orbit
9. Injury to forehead causes fracture of roof of orbit
10. Telecanthus means increased inter canthal distance with normal interpupillary distance.

Diseases of Orbit

1. In Graves' ophthalmopathy, inferior rectus is First to be involved
2. Three snip operation is done for punctum block
3. Absence of blinking reflex and incomplete closure of lids in thyrotoxicosis is known as Stellwag's sign
4. Chloroma commonly presents as bilateral proptosis
5. PHPV is associated with Patau syndrome
6. Most common malignant cause of bilateral proptosis in children is acute Myeioid leukemia
7. Orbital varices causes intermittent proptosis
8. Most common intraconal lesion causing proptosis in adults is cavernous hemangioma
9. Most common primary malignant orbital tumor in children is rhabdomyosarcoma.
10. Signs are suggestive of orbital blow-out fracture : infra orbital anaesthesia, fluid level in ipsilateral maxillary sinus on x-ray, limitation of vertical eye movements.

1. Fasanella Servat operation is specifically indicated in Horner's syndrome
2. The operation of plication of inferior lid retractors is indicated in senile Entropion
3. In India most common cause of cicatricial Entropion is Trachoma
4. Most common type of lid carcinoma is Basal cell Carcinoma
5. Chalazion is the chronic lipogranulomatosis inflammation of meibomian glands
6. Stye occurs due to inflammation of Zeiss gland
7. Ptosis with weakness of orbicularis oculi is seen in Myasthenia gravis
8. Blaskovics' or ever buch operation is done in Ptosis
9. Internal hordeolum is acute suppurative infection of meibomian glands
10. Stocker line is seen in Pterygium
11. Pterygium is characterized by excessive collagen degeneration of the subconjunctival tissue

Diseases of Lacrimal Apparatus & Sclera

1. Scleritis is seen in connective tissue disorder
2. Intercalary staphyloma is ectasia of sclera with incarceration of root of iris
3. Thinnest part of sclera is the part behind the insertion of muscle
4. Histamine is released by mast cells
5. Most common cause of scleritis is Rheumatoid arthritis
6. Vortex veins are present slightly posterior to the equator
7. The pathological change seen in phthisis bulbi is Dystrophic calcification
8. Scleritis may be caused by Wegener's granulomatosis
9. Accessory lacrimal glands contribute to 5% of aqueous component of Tears
10. Potassium is found in higher concentration in the tear than in the serum

Miscellaneous

1. Volume of orbit is 30 ml and of eyeball is 6ml, 0.3ml Aqueous humor, 4ml Vitreous.
2. Amount of aqueous in anterior chamber is 0.25 ml and posterior chamber is 0.06ml.
3. Newborn is usually hypermetropic by +2 to +3 D.
4. Fixation starts developing in first month and is completed by 6 months.
5. Antero-posterior diameter of the eyeball of newborn is about 16.5 mm (Axial hypermetropia). It grows till 13 years of Age.
6. Cornea absorbs UVA& UVB while lens absorbs (JVC.
7. Positive angle kappa results in Pseudo-exotropia (hypermetropia), and negative angle kappa results in Pseudo-esotropia (myopia).
8. Hypermetropia predisposes to angle closure glaucoma, esodeviation and is characterized by shot silk appearance and pseudo-papilledema.
9. Myopia predisposes to exodeviation, rhegmatogenous retinal detachment and open angle glaucoma and is characterized by Foster-Fuchs' Spots, Lacquer cracks, posterior staphyloma and lattice degeneration.
10. The most common infection caused by contact lens wear is pseudomonas. Acanthamoeba keratitis is characteristically seen in contact lens wearers.
11. Equatorial and posterior staphyloma are seen in high myopia.
12. Lid and conjunctiva are only two structures in eye which have lymphatic drainage.
13. Axial myopia is the commonest form of myopia.
14. Anisometropia up to 2.5 D is well tolerated and between 2.5 and 4 D can be tolerated depending upon the individual. Up to 5 per cent aniseikonia is well tolerated. A difference of 1 D in two eyes causes a 2 percent difference in the size of the two retinal images.
15. Pin-cushion distortion is seen in spectacle correction for high hypermetropia and barrel distortion in spectacle correction for high myopia.
16. Refractive indices Aqueous= Vitreous = 1.334, cornea = 1.376. Lens = 1.38 to 142 (Center)

17. LASIK is done using EXCIMER laser (derived from excited dimer, photo-ablation) 193nm FEMTO SECOND laser is used for blade free LASIK and is now approved for cataract surgery as well.
18. FEMTO SECOND laser is used for blade free LASIK and is now approved for cataract surgery as well.
19. Conjunctiva has stratified squames non keratinized type of epithelium.
20. Glands of Krause (in subconjunctival connective tissue of fornix) and Glands of Wolfring(present along the upper border of superior tarsus and lower border of inferior tarsus) are accessory lacrimal glands and are responsible for basal tear secretion.
21. Staphylococcus aureus is the most common cause of bacterial conjunctivitis and blepharo-conjunctivitis.
22. Moraxella lacunate is most common cause of angular conjunctivitis and angular blepharo-conjunctivitis and is treated with tetracyclines and Zinc oxide ointment.
23. Neisseria gonorrhoeae typically produces hyperacute purulent conjunctivitis in adults and ophthalmia neonatorum in new born.
24. Corynebacterium diphtheria causes acute membranous conjunctivitis.
25. Chlamydia trachomatis is epitheliotropic and produces intra- cytoplasmic inclusion bodies called Halberstaedter Prowazek bodies.
26. Corneal ulcer is the only blinding complication of trachoma, pH of tears in trachoma is acidic.
27. Follicles may occur on bulbar conjunctiva in trachoma and is a pathognomonic sign of trachoma- Herbert's pits
28. Arlt's line is seen in trachoma in upper palpebral conjunctiva while Arlt's triangle is seen in anterior uveitis at the back surface of cornea.
29. Azithromycin lgm suffices as single dose treatment in trachoma.
30. 1 percent tetracycline eye ointment twice daily for 5 days in a month for 6 months is applied in the mass treatment of trachoma hyperendemic areas.
31. Hemorrhagic conjunctivitis is caused by Enterovirus 70, Cox - sackie A 24 and Adenovirus.
32. Chemical conjunctivitis is seen in 4-6 hours after birth(results from instillation of silver nitrate, Crede's method)
33. Giant papillary conjunctivitis is seen in contact lens wearers

which occurs in summers.

35. Phlyctenular conjunctivitis is a type 4 hypersensitivity reaction to tubercular or staphylococcal proteins.
36. Steroids lead to cataract (posterior subcapsular) and glaucoma. Topical steroids lead to glaucoma while systemic steroids cause cataract.
37. Loteprednol and Fluoromethalone are topical steroids with less IOP raising tendency. Difluprednate also Ophthalmia nodosa is also k/a Caterpillar hair conjunctivitis.
38. Stocker's line (iron line) is seen in pterygium. Recurrence is the main problem in pterygium surgery. Ferry = Bleb, and Hudson Stahli Line - old age
39. Cornea is thicker in the periphery than center (550 vs. 720 microns), anterior surface is flatter than posterior (radius of curvature 7.8 vs. 6.5mm)
40. Endothelial pump is most important in maintaining the cornea transparent.
41. N Gonorrhoeae, C Diphtheriae, N Meningitidis and Listeria can penetrate intact corneal epithelium. (Pneumonic-NHL Medical College- N. Gonorrhoeae, H. Influenza, Listeria, N. Meningitidis, C. Diphtheriae)
42. Perforated corneal ulcer leads to adherent leucoma while sloughing corneal ulcer leads to anterior staphyloma.
43. Ulcus serpens is caused by Pneumococcus (hypopyon corneal ulcer) and the hypopyon is sterile in bacterial corneal ulcer.
44. Fungal corneal ulcer is characterized by satellite lesions Wesseley's ring, and fixed hypopyon. Steroids are absolutely contraindicated.
45. Acanthamoeba keratitis - ring ulcer, **radial keratoneuritis,** symptoms out of proportion to signs due to radial keratoneuritis, seen with contact lens wear, Biguanides are drug of choice.
46. Topical steroids are not used in Herpes Simplex viral epithelial keratitis while they required in the stromal form.
47. True dendrites with clubbed ends are seen in herpes simplex keratitis
48. Fluorescein sodium stains absent areas of epithelium and with Rose Bengal virus laden cells are stained.
49. Pachymeter measures corneal thickness. Specular microscope measures endothelial count of cornea.
50. Keratometer measures corneal curvature, and Orb scan.

51. Neurotrophic keratitis is seen in 5th nerve palsy. Exposure keratitis is seen in 7thnerve palsy. (Neuroparalytic)
52. Hutchison triad include interstitial keratitis, Hutchinson's teeth and vestibular deafness.
53. Most common corneal senile change is Hassall Henle Bodies.
54. Superior limbic keratoconjunctivitis is inflammation of superior limbic, bulbar and tarsal conjunctiva associated with punctate keratitis of the superior part of cornea & is seen in patients with hyperthyroidism.
55. Interstitial keratitis is seen in congenital syphilis, Tuberculosis, Cogan's syndrome & Acquired syphilis.
56. Band keratopathy - Calcium deposition in BM, treated by chelation with EDTA.
57. Keratoconus is characterized by non- inflammatory thinning and ectasia of cornea in young adults & can be associated with retinitis pigmentosa.
58. Keratoconus is characterized by oil drop reflex, Vogt lines, Fleisher ring and Munson sign.
59. Acute hydrops can be seen in Keratoconus. (nerve endings)
60. Corneal nerves are visible in Neurofibromatosis, Leprosy and Keratoconus.
61. Vortex keratopathy is seen in Fabry's disease, Amiodarone, and Chloroquine.
62. Sclera is thinnest Posterior to insertion of extra ocular muscles followed by in the area of Schlemm's canal. It is Thickest near optic nerve insertion curvature.
63. Rheumatoid arthritis is the most common association of scleritis.
64. Scleromalacia perforans (Necrotizing scleritis without inflammation) is characteristically painless in Rheumatoid arthritis.
65. Ciliary processes are about 70-80 in number and are site of aqueous production.

66.. Pars plana is shortest nasally and widest temporally. N - 5.75 mm, T-b- 25 mm

67. Anterior ciliary arteries are 7 in number; 2 each from arteries of superior rectus, inferior rectus, and medial rectus muscle and one from that of lateral rectus muscle.
68. Persistent pupillary membrane (remnant of tunica vasculosa lentis) is attached at Collarette.

69. Cells in AC are always sign of active uveitis while flare can be present in healed chronic uveitis.
70. Ring synechiae lead to seclusiopupillae,
71. Busacca nodules are seen along collarettes.
72. Crumb appearance— Complicated cataract Polychromatic lusture - Steroid I Cut
73. HLA-B27 and Behcet's disease lead to hypopyon anterior uveitis without congestion.
74. Anterior uveitis is treated with topical steroids. Intermediate and posterior uveitis requires systemic or periocular steroids. Kaplan's 4 step approach 1. Periocular, 2. Systemic steroids, 3. Laser/Cryo, 4. PPV.
75. Posterior uveitis presents with decrease of vision and floaters.
76. There is no pain in posterior uveitis.
77. Intermediate uveitis involves pars plana and snow banking is a characteristic feature.
78. Staphylococcus epidermidis is the most common organism in post operative endophthalmitis.
79. Betadine 5% in the conjunctival sac is most important factor to avoid post operative endophthalmitis.
80. Tuberculosis, Syphilis, VKH syndrome and sarcoidosis lead to granulomatous panuveitis.
81. **Siguira's sign** (peri-limbal vitiligo) is seen in VKH syndrome.(Sunset glow fundus, Poliosis)
82. Rheumatoid arthritis is not associated with anterior uveitis. Juvenile rheumatoid arthritis has an association with anterior uveitis specially the one occurring in young girls and having pauci-articular involvement.
83. Reiter's syndrome has classical triad of urethritis, conjunctivitis and arthritis.
84. Triad in congenital Toxoplasma is of convulsion, calcification and Hydrocephalus. Acq-Vitrits toxoplasmosis has 'headlight in fog' appearance.
85. Features include cotton ball opacities and string of pearls appearance - Sarcoidosis
86. Cycloplegic drugs are not required in Fuchs' Heterochromic cyclitis.
87. Posner Schlossmann syndrome is a type of anterior uveitis which can lead to rise in IOP and colored halos without congestion.

88. Malignant melanoma of choroid, Liver is the most common site of metastasis.
89. Double circulation on fluorescein angiography is characteristic of malignant melanoma of choroid.
90. Malignant melanoma of ciliary body has worst prognosis as it is detected late.
91. Diffuse choroidal hemangiomas are seen in Sturge Weber syndrome, Retinal Hemangioma - VHL
92. Sentinel vessel is a feature of ciliary body melanoma.
93. Normal Lens diameter is 9 mm and 6.5 mm - Birth
94. The accommodative power of the lens is 14-16 D (at birth); 7-8 D (at 25 years of age) and 1-2 D (at 50 years of age)
95. Capsule is thinnest at posterior pole and thickest in the anterior pre-equatoria! region.
96. Lens is derived from surface ectoderm.
97. Lens is composed of 64% water and 35% proteins. Majority of lens metabolism is anaerobic.
98. Most common visually significant congenital cataract is Zonular cataract.
99. Most common non visually significant congenital cataract is Blue dot cataract.
100. Zonular cataract is characterized by riders and Vitamin D deficiency
101. Congenital cataract if familial is Autosomal dominant. On the other hand congenital glaucoma is autosomal recessive.
102. Congenital Rubella has triad of cataract, deafness and congenital heart disease.
103. Chances of after cataract and glaucoma are higher in congenital cataract.
104. Hydrophobic acrylic is best material for intraocular lens, Minimum uveitis/ Minimum after cataract
105. Congenital cataract should be operated at the earliest so as to avoid amblyopia.
106. Zonule are not weak in Marfan syndrome (supero-temporal subluxation).
107. Homocystinuria results in inferonasal displacement, sodium nitroprusside test is used for its diagnosis.

108. Inverse glaucoma results from Micro spherophakia and is seen in Weil Marchesani syndrome.
109. Eye diseases leading to weak zonule are Uveitis, hyper mature cataract, pseudo-exfoliation syndrome and ciliary body tumors
110. Anterior lenticonus is seen in Alport syndrome, Lowe's syndrome—Microphakia.
111. Eye findings in Alport's syndrome include lenticonus, fleck retinopathy and posterior polymorphous dystrophy.
112. Lens colobomas result from insult during 5-6th week of embryonic growth and result from faulty closure of embryonic fissure.
113. Shield cataract - Atopic dermatitis,
114. Myotonic dystrophy - Christmas tree cataract
115. Radiation exposure- Posterior sub capsular cataract
116. Wilson disease - Sun Flower cataract
117. Oil drop cataract - Galactosemia
118. Snowflake cataract - Diabetes Mellitus.
119. Symptoms of cataract include cloudy Vision, glare at night time, colored halos, double or multiple vision, changes in color vision and contrast.
120. Cystoid macular edema - Honey comb appearance, Flower petal appearance is seen on fluorescein angiography (FFA).
121. After cataract is treated by Nd-YAG laser (photo disruptive laser, also used for doing laser iridotomy in angle closure glaucoma). A 1064 p
122. Endophthalmitis is the most dreaded postoperative complication of cataract surgery.
123. Structures visible on Gonioscopy are Schwalbe's line, trabecular meshwork, Scleral spur, ciliary body band and root of iris in that order(anteriorto posterior)..
124. Angle is not visible due to total internal reflection at cornea/tear film interface with air. Critical angle of the eye is 46°
125. Blood aqueous barrier is formed by non-pigmented epithelium of ciliary body.
126. Norma, aqueous production rate is 2.3pl/min. IOP is highest in morning.
127. Aqueous LDH levels are raised in Retinoblastoma.
128. Trabecular meshwork outflow constitutes 90-95% and Uveoscleral outflow is 5-10%.
129.

130. Applanation tonometry is based on Imbert Fick's law.
131. Tonography is study of aqueous outflow (C value >0.2 is normal).
132. Earliest field defect in glaucoma is isopter contraction (Non-specific). I[5t]Visually significant- paracentral nasal scotoma.
133. Temporal Island of the vision is most resistant in glaucoma and last to be affected.
134. Classical triad of infantile glaucoma includes blepharospasm, lacrimation and photophobia.
135. Haab striae are concentric or horizontal in congenital glaucoma while in birth trauma the striae are vertical.
136. Corneal diameter is the most important parameter for follow up of patients with congenital glaucoma.
137. Brimonidine is contraindicated in infants (causes sleep apnea).
138. Risk factors for OAG are age, black race, positive family history, Diabetes Mellitus, thyroid and hypertension.
139. Vogt triad consists of Glaukomflecken, iris atrophy and sphincteric atrophy. It indicates previous attack of acute angle closure glaucoma.
140. Vertically oval mid dilated pupil is seen in attack of acute angle closure glaucoma.
141. Atropine is the drug of choice in malignant glaucoma (ciliary block glaucoma).
142. Epidemic dropsy caused by mustard oil contaminated with Argemone oil (Sanguinarine is the responsible chemical).
143. 100 day glaucoma occurs in central retinal vein occlusion. Diabetic retinopathy is most common cause of neovascular glaucoma.
144. Prostaglandins reduce IOP by increasing uveoscleral outflow.
145. Total volume of vitreous is around 4 ml and is made of type 2 collagen.
146. Vitreous is liquefied in Synchysis scintillans. Asteroid hyalosis - Ca2+
147. Most common cause of vitreous hemorrhage overall and in old age is diabetic retinopathy. In young age, is trauma.
148. There are 120 million rods, 6.5 million cones and 1.2 million optic nerve fibers.
149. Bipolar and ganglion cells are first order and second order neurons of visual pathway respectively.
150. Arden ratio is calculated in Electro oculography (EOG). >1.85 is normal.
151. Smoke stack appearance is typical of central serous chorioretinopathy

(CSR) on FFA. Other appearance on FFA in CSR is Ink blot leak.

152. Wet age related macular degeneration is treated by laser photocoagulation and intravitreal injection of Ranibizumab or Bevacizumab.
153. Bilateral, spontaneous, recurrent vitreous hemorrhages are seen in Eales 'disease.
154. Cherry red spot is seen in central retinal artery occlusion, Gangliosidosis, blunt trauma and quinine toxicity.
155. Vision is not affected in patients with acute papilledema.
156. The duration of diabetes is the most important determinant of diabetic retinopathy.
157. Panretinal photocoagulation is done for proliferative retinopathy and macular grid photocoagulation is done for macular edema.
158. Photocoagulation is done with Argon laser.
159. Classical triad of retinitis pigmentosa is arterial attenuation, bony corpuscles and waxy disc pallor.
160. Gene associated with Stargardt disease is ABCA4 & is present on chromosome 1.
161. Shifting fluid is seen in exudative retinal detachment. Exudative retinal detachment has convex configuration.
162. Lattice degeneration is present in 6-7% of normal population.
163. Indirect Ophthalmoscopy is best method to see periphery of the retina.
164. Shortest part of optic nerve is intraocular and longest is intraorbital.
165. Afferent fibers from pupillary light reflex relay in pretectal nucleus, which lies in the midbrain.
166. Argyll Robertson pupil is seen in neuro syphilis and is characterized by light near dissociation.
167. Pie in sky field defect is caused by Meyer's loop in temporal lobe of brain.
168. Papillitis and retrobulbar neuritis differ by Mascular Star
169. Acute demyelinating optic neuritis is the primary manifestation of multiple sclerosis in 20% of patients.
170. Earliest margin of disc to get blurred in papilloedema is nasal.
171. Benign intracranial hypertension could result from oral contraceptive pills, hypervitaminosis A and tetracyclines.

173. Pupil is spared in medical 3rd nerve palsy and involved in surgical 3rd nerve palsy.
174. Trochlear nerve exits from dorsal side and has longest intracranial course.
175. In Internuclear ophthalmoplegia Medial longitudinal fasciculus is involved.
176. Distances of insertion of various recti from limbus are MR - 5.5, IR - 6.5, LR-6.9, SR -7.7.
177. Vertical recti makes an angle of 23 degree with the visual axis while obliques make an angle of 51 degrees.
178. By 4 year of age full visual acuity (6/6) is attained and binocular single vision is well developed at the age of 4 years.
179. Three grades of binocular single vision are Simultaneous macular perception, Fusion and Stereopsis. These are best checked by a synoptophore.
180. Amblyopia is treatable only up to 9 years of age. Anisometropic amblyopia has good prognosis.
181. Primary deviation is less than secondary deviation in paralytic squint.
182. There is over action of yoke muscle and past pointing in paralytic squint.
183. Downbeat nystagmus is seen in lesions of posterior fossa.
184. Glands of Zeiss are sebaceous glands and glands of moll are sweat glands, (modified)
185. Chalazion is chronic non-infective Lipo granulomatous inflammation of the meibomian glands.
186. Recurrent chalazion in old patient - exclude Sebaceous cell Carcinoma
187. Basal cell Ca is most common lid malignancy and is known as rodent ulcer-inner canthus
188. Basal cell Ca has good prognosis as it is only locally invasive.
189. Sebaceous cell ca of lid is more common in upper lid.
190. Capillary hemangiomas grow till one year of age and tend to regress by 7 years of age.
191. Features of congenital ptosis are Marcus gunn phenomenon, lid lag on down gaze and absent lid crease.
192. Levator palpebrae superioris (LPS) action is good in aponeurotic ptosis (senile ptosis).

193. Fasanella Servat operation is done to correct ptosis in Horner syndrome-Muiler's muscle.
194. Secretomotor fibers to lacrimal gland come from Superior salivatory nucleus.
195. Direction of NLD is downwards, backwards and medially.
196. In DCR surgery a new opening is made in the middle meatus.
197. Nasolacrimal duct is 15-18 mm long and opens in the inferior meatus.
198. Sjogren's syndrome leads to aqueous tear deficiency.
199. Tear film break up time is an indicator of mucin deficiency and should be more than 15 seconds in a normal patient.
200. Jones Dye test is used to differentiate b/w obstruction & pump failure
201. External DCR has a better success rate than endonasal DCR.
202. Pleomorphic painless of lacrimal gland is locally invasive hence difficult to take out in toto, thereby leading to recurrences.
203. Orbit is formed from frontal, maxillary, zygomatic, sphenoid, palatine, ethmoid and lacrimal bones (7 bones)
204. Pulsating proptosis is caused by Carotica-cavernous fistula, Neurofibromatosis -1 and Meningo-encephalocele.
205. Thyroid ophthalmopathy is commonest cause of unilateral as well as bilateral proptosis in adults.
206. Muscle tendons are not involved in Thyroid ophthalmopathy.
207. Mucormycosis of orbit leads to necrotizing arteritis and formation of black eschar.
208. Contra lateral abducens palsy is the earliest sign of cavernous sinus thrombosis.
209. Sinuses (ethmoid) are most common source of infection in orbital cellulitis.
210. Pilocytic type is most common type of optic nerve glioma and is seen in neurofibromatosis.
211. Copious irrigation of the eye is immediate management of a patient presenting with chemical injury. (30 mins)
212. D shaped pupil is seen in iridodialysis.
213. Vossius ring is seen in blunt trauma (its size is smaller than pupill)
214. CT scan is investigation of choice in retained intraocular foreign body.
215. Infection & steroids are preventive factors against sympathetic ophthalmia.

216. Dalen Fuchs' nodules & granulomatous bilateral panuveitis characterize sympathetic ophthalmia.
217. Earliest symptom of sympathetic ophthalmia is reduced near vision and earliest sign is retrolental flare.
218. Angle recession results from tear in ciliary body and predisposes to glaucoma in longterm.
219. Copper foreign bodies lead to severe intraocular inflammation.
220. Trilateral retinoblastoma is presence of bilateral retinoblastoma and pinealoblastoma.
221. Leukocoria is the commonest presenting symptom of retinoblastoma followed by squint.
222. Flexner-Wintersteiner rosettes are highly specific of retinoblastoma.
223. Poorly differentiated tumor cells in retinoblastoma signify poor prognosis.
224. Brushfield spots are whitish grey spots in peripheral iris, seen in Down's syndrome.
225. Kayes' dots are sub-epithelial infiltrates seen in corneal graft rejection.
226. Khodadoust Line - corneal graft endothelial rejection line composed of inflammatory cells.
227. Mittendorf's dot is whitish spot at posterior lens surface, a remnant of hyaloid artery. (Remanant at disc Burg mister Papilla)
228. Blue sclera is seen in osteogenesis imperfecta. Marfan's syndrome, Ehlers-Danlos syndrome, pseudoxanthoma elasticum and buphthalmos.
229. Fluoroquinolones have the highest intraocular penetration.
230. Most common indication of enucleation is eye donation.
231. Lisch nodules and sphenoid wing dysplasia are seen in neurofibromatosis -1.
232. Pseudoxanthoma elasticum is most common cause of angioid streaks. (Pneumonic of cause of angioid streaks PEPSI- Pseudoxanthoma elasticum, Ehler Dahlos, Paget's, Sickle Cell Anaemia, Ediopathic)
233. Low vision is defined as vision less than 6/12 - 6/18 mild.
234. Economic blindness 6/18 - 6/60 moderate
235. Social blindness 6/60 - 3/60 severe
236. Legal blindness <1/6
237. Trachoma - commonest infectious cause of blindness.
238. Refractive errors are commonest cause of visual morbidity.

Recent & High Yield Updated LMRPs

1. Triad of congenital rubella syndrome are congenital cataract, Sensonueral deafness, PDA.
2. Triad of toxoplasmosis are chorioretinitis, intracranial calcification, convulsions.
3. Due to Pterygium there is reduced visual axis.
4. Esotropia seen in hypermetropia.
5. Keratomalacia Rx : Vit. A 2L IU at 0,1,14 days.
6. Ptosis with poor levators function is frontalis sling surgery.
7. Implant for glaucoma is Seton procedure.
8. Retinitis pigmentosa is reduced docosahexaenoic acid.
9. Cover test: Uncover test used for squint.
10. RTA, diplopia are fracture floor of orbit.
11. Retinoblastoma regimen are Vincristine, etoposide, carboplatin.
12. Astigmatism in emmetropic eye of elderly person not require power correction.
13. 100 days glaucoma is a neovascular glaucoma occurring in CRVO.
14. Roth's spots are seen in leukemia, anemia, sub acute bacterial endocarditis and CO toxicity.
15. Yoke muscle of right lateral rectus is Lt. medial rectus.
16. Severe Conjunctivitis caused by Neisseria.
17. Blow out fracture of orbit involves Floor.
18. Betaxolol is selective beta blocker.
19. Most common cause of fungal orbital cellulitis in patients of diabetic ketoacidosis is Mucor.
20. 3rd nerve palsy in DM present with normal pupillary reflex.
21. Conjunctivitis result in blindness in neonates is neisseria.
22. Enterovirus causing hemorrhagic conjunctivitis is E70.
23. In senile cataract more insoluble proteins and less soluble protein in lens.

24. Most common cause of neonatal eye infection is streptococcus.
25. Last vision to go in glaucoma is temporal.
26. A 55 years old diabetic present with U/L transient obscuration for 2-3 days followed by sudden diminished vision : Serum homocysteine level should be checked.
27. Diabetic patient present with severe pain and redness in eye 2 days after cataract surgery treated with intravitreal Antibiotics.
28. Diabetic patient with macular edema, drug to be considered last in glaucoma is pilocarpine.
29. The angle subtended by the biggest alphabet in Snellen chart is 5.
30. Most common ocular manifestation of Sturge Weber syndrome is glaucoma.
31. Drug of choice in the treatment of corneal ulcers caused by filamentous fungi is Natamycin.
32. ATT cause ocular toxicity is Ethambutol
33. A patient came with painful running eyes to AIIMS OPD of 3 day duration. O/E cornea, ulcer with feathery like projections with minimal hypopyon. Most Likely Cause is Fungal.
34. A 5 yrs old child presents with large cornea, lacrimation and photophobia; Diagnosis is Congenital glaucoma.
35. Stenopic slit used for Finchams test, determination of axis of cylinder, iridectomy.
36. Dengue can causes maculopathy, vitreous haemorrhage, optic neuritis.
37. Nucleus of upward gaze is Nucleus of Cajal.
38. 3rd nerve palsy are Ptosis, impairment of pupillary reflex, upward outward rolling of pupil.
39. Adjuvant therapy for fungal corneal ulcer is Atropine eye drop.

ENT

Embryology, Anatomy and Congenital Anomalies of Ear

1. Ceruminous glands present in the ear are modified apocrine glands.
2. Tympanic branch of glossopharyngeal nerve has no sensory supply to the auricle.
3. Sensory supply of external auditory meatus is by Auriculotemporal nerve, auricular branch of vagus (Arnold nerve), sensory branch of facial nerve.
4. Dehiscence of anterior wall of the external auditory canal cause infection in the parotid gland via Fissure of Santorini.
5. The color of the normal tympanic membrane is pearly grey.
6. The most mobile part of the tympanic membrane is the peripheral Part.
7. Pars flaccida of the tympanic membrane is also called Shrapnell's membrane.
8. Anterior wall of tympanic cavity contains Tensor tympani muscle.
9. The distance between tympanic membrane and medial wall of middle ear at the level of center is 2 mm.
10. Surface area of tympanic membrane is 90 mm2.
11. Lever ratio of tympanic membrane is 1.3 is 1.
12. Nerve supply of the tympanic membrane is by Auriculotemporal Nerve.
13. Narrowest part of middle ear is mesotympanum.
14. Prussak's space is situated in epitympanum.
15. Sensory nerve supply of middle ear cavity is provided by Glossopharyngeal Nerve.
16. Teg ..en separates middle ear from the middle cranial fossa containing temporal lobe of brain by the roof of middle ear.
17. Floor of middle ear cavity is in relation with the jugular bulb.

18. Promontory seen in the middle ear is the basal turn of cochlea.
19. Processus cochleariformis attaches to the tendon of tensor tympani
20. The suprameatal triangle overlies the mastoid antrum.
21. Anatomical landmark indicating position of mastoid antrum is the suprameatal triangle(Mac Ewan's triangle).
22. Synovial joint is present between the ossicles of ear.
23. Stapedius is supplied by Facial nerve.
24. Stapedial reflex is a protective reflex against loud sound.
25. Lateral wall of middle ear formed by tympanic membrane.
26. The length of Eustachian tube is 36 mm.
27. Eustachian tube opens into middle ear cavity at anterior wall.
28. Inner ear is present in petrous part of temporal bone.
29. Inner ear bony labyrinth is called cancellous bone.
30. Cochlear aqueduct connects scala tympani with subarachnoid space.
31. Infection of CNS spread in inner ear through cochlear aqueduct.
32. Crus commune is union of non ampullate ends of anterior and posterior semicircular canals.
33. Stapes footplate covers oval window.
34. Organ of corti is situated in scala media.
35. Organ of corti is situated in the basilar membrane.
36. Endolymphatic duct connectsscala tympani with subdual space
37. Endolymph is seen in scala media.
38. Endolymph in inner ear is secreted by striae vascularis.
39. Labyrinthine artery is a branch of Anteroinferior cerebellar artery.
40. Tympanic membrane represents all the 3 components of the embryonic disc.
41. Pinna develops from 1st and 2nd pharyngeal arches.
42. Vertical crest at the internal auditory canal is Bill's bar.
43. Eustachian tube develops from 1st pharyngeal pouch.
44. Ear ossicles attain adult size before birth.
45. True regarding "Preauricular sinus" is improper fusion of auricular tubercles.
46. Nerve of the pterygoid canal is also known as Vidian nerve.

Physiology of Hearing and Hearing loss

1. Otoacoustic emissions arise from the outer hair cells.
2. Stapedial reflex is mediated by VII and VIII nerves.
3. The cough response caused while cleaning the ear canal is mediated by stimulation of the 10th Cranial nerve.
4. Perilymph contains increased Na+.
5. Endolymph in the inner ear is secreted by stria vascularis.
6. Higher auditory center determines sound localization.
7. Movement of stapes causes vibration in the Scala vestibuli.
8. Bones of middle ear are responsible for reduction of impedance to sound transmission.
9. Semicircular canals are stimulated by rotation.
10. Horizontal semicircular canal responds to rotational acceleration.
11. Primary receptor cells of hearing are the inner hair cells.
12. Sound is painful at the level of 100-120db.
13. Middle ear is sensitive to 500-3500 Hz.
14. After rupture of tympanic membrane, the hearing loss is 10-40 db.
15. Ossicular disruption with intact tympanic membrane causes maximum hearing loss.
16. Commonest cause of hearing loss in children is chronic secretory otitis media.
17. Commonest cause of hearing loss in children is otitis media with effusion.
18. Commonest cause of deafness in adult is Wax.
19. Hyperacusis is defined as normal sounds heard as loud and painful.
20. Conductive deafness occurs in travelling in aeroplane or ship.
21. Otitic barotrauma results due to descent in air.
22. Virus causing acute onset sensorineural deafness is Rubella Measles.
23. Sensorineural deafness is seen in Alport's syndrome, Pend red's syndrome, Treacher-Collins syndrome, Michel's aplasia etc.

Tests for Hearing

1. Gelle's test is done in otosclerosis.
2. Stenger's test is used to detect malingering.
3. Rinne's test is negative in tympanosclerosis.
4. Negative Rinne'stest is seen in CSOM.
5. Rinne's test is negative if minimum deafness is 15-20 dB.
6. Positive Rinne test is seen in presbycusis.
7. Rinne's test is positive in normal individual.
8. Weber test is best elicited by placing the tuning fork on the forehead and asking him to report in ear he hears it better.
9. In the right middle ear pathology, Weber's test will be lateralized to right side.
10. In Weber's test in conductive deafness, sound louder in diseased ear.
11. In pure tone audiogram the symbol X is used to mark air conduction in left ear.
12. The "0" sign in a pure tone audiogram indicates air conduction of right ear.
13. Tone decay test is done for neural deafness.
14. Impedance audiometry is for pathology of middle ear.
15. Impedance audiometry is done using frequency probe of 220 Hz.
16. Flat tympanogram is seen in ASOM.
17. B-type tympanogram is seen in Serous otitis media.
18. Flat and dome-shaped graph in tympanogram is found in middle ear fluid.
19. In osteogenesis imperfecta, the tympanogram is low-compliance.
20. High frequency audiometry is used in ototoxicity.
21. Transient Otoacoustic emissions is the best test for screening of the auditory function of neonates.
22. Brainstem evoked response audiometry (BERA) is the investigation of choice in assessing hearing loss in neonates.
23. In infant most sensitive audiometric screening is BERA.
24. To distinguish between cochlear and post cochlear damage, Brainstem evoked response audiometry test is done.
25. Test of detecting damage to cochlea is ABC test.
26. Threshold for bone conduction is normal and that for air conduction is increased in disease of middle ear.

27. Vestibular evoked myogenic potential detects lesion of inferior vestibular nerve.
28. In electrocochleography, outer hair cells are mainly responsible for cochlear microphonics and summation potential.

Diseases of the Ear

1. External otitis is also known as telephonists ear.
2. Causes of Otomycosis is Candida.
3. Fungus causing otomycosis most commonly is Aspergillus fumigates.
4. Hemorrhagic external otitis media is caused by Influenza.
5. Malignant otitis externa is caused by P. Aeruginosa.
6. Malignant otitis externa is common in diabetics and old age.
7. Malignant otitis externa is Pseudomonas infection in diabetic patient.
8. Facial nerve palsy is seen in malignant otitis externa.
9. Keratosis obturans is desquamated epithelial cells + Cholesterol.
10. Chondritis of aural cartilage is most commonly due to Pseudomonas.
11. Cauliflower ear is Perichondritis in Boxers.
12. Direction of water jet while doing syringing of ear should be posterior and superior.

Diseases of Middle Ear

1. Commonest cause of acute otitis media in children is S-pneumoniae.
2. Commonest causative organism for ASOM in 2 years child is Pneumococcus.
3. ASOM is most frequently resolves without sequelae.
4. Cart Wheel sign is seen in ASOM.
5. Cause of U/L secretory otitis media in an adult is nasopharyngeal carcinoma.
6. Acute non suppurative otitis media in adults-is due to malignancy.
7. Glue ear is painless.
8. Secretory otitis media is diagnosed by impedance audiometry.
9. Bluish tympanic membrane is seen in glue ear.

10. Treatment of choice for glue ear is myringotomy with ventilation tube insertion.
11. Tympanostomy tubes are usually required for treatment in serous otitis media.
12. Cholesteatoma is commonly caused by atticoantral perforation.
13. Most accepted theory for the formation of cholesteatoma is retraction pocket.
14. Treatment of choice in central safe perforation is myringoplasty.
15. The treatment of choice for atticoantral variety, of chronic suppurative otitis media is Modified Radical mastoidectomy.
16. Ossicle most commonly involved in CSOM is the long process of incus.
17. The most common complication of chronic suppurative otitis media is Mastoiditis.
18. Most common complication of acute otitis media in children is perforation.
19. Most common extra-cranial complication of ASOM is sub periosteal abscess.
20. Mastoid reservoir phenomenon is positive in coalescent mastoiditis.
21. Essential radiological feature of acute mastoiditis is clouding of air cells of mastoid.
22. Bezold abscesses is located in sternomastoid muscle.
23. Treatment of choice for CSOM with vertigo and facial nerve palsy is immediate mastoid exploration.
24. Most potential route for transmission of meningitis from CNS to inner ear is cochlear aqueduct.
25. Light house sign is seen in ASOM.
26. In ASOM, myringotomy is done in postero-inferior quadrant.
27. Ideal site for myringotomy and grommet insertion is the antero-inferior quadrant.
28. Myringoplasty is repair of tympanic membrane.
29. Myringoplasty is done using temporalis fascia, perichondrium etc.
30. Columella effect is seen in tympanoplasty type 3.
31. Type III Tympanoplasty is most common type of tympanoplasty.
32. For ear surgery, 250mm focal length in the objective piece of microscope is commonly used.
33. Schwartz operation is also called as cortical mastoidectomy.

34. Simple mastoidectomy is done in coalescent mastoiditis.
35. Commonest congenial malformation of temporal bone - dehiscent fallopian canal.

Otosclerosis

1. Otospongiosis is inherited as an autosomal dominant disease (50% of cases).
2. In otosclerosis, deafness occurs in 20 - 30 yrs but less in before 10 yrs and 40 years.
3. Common age for otosclerosis is 20 - 30 yrs.
4. Commonest site of otosclerosis is oval window.
5. Most common site for the initiation of otosclerosis is fistula ante fenestrum.
6. Otospongiosis causes B/L conductive deafness.
7. Paracusis willisii is a feature of otosclerosis.
8. In otosclerosis tinnitus is due to cochlear otosclerosis.
9. In majority of the cases with otosclerosis the tympanic membrane is normal.
10. Schwartz sign seen in otosclerosis.
11. Carhart notch in audiometry is seen in otosclerosis.
12. Acoustic dip occurs at 4000 Hz.
13. Medication which may prevent rapid progress of cochlear otosclerosis is fluorides.
14. In otosclerosis during stapes surgery prosthesis used is Teflon piston.
15. A pure tone audiogram with a dip at 2000 Hz in bone conduction is characteristic of otosclerosis.

Tumours of Cerebellopontine Angle

1. Most common cerebellopontine angle tumour is acoustic neuroma.
2. Acoustic neuroma commonly arise from Inferior vestibular nerve.
3. In acoustic neuroma cranial nerve to be involved earliest is the 5th nerve.
4. The earliest symptom of acoustic nerve tumor is sensorineural hearing Loss.

5. Earliest sign seen in Acoustic neuroma is reduced corneal reflex.
6. Acoustic neuroma causes retrocochlear deafness.
7. Hitzelberger's sign is seen in vestibular schwannoma.
8. Earliest ocular finding in acoustic neuroma is the loss of corneal sensation.
9. The investigation of choice for acoustic neuroma of gadolinium enhanced MRI.

Glomus Tumour

1. The usual location of Glomus jugular tumor is hypotympanum.
2. Earliest symptom of glomus tumor is pulsatile tinnitus.
3. Pulsatile tinnitus in ear is due to glomus jugulare tumor.
4. Brown sign is seen in glomus tumor.
5. Phelps' sign is seen in glomus jugulare.
6. Glomus tumor bleeds on touch.
7. Most common Malignant tumour of middle ear is squamous cell carcinoma.
8. Treatment of middle ear malignancy includes excision of petrous part of temporal bone.

Facial nerve and its Disorders

1. First branch of the facial nerve is Greater superficial petrosal nerve.
2. Lacrimation is affected when facial nerve injury is at GENICULATE ganglion.
3. Dryness of eye is caused by injury to facial nerve at geniculate ganglion.
4. Hyperacusis in Bell's palsy is due to the paralysis of the stapedius.
5. Intra temporal lesion of chorda tympani nerve results in loss of secretomotor fibres to the submandibular salivary gland.
6. Facial nerve palsy at styloid foramen can cause loss of corneal reflex at side of lesion.
7. Right upper motor neuron lesion of facial nerve causes paralysis of lower facial muscles left side.

8. Crocodile tears is due to improper regeneration of facial nerve.
9. Iatrogenic traumatic facial nerve palsy is most commonly caused during mastoidectomy.
10. Transverse fractures of the petrous bone will cause facial nerve palsy.
11. Facial nerve palsy is seen in malignant otitis externa.
12. Horizontal part of the facial nerve is commonly exposed through natural dehiscence in the fallopian canal.
13. Most common cause of facial palsy is Bells palsy.
14. Most common cause of lower motor neuron facial palsy is Bell's palsy.
15. Bell's Palsy is the idiopathic ipsilateral paralysis of the facial nerve.
16. In Herpes zoster, there are vesicles over external acoustic meatus with ipsilateral facial palsy of LMN type.
17. Ramsay hunt syndrome is caused by H. Zoster.

Meniere's Disease

1. Meniere's disease is characterized by vertigo, tinnitus hearing loss and headache.
2. The dilatation of Endolymphatic sac is seen in Meniere's disease.
3. Meniere's disease is also known as endolymphatic hydrops.
4. Endolymphatic hydrops occurs between 3rd and 4th decades.
5. Glycerol test is done in Meniere's disease.
6. Recruitment phenomenon is seen in Meniere's disease.
7. Vasodilators in Meniere's disease are useful because they increase endolymph reabsorption.
8. Vasodilators of internal ear are Nicotinic acid, Histamine.
9. Endolymphatic decompression is done in Meniere's disease.
10. Destructive procedure for Meniere's disease is Labyrinthectomy.

Rehabilitative Methods

1. In cochlear implants electrodes are most commonly placed at through round window in scala tympani replaces organ of corti.
2. Absolute indication for cochlear implantation is B/L Severe to profound sensorineural hearing loss.

Anatomy & Physiology of Nose

1. Frontal sinus drain into middle meatus.
2. Paranasal sinus opening in middle meatus are maxillary, anterior ethmoid and frontal sinuses.
3. The maxillary sinus opens into middle meatus at the level of hiatus semilunaris.
4. Hiatus semilunaris is present in middle meatus.
5. Bulla ethmoidalis is seen in middle meatus.
6. Sphenoidal sinus opens into sphenoethmoidal recess
7. Opening of posterior ethmoid sinus is in superior meatus.
8. Nasolacrimal duct opens into inferior meatus.
9. Inferior turbinate is a separate bone.
10. Anterior ethmoid cells (Agger nasi) is also known as fourth turbinate.
11. Turbinate that articulates with ethmoid is inferior turbinate.
12. Direction of nasolacrimal duct is downward, backward and laterally.
13. Nasal valve is formed by lower end of upper lateral cartilage.
14. Ostiomeatal complex connects nasal cavity with maxillary sinus.
15. Nasal mucosa is supplied mainly by the external carotid artery.
16. During inspiration the main current of airflow in a normal nasal cavity is through the middle part of the cavity in the middle meatus in a parabolic curve.
17. Function of mucociliary action of upper respiratory tract is to trap the pathogenic organisms in inspired air.
18. Ciliary movement rate of nasal mucosa is 5-10 mm/min.
19. Parosmia is perversion of smell sensation.
20. Nasal cycle is the cyclical alternate nasal blockage occurring every 6-8 hours.

Diseases of Nose and Septum

1. Rhinophyma is not premalignant.
2. Nasolabial cysts are B/L, have strong female predilection and present in adults.
3. Depressed bridge of nose may be due to Leprosy,syphilis,thalassemia.

4. A crooked nose is due to deviated dorsum and septum.
5. Thudiculum nasal speculum is used to visualize anterior nasal cavity.
6. Inferior meatus is not visualized on posterior rhinoscopy.
7. Submucous resection operation is indicated in septal deviation preferably done after 16 years of age.
8. Alternative for SMR is septoplasty.
9. Killian's incision is used for SMR of nasal septum.
10. SMR is contraindicated below 12 years of age.
11. Mitomycin is used to prevent synechiae formation after nasal surgery.
12. Septal hematoma occurs due to trauma ,can lead to saddle-nose deformity and abcess formation.
13. Bony septal perforation occurs in syphilis.
14. Anterior ethmoidal neuralgia is due to middle turbinate pressing on the nasal septum.
15. Cottle test is used to test the patency of the nares in DNS.
16. Rhinophyma is associated with hypertrophy of the sebaceous glands.

Epistaxis

1. Woodruff's plexus is seen at the posterior part of inferior turbinate.
2. Little's area is situated in nasal cavity in anteroinferior part of nasal septum.
3. Most common cause for nose bleeding is trauma to Little's area.
4. In a 5-year-old child, most common cause of unilateral epistaxis is foreign body.
5. The most common causein recurrent epistaxis in a 15 year old female is hematopoietic disorder.
6. Epistaxis in elderly person is common in hypertension.
7. In case of uncontrolled epistaxis, ligation of internal maxillary artery is to be done in the Pterygopalatine fossa.
8. Treatment of choice in recurrent epistaxis in a patient with hereditary haemorrhagic telangiectasia is septal dermatoplasty.
9. Posterior epistaxis is commonly seen in hypertension.

10. Posterior epistaxis occurs from Woodruffs plexus.
11. Sphenopalatine artery is known as artery of epistaxis.

Granulomatous Disease of the Nose

1. Rhinosporidiosis is caused by Mesomycetozoea Rhinosporidium Seeberi.
2. Ideal treatment of rhinosporidiosis is excision with cautery at base.
3. Rhinoscleromatis is caused by Klebsiella.
4. Mikulicz cells and Russell bodies are characteristic of Rhinoscleroma.
5. Atrophic dry nasal mucosa and extensive encrustations with woody hard external nose is suggestive of Rhinoscleroma.
6. Apple-jelly nodules on the nasal septum are found in case of Lupus vulgaris.
7. In nasal syphilis, Secondary syphilis is the common association.
8. Killian term is used for Antrochoanal polyp.
9. The most appropriate management for antrochoanal polyp in children is FESS.
10. Ethmoidal polyp is associated with bronchial asthma.
11. "Bernoulli's theorem" explains nasal polyp.
12. Most common complication of Caldwell-Luc operation is infraorbital nerve palsy.
13. Most common cause of U/L mucopurulent rhinorrhea in a child is Foreign body.
14. Rhinolith is the deposition of calcium around foreign body in nose.
15. Maggots in the nose are best treated by Chloroform diluted with water.
16. Frisch bacillus causes rhinoscleroma.
17. A Rapidly destructive infection of nose and paranasal sinuses in diabetics is mucormycosis.
18. Multiple nasal polyp in children should guide the clinician to search for underlying mucoviscidosis.

Diseases of PNS

1. Ethmoid sinus is most commonly affected in a child.
2. In acute sinusitis, the sinus most often involved in children is the ethmoid sinus.
3. Bilateral proptosis and bilateral 6th nerve palsy in seen is cavernous sinus thrombosis.
4. Aspergillus sp is the most common etiological agent in paranasal sinus fungal sinusitis.
5. Surgery is required for treatment for fungal sinusitis.
6. Periodicity is a characteristic feature in frontal sinus infection.
7. Sphenoid sinusitis pain is referred most commonly to occiput.
8. Best view for evaluating sphenoid sinus is the lateral view. .
9. Best view for frontal sinus is the Caldwell view.
10. For viewing superior orbital fissure-best view is the Caldwell view.
11. Angular vein infection commonly causes thrombosis of cavernous sinus.
12. Pathognomic feature of Maxillary sinusitis is mucopus in the middle meatus.
13. The best surgical treatment for chronic maxillary sinusitis is functional endoscopic sinus surgery.
14. Frontal mucocele presents as swelling above medial canthus, below the floor of frontal sinus.
15. Mucocele is commonly seen in frontal sinus.
16. Most common site for osteoma is the frontal sinus.
17. First paranasal sinus to develop at birth is maxillary sinus.
18. Antrum of Highmore is another name for maxillary sinus.
19. Rarest sinus to get infected is sphenoid sinus.

Tumors of PNS

1. In tumors of PNS and Nose, Squamous cell Ca is the MC type
2. Most common malignancy in maxillary antrum is Squamous cell Ca

Anatomy of Pharynx

1. The lymphatic drainage of pyriform fossa is to the upper deep cervical nodes.
2. Killian's dehiscence is seen in crico pharynx.
3. Indication for Adenoidectomy in children include middle ear infection with deafness.
4. The most common organism causing acute tonsillitis is (3- hemolytic streptococci.
5. Tonsillectomy following peritonsillar abscess is done after 6-8 weeks.
6. Most common postoperative complication of tonsillectomy is hemorrhage.
7. Secondary hemorrhage after tonsillectomy develops within 6 days.

Embryological Development

1. Laryngeal cartilage forming complete circle is the Cricoid cartilage.
2. Narrowest part of infantile larynx is Subglottic.
3. Abductor of vocal cord is posterior cricoarytenoid.
4. Sensory nerve supply of larynx below the level of vocal cord is recurrent laryngeal nerve.
5. The water cane in the larynx (saccules) are present in laryngeal ventricles.
6. Vocal cord is lined by Stratified squamous epithelium.
7. Inlet of larynx is formed by aryepiglottic fold .
8. A neonate while suckling milk can respire without difficulty due to high larynx.
9. Laryngocele arises from saccule of the ventricle.
10. External laryngocele arises as herniation of laryngeal mucosa through the thyrohyoid membrane.
11. Most common congenital anomaly of larynx is laryngomalacia.
12. Laryngomalacia is the common cause of stridor in newborn.
13. Most common mode of treatment for laryngomalacia is reassurance.

14. Most common cause of stridor in children is foreign body in larynx.
15. Stridor in adults is most commonly caused by malignancy.
16. Laryngofissure : Opening the larynx in midline.
17. Anterior commissure is difficult to visualize or examine on indirect laryngoscopy.
18. Microlaryngoscopy was started by Kleinsasser.
19. The procedure that should precede microlaryngoscopy is laryngeo endoscopy.
20. Laryngeal mirror is warmed before use by placing glass surface on flame
21. Cricothyroid is the only intrinsic muscle of larynx that lies outside the laryngeal framework.
22. Palpatory thud, audible slap is seen in tracheal foreign body.
23. Epiglottitis in a 2-year-old child occurs most commonly due to infection with : GroupA streptococcus.
24. Thumb sign in lateral X-ray of neck seen in epiglottitis.
25. In acute epiglottis, common cause of death is respiratory obstruction.
26. The antibiotic of choice in acute epiglottitis pending culture sensitivity report is Ampicillin.
27. In Pachydermia laryngitis, the most common site of involvement of arytenoids cartilage.
28. Steeple sign is seen in croup.
29. Tubercular laryngitis primarily affects posterior commissure of larynx.
30. Reinke's edema is seen in edges of vocal cords.
31. Reinke's layer is seen in vocal cord.
32. Pharyngeal Pseudo sulcus is seen secondary to laryngopharyngeal reflux.
33. In dysphonia plica ventricularis, sound is produced by false vocal cords.
34. In a patient with hypertrophied adenoids, the voice abnormality that is seen is rhinolalia clausa.
35. Androphonia can be corrected by doing Type 4 thyroplasty.
36. Key knob appearance is seen in phonasthenia.
37. Most common location of vocal nodule is at the junction of Anterior 1/3 and posterior 2/3 junction.
38. Vocal nodule is also known as screamer's node.
39. According to European Laryngeal Society, subligamentous cordectomy is classified as Type II.

Vocal Cords Paralysis

1. Cricothyroid muscle is supplied by superior laryngeal nerve.
2. Position of vocal cord in cadaver is intermediate.
3. The most common cause of vocal cord palsy is idiopathic.
4. Left sided vocal cord palsy is commonly due to left hilar bronchial carcinoma.
5. In complete bilateral palsy of recurrent laryngeal nerves, there is preservation of speech with severe stridor and dyspnea.
6. The voice in a patient with bilateral abductor paralysis of larynx is normal or good voice.
7. Injury to superior laryngeal nerve causes loss of timbre of voice.
8. Paralysis of recurrent laryngeal nerve is common in left side.
9. Partial recurrent laryngeal nerve palsy produces vocal cord in paramedian position.
10. Type I thyroplasty is for vocal cord medialization.
11. In thyroplasty type 2, vocal cord is lateralized.
12. Keratosis of larynx is a precancerous lesion.
13. Multiple papillomatosis is premalignant.
14. The most common and earliest manifestation of carcinoma of the glottis is hoarseness.
15. Lymph mode metastasis in neck is almost never seen with carcinoma vocal cords.
16. Carcinoma of epiglottis commonly presents with neck nodes.
17. Infraglottic carcinoma larynx commonly spreads to mediastinal nodes.
18. The treatment of choice for stage I cancer larynx is radiotherapy.
19. For carcinoma larynx stage III with no cartilage involvement treatment of choice is CTRT.
20. Radiotherapy is the TOC for nasopharyngeal Ca T3 NO.
21. The preferred treatment of verrucous carcinoma of the larynx is endoscopic removal.
22. In case of CA larynx in arytenoid cartilage involvement, investigation of choice is MRI.

23. Juvenile papillomatoses is caused by HPV.
24. Maintenance of airway during laryngectomy in a patient with carcinoma of larynx is best done by tracheostomy.

High Yield LMRPs

1. Pinna develops from '6' Hillocks of his, originating from the 1st and 2nd branchial arches.
2. Pre - auricular sinus develops due to incomplete fusion of the 1st and 2nd hillock of his.
3. Bat ear is characterized by excessive conchal cartilage with poorly/non-developed anti helix.
4. Cosmetic correction of pinna is done at 6 years of age.
5. Mastoid process develops after 1st year of life.
6. Malleus and incus develops from the 1st branchial arch while stapes develops from the 2nd branchial arch and the otic capsule.
7. Cymba concha is the soft tissue anatomical landmark for mastoid antrum.
8. Mac Ewan's triangle is the bony landmark for the mastoid antrum.
9. V,VIII,IX and X cranial nerve and cervical plexus supply the auricle.
10. Structure related to the anterior wall of the middle ear are Tensor tympani, processus cochleariformis, Eustachian tube and Internal carotid artery.
11. Thickness of the mastoid antrum at birth is 2 mm.
12. Korner's septum is the persistent petrosquamosal suture.
13. Eustachian tube is opened by 'Tensor palatine, levator palatini and salpingopharyngeus.
14. In the spherical recess of the inner ear rests the macula of saccule, elliptical recess for the macula of the utricle, and vestibular aqueduct for the endolymphatic sac.
15. Cochlear aqueduct communicates with the C.S.F. fluid.
16. Basal cochlear term perceive high frequency sounds while the apical turn pe[r]'eives the low frequency sound.
17. Labyrinthine artery which supplies the inner ear is a branch of anterior-inferior cerebellar artery.

18. Bill's bar of the Internal auditory meatus separates the Facial nerve from the Superior vestibular nerve.
19. Linear acceleration and deceleration is perceived by the utricle and saccule while angular acceleration is perceived by the semicircular canals.
20. Otosclerosis is an autosomal- dominant disease condition seen more commonly in females.
21. Most common site of otosclerosis focus- anterior to the oval window.
22. A normal tympanic membrane is seen otoscopically in cases of otosclerosis.
23. Cookie- bite audiogram is seen in cases of cochlear otosclerosis.
24. Sodium fluoride therapy is given for cases of active otosclerosis.
25. Gold- standard for imaging of vestibular schwannoma is MRI.
26. Glomus tumours are slow-growing tumours, found more commonly in females. Malignant transformation is rare
27. Glomus tumour is seen as a pulsatile mass under the microscope
28. Phelps' sign is pathognomic of glomus jugulare
29. Facial nerve is secretomotor to lacrimal gland submandibular and sublingual salivary gland.
30. Chorda tympani carries secretomotor fibres to the submandibular and sublingual gland.
31. Electroneurography (ENOG) is the best guideline for facial nerve decompression.
32. EMG alerts the physician to sub clinical recovery of the facial nerve.
33. 80% of the temporal bone fracture are longitudinal , facial nerve is involved only in 10% of the cases.
34. Bell's palsy is acute idiopathic lower motor neurone type facial palsy. Can also have associated cranial polyneuritis.
35. Meniere's disease is autosomal dominant disease condition seen more in females.
36. Meniere's disease is characterized by cochlear hydrops in all and saccular hydrops in most of the cases.
37. Hypothyroidism, Hyperlipoproteinemia, Hypo/Hyper glycaemia are the various metabolic disorder associated with Meniere's disease.
38. Low frequency sounds are affected first in Meniere's disease.
39. ECochG- is the most sensitive and diagnostic test for Meniere's disease.

40. Fick and Cody tack procedure is a type of sacculotomy performed in Meniere's disease.
41. Acute furunculosis in severe cases is characterized by retroauricular sulcusobliteration and forward displacement of pinna.
42. Myringitis bullosa is caused by virus in majority of the cases.
43. Ramsay Hunt syndrome is characterized by vesicles over the pinna and facial nerve palsy due to involvement of its geniculate ganglion
44. Malignant otitis externa is treated by ciprofloxacin given for a period of 3 months
45. 20% of the perforations in ASOM heal in a months' time.
46. Acute mastoiditis is characterized by tenderness over the mastoid antrum, with displacement of the pinna in forward and downward direction.
47. Bezold's abscess is found in relations to the sheath of sternocleidomastoid.
48. Citelli's abscess is found in relation to the posterior belly of diagnostic
49. Luc's abscess is found in relation to the external auditory canal.
50. Acute necrotizing otitis media is seen in seen in some children who have suffered from measles, Scarlet fever, pneumonia or influenza.
51. Congenital cholesteatoma originates from the embryonal inclusion of squamous epithelium. It is found behind an intact tympanic membrane with no previous history Otitis media.
52. Commonest site of origin of cholesteatoma is the posterior epitympanum, or the Prussak's space.
53. Griesinger's sign in lateral sinus Thrombophlebitis is pitting oedema over the occipital region, it occurs due to mastoid emissary vein thrombosis.
54. C.S.F. picture of patient suffering from meningitis show a low Cl' and glucose level with raised protein levels.
55. Otitis hydrocephalus seen in children occurs weeks after ASOM or months after CSOM
56. The dome of the lateral semicircular canal is the commonest site of labyrinthine fistula.
57. Gradenigo's syndrome seen in Petrositis occurs due to involvement of th< V and VI cranial nerve
58. Myringotomy in O.M.E (Otitis media with Effusion) is performed in the antero- inferior quadrant.

59. Tubercular otitis media is characterized by painless otorrhea. Sensorineural hearing loss and facial palsy.
60. Muscles attached to the oblique line of the thyroid cartilage are thyrohyoid, sternothyroid and inferior constrictor
61. In thyroidectomy, the nerve more commonly injured is the external laryngeal nerve.
62. Structures passing through the sinus of Morgagni are cartilaginous part of the eustachiantube,Tensor palate, Levator palati and palatine branch of the ascending pharyngeal artery.
63. Contact ulcers also known as kissing ulcers show no epithelial defect unlike its name.
64. Tubercular laryngitis is a painful condition and is characterized by mouse-nibbled appearance of the Vocal cords.
65. Dysphonia plica ventricularis is characterized by low-unpleasant voice. The voice production occurs the level of false cords.
66. Phonasthenia is weakness of voice due to fatigue of phonatory muscles. Key- hole appearance of the glottis is produced due to weakness of thyroarytenoid and the interarytenoid.
67. Early vocal nodules are treated by voice rest followed by speech therapy. Late nodules are treated by micro laryngeal surgery followed by speech therapy.
68. Juvenile laryngeal papillomatosis is caused by HPV strains 6 & 11.
69. Tonsils are supplied by facial artery, internal maxillary, lingual artery and the Ascending pharyngeal artery
70. Interval tonsillectomy following recurrent quinsy is performed at 6 wks
71. Nodes of Rouviere are main and constant lateral group of retropharyngeal lymph mode
72. Chronic retropharyngeal abscess occur due to T.B of the cervical spine or suppuration of tubercular retropharyngeal lymph node.
73. Vincent's angina is caused a spirochete Borelli vincenti and anaerobe-bacillus fusiformis
74. Vicente's angina is characterized by necrotizing gingivitis, tender cervical lymphadenopathy.
75. Keratosis pharyngis is a benign condition and is characterized by horny excrescences on the tonsillar surface pharyngeal wall lingual tonsil, Reassurance is the treatment modality.

76. Adenoids are clinically seen by the 4^{th} month and are visible radiographically in children more than 6 month of age
77. Secondary haemorrhage following tonsillectomy is treated with i.v. antibiotics
78. (L) side cord palsy is more common than the (R) side due to the longer course traversed by the (L) vagus nerve. While in thyroidectomy (R) sided palsy is more common than the (L).
79. Patient with B/L adductor paralysis have a good voice with stridor.
80. Angiofibroma arises from the superior margin of the sphenopalatine foramen.
81. Angiofibroma is chiefly supplied by the sphenopalatine branch of internal maxillary artery.
82. Commonest site of origin of nasopharyngeal carcinoma is the fossa of Rosenmuller.
83. Nasopharyngeal carcinoma presents mainly with painless cervical lymphadenopathy.
84. IgA/VCA (viral capsid antigen) is used for serological screening of patients with nasopharyngeal carcinoma.
85. Post- cricoid carcinomas are treated with total laryngectomy with total pharyngectomy.
86. Laryngeal cysts are most commonly seen in the area of vocal cords.
87. Commonest benign epithelial tumour of larynx is Papilloma.
88. Carcinoma of the larynx most commonly affect the glottis area.
89. Verrucous carcinoma of the larynx is treated by partial total/ laryngectomy
90. Dentigerous (Follicular cyst) cyst develop from the crown of the permanent tooth
91. Lymphoma or non healing midline granuloma is a progressive destructive the nose and midfacialregion .
92. Commonest benign tumour of the Sinonasal area is OSTEOMA.
93. Tracheostomy reduces the dead space by 30-50%.
94. Apnoea following tracheostomy is treated using Carbogen (5% Co_2, 95% O_2)
95. Zenker's originates from Kilian's dehiscence between thyreopharyngeus and cricopharyngeus
96. Boyce sign is gurgling sensation on compression of the pharyngeal pouch

97. Dohlman's operation is Endoscopic diathermy of the diverticula-esophageal septum of the pharyngeal pouch
98. Sis trunk's operation is performed for removal of the thyroglossal cyst
99. Most common carcinoma arising in the thyroglossal cyst is the papillary adenocarcinoma
100. Branchial cyst are positioned deep to the sternocleidomastoid at the junction of upper l/3rdwith lower 2$^{/3rd}$
101. Bronchial sinus is present since birth but cysts present in the third decade
102. Ludwig's angina is rapidly spreading cellulitis of the floor of the mouth and submandibular space secondary to infection of teeth & tonsils.
103. Neck incision used for irradiated neck are McFee's incision
104. One side radical neck dissection causes a threefold increases in the intracranial pressure while B/L RND causes a fivefold increase.
105. Plummer-Vinson syndrome is characterized by cervical dysphagia, anemia and upper oesophageal webs.
106. Chances of oesophageal perforation following ingestion of alkaline substance is much higher than acidic substances
107. Nasal valve area is the narrowest part of the nasal cavity.
108. Nasolacrimal duct opens just anterior to the highest point of the inferior meatus.
109. Anterior and posterior fontanelle are membranous areas between the interior turbinate and the uncinate process
110. Accessory ostia are mostly found in the posterior fontanelle
111. Frontal sinus develops in the fourth year of life and is radiologically visible in children more than 6 years of age.
112. Maxillary sinus is present sinus birth and is radiographically visible by 4-5 months of age.
113. Frontal sinusitis causes office headache while maxillary sinusitis produces evening headache.
114. Atrophic rhinitis starts at puberty and stops after menopause.
115. Lautenslager operation for atrophic rhinitis aims at mediatisation of the lateral nasal wall.
116. Rhinitis caseosa or nasal cholesteatoma is characterized by accumulation of offensive cheesy material resembling cholesteatoma
117. Pott's puffy tumour is subperiosteal abscess subsequent to frontal sinusitis.

118. Primary syphilis is characterized by chancre while secondary syphilis is characterized by roseolar/papular rashes.
119. Tuberculosis of the nose commonly affects the cartilaginous portion of nasal septum and the anterior end of the inferior turbinate.
120. Lupus vulgaris affect the mucocutaneous junction of the nasal septum
121. Hebra nose/woody nose is seen in association with the granulomatosis stage of Rhinoscleromatis.
122. Lepromatous leprosy affects the nose more than the tuberculoid type.
123. Aspergillosis is the commonest fungal infection of the nose and Para nasal sinuses
124. Mucormycosis presents with black necrosis mass in the entire nasal cavity
125. Small to medium sized septal perforations can be treated surgically while large perforations are sealed using obturator
126. Ethmoidal polyp regress in 50% of cases with steroid drops / spray.
127. Antrochoanal polyps are to be treated by surgical removal.
128. 152 transferrin or electrophoresis is pathognomic of CSF rhinorrhea
129. C.S.F rhinorrhea is first treated by medical management for 10-14 days
130. Blood vessels contributing to little's area are sphenopalatine, anterior ethmoid greater palatine and superior labial artery.
131. Woodruff's plexus is found in the lateral nasal wall posterior to the inferior turbinate.
132. Most common fracture site of the mandible is the subcondylar region.
133. Zygomatic fractures are known as tripod fracture.
134. Tear drop sign is seen in the fracture of the orbital floor on the C.T. scan.
135. Poor speech discrimination score with a positive tone decay is a feature of Retrocochlear hearing loss.
136. Positive recruitment is seen in cochlear hearing loss.

Recent & High Yield Updated LMRPs

1. Epley maneuver: The Epley maneuver is an exercise performed to treat a type of vertigo called benign paroxysmal positional vertigo.
2. Potts puffy tumour: Subperiosteal frontal sinusitis.

3. A 16 year old male complains of Nasal obstruction, a mass seen in nasopharynx with minimal extension into sphenoid sinus, The stage of nasopharyngeal angiofibroma it is Stage IB.
4. Benign paroxysmal positional vertigo (BPPV) is vertigo that is precipitated by head position. On exam, patients display nystagmus and the symptoms can be reproduced by head movement.
5. In caloric test cold water produce horizontal nystagmus opposite side.
6. Definitive treatment of intractable vertigo due to meniere disease is intratympanic gentamycin (labyrinthectomy).
7. Gelles test negative in otosclerosis.
8. Ulcer on tongue from 3 month, 3.5*2.5 cm lesion with induration with no nodes in stage 2
9. Water's view is used to obtain diagnostic information of maxillary sinus.
10. Indications of tracheostomy: Upper respiratory tract obstruction; Laryngeal, supra laryngeal, and tracheal causes. (Causes of stridor). *Lower respiratory tract obstruction: (Secretory obstruction, Wet lung syndrome).
11. Caldwell's view is used for Maxillary sinus.
12. Referred pain of tonsillitis is carried by glossopharyngeal nerve.
13. Nasopharyngeal chondroma originates from notochord.
14. Tensor of vocal cord is cricothyroid.
15. High level tracheostomy preferred in ca larynx schedule for laryngectomy.
16. Electrode array in brain stem implant placed in lateral recess of 4th ventricle.
17. In skull base osteomyelitis: Surgery in skull base is cause, severe pain present over mastoid process, aural toilet helps to reduce pain.
18. Complications of adenoidectomy: Velopharyngeal insufficiency, cervical spine injury, retropharyngeal abcess.
19. Tracheostomy not done in tracheomalacia.
20. A 12 year adolescent male with U/L mass in nose, pink coloured cover with mucosa: Biopsy never done.
21. Target sign seen in traumatic CSF rhinorrhea.
22. Noise induced hearing loss: Outer hair cells affected.

PSM

Epidemiology

1. Theory of web of causation was given by Me Mohan and Pugh.
2. James Lind is related to the discovery of Prevention of scurvy.
3. Gap in time between entry of the organism and the appearance of signs and symptoms is the incubation period.
4. Time between entry of the organism and to produce maximum infection is known as generation time.
5. Time interval between disease initiation and disease detection in a noninfectious disease is known as latent period.
6. Serial interval is the time between onset of primary case and secondary case.

Epidemiological Studies

1. Epidemiology can be defined as the study of the distribution and determinants of frequency of disease in humans.
2. Study of time, place, person is known as descriptive epidemiology.
3. British study of Anti-asthmatic drug and death due to it is a type of ecological study.
4. Prevalence of disease can be assessed by cross sectional study.
5. Longitudinal studies for identifying risk factors of disease.
6. Study of a person who has already contracted the disease is called case control.
7. Nested case control study is type of prospective study.
8. Bias is defined as systemic error in determination of association between exposure and disease.
9. Berkesonian bias is due to different rates of admission to hospital due to different diseases.

10. Recall bias most commonly associated with case control study.
11. The use of matching as a technique to control for confounding is most appropriate for a case-control study with a small number of cases.
12. Odds ratio is calculated from case control study.
13. Odds ratio is related to relative risk.
14. Incidence can be directly calculated from prospective study.
15. 'Propensity score matching' is a technique used for removing the effects of confounding when estimating the effects of treatment on outcomes. Method of propensity score matching - inverse probability of treatment weighting.
16. RCT is not an Analytical study.
17. Association is best implicated by experimental epidemiology.
18. Selection bias can be eliminated by randomization.
19. Crossover study is done when control and case are the same.
20. Double blind study means both observer and observed group is blind.
21. Randomization in a clinical trial is done mainly to reduce selection bias in allocation of treatment.
22. Missing cases are detected by sentinel surveillance.
23. Type of surveillance included in integrated disease control program for non-communicable disease is periodic regular survey.
24. Sentinel Surveillance is for Routine Supplementary notification.
25. Most important function of sentinel surveillance is to find the total amount of disease in a population.
26. Sentinel Surveillance: The primary purpose of sentinel surveillance is to monitor the rate of occurrence of specific conditions to assess the stability or change in health levels of a population.

Investigation of Epidemic & Selected Definitions

1. First step in investigation of epidemic to confirm diagnosis.
2. Occurrence of the polio is an example of propagated epidemic.
3. Secular trend refers to gradual change in a particular direction.
4. Bhopal gas tragedy is an example of Point source epidemic.
5. Endemic disease means that a disease is constantly present in a given population group.
6. Secular trends are progressive changes occurring over long period of time.

7. Secular trend is best demonstrated by line diagram.
8. True about point source epidemic occurs in one incubation period.
9. In an epidemic the first case to come to the notice of the investigator is the index case.
10. Secondary attack rate is a good measure of the communicability of a disease.
11. Contact with hospital personnel is the most common mode of transmission of nosocomial infections.
12. Diseases which are imported into a country in which they do not otherwise occur is exotic.
13. Quarantine was first applied for plague.
14. The term Elimination best describes the presence of agent in the environment but no disease transmission takes place.

Immunization

1. TT is the most efficacious vaccine.
2. Adjuvant used in DPT vaccine Aluminum hydroxide.
3. Vaccine contraindicated during pregnancy is Rubella.
4. Mumps confers lifelong immunity.
5. Regime for Human Diploid Cell Vaccine for pre-exposure rabies vaccination is 0,7,28 then booster dose 2 years.
6. Normal saline is used as diluent for BCG.
7. BCG vaccine is administered to children intradermally.
8. WHO recommends Danish 1331 strain for BCG vaccine production.
9. Immunization against Hepatitis B is included by WHO in immunization schedule recently.
10. Neurological complications at the rate of 0.5/1000 is seen with rabies nervous tissue vaccine.
11. Live vaccine is Yellow fever vaccine.
12. In acetone killed typhoid vaccine, the immunity lasts for 3 years.
13. Immunity develops in 30 days after the administration of Japanese encephalitis vaccine.
14. The vaccine for yellow fever is valid till 10 years.
15. 17 D is a live vaccine.
16. MMR is a Live attenuated.

Download From: AghaLibrary.com

Concept of Prevention & ICD -10

1. Risk modification in CAD is primary prevention.
2. Vitamin A prophylaxis is an example of specific protection.
3. Vaccination against diseases is an example of specific protection.
4. Iron and folic acid supplementation forms Specific protection.
5. Primordial prevention deals with individuals without risk factor.
6. Desks provided with table top to prevent neck problems is an example of primary prevention.
7. Screening of the diseases is secondary prevention.
8. ICD-10 has 22 chapters.

Indicators of health

1. PQLI includes IMR, life expectancy at 1 year, literacy.
2. One DALY signifies 1 year of healthy life lost
3. In case fatality rate, numerator and denominator are 2 separate quantities.
4. Case fatality rate is a good index of severity of disease
5. Standardized mortality ratio is expressed as a percentage although a ratio.
6. Maternal Mortality Rate is calculated by maternal deaths/100000 live births.
7. Denominator in maternal mortality rate is the total number of live births.
8. Perinatal mortality rate includes death from 28 weeks to within the 1st wk of life.
9. Incidence is defined as the number of new cases occurring during a specified period.
10. Longer duration of the disease will cause an increase in the prevalence of the disease.
11. Increase in new cases in a community denotes increase in incidence rate.

Screening

1. Most number of false positives by a screening test is because of low prevalence.
2. Most important factor for a test to be a good screening test is sensitivity.

3. The ability of a test to correctly diagnose the percentage of sick people who are having the condition is called sensitivity.
4. If rapidly progressive cancers are missed by a screening test length bias will occur.
5. Positive predictive value is most affected by prevalence.
6. Specificity of a screening test is the ability of a test to detect true negative.
7. Diagnostic power of the test is reflected by Predictive value.

Disinfection

1. Savlon contains Cetrimide + Chlorhexidine.
2. Bacillus stearothermophilus is used to test the efficiency of sterilization of an autoclave.
3. The amount of bleaching powder necessary to disinfect choleric stools, is 50 gm/lit.
4. Sterilization and disinfection of blood spills is done by sodium hypochlorite.
5. Syringes and glassware are sterilized by hot air oven.

Biostatistics

Types of scales

1. If the results of a test were given as very satisfied, satisfied, dissatisfied, it represents ordinal scale
2. Mean and SD can be worked out only if the data is on Interval / Ratio scale

3. Likert scale is an ordinal scale
4. The response which is graded by an observer on an agree or disagree continuum is based on Likert scale

Classification & Presentation of data

1. Weight in kg is a continuous variable.
2. Suitable method for presenting frequent distribution of data from continuous variables is histogram.
3. Graph to study the relationship between two quantitative data is a Scatter

diagram.

4. Best method to show trend of events with passage of time is a Line diagram.
5. Best way to plot the change of incidence of disease over time is a line diagram.
6. Graph to correlate two quantitative data is a scatter diagram.

Sampling & sample size

1. Simple random sampling is ideal for Homogenous population.
2. Design effect is used specifically in cluster sampling approaches.

Measures of central tendency & dispersion

1. Mode is a measure of central tendency
2. Regarding measures of central tendency, if more outlying observation is larger than the rest of the values, the median will be smaller than the mean
3. TRUE ABOUT a negatively skewed data is that the mode is more than median.
4. In a Left skewed curve, true state-ment is that the Mean<Mode.
5. Pearson's skewness coefficient is (mean-mode)/SD.

Standard normal curve

1. The standard normal distribution has variance = 1
2. In a standard normal curve, mean ± 2 standard deviation covers 95%.

Probability & types of errors

1. The prevalence of diabetes in the population is 10%, the probability that 3 random individuals from the population will have diabetes is 0.001.
2. The events A and B are mutually exclusive so P(A or B) = P(A) +(B).
3. When we say that "the difference is significant", it means that it is unlikely by chance & when P< 0.05.
4. Rejecting a null hypothesis when it is true is called as Type 1 error.

Statistical Tests -1 (Chi Square, T-Test, Z Test)

1. Chi-square test is for standard error of difference between Proportions.
2. In a 3X4 contingency table, the number of degrees of freedom equals to 6.
3. Degree of freedom for a contingency table with 3 rows & 6 columns is 10.
4. A study was conducted on alcoholics before and after consumption. The statistical method used to find significance is Paired T test.
5. Z score is done for normal distribution.

Statistical Tests - 2 (Correlation & Regression, Survival)

1. Height to weight is a Correlation.
2. Coefficient of correlation is calculated to find whether there is association between two variables.
3. Two variables are highly positively correlated when "r" is +1.0.
4. Best test to compare new test & gold standard test Bland & Altman analysis.
5. Kaplan Meier is used for survival analysis
6. Survival rate is very important in studies cancers.

Nutrition

Macronutrients

1. In 13 - 15-year female child recommended daily intake of protein in grams is 1.33g/Kg.
2. Suggested intake of dietary fat per day in pregnancy is 30g.
3. The protein efficiency ratio (PER) is defined as the gain in weight of young animals per unit weight of protein-consumed.
4. Egg protein is known as reference protein.
5. Age independent anthropometric measure of malnutrition is weight / height.
6. Common to both acute and chronic malnutrition weight for age.
7. Infection does not indicate poor nutrition.
8. The best Indicators for chronic malnutrition is the rate of increase in height and weight.
9. Salter scale is a useful method employed in the field to measure is birth weight.
10. Omega-3 fatty acids is a cardio-protective fatty acid.

Micronutrients

1. Halibut liver oil is the richest source of vitamin A.
2. Under NIS, total dose of Vit. A given to a child is 17 lac IU.
3. Xerophthalmia is a problem in the community if the prevalence of Bitot's spot is more than 0.5%.
4. Vitamin D requirement for children is 200 IU .
5. Pellagra is caused by deficiency of Niacin.
6. Pulse with highest iron content is soya bean
7. Iodized salt at production level and at consumer level should be 30 ppm and 15 ppm.
8. Safe limit of fluorine in drinking water is 0.5-0.8 mg/lit.
9. Nalgonda technique is useful in endemic fluorosis.

Nutrition profile of principal foods

1. Cereals are deficient in Lysine.
2. Pulse proteins are poor in Methionine.
3. Maize is deficient in Tryptophan.
4. Cereals and proteins are considered complementary because cereals are deficient in lysine and pulses are deficient in methionine.
5. The protein content in rice is 6-7%.
6. Maximum calories per 100 gm are found in black gram.
7. IgG is present in high amount in breast milk.
8. Calcium is maximum in Buffaloes' milk
9. Breast milk has more lactose in comparison to cow's milk.
10. Fish is deficient in Iron.

Nutritional requirements & reference body weights

1. RDA indicates adequacy of dietary intake.
2. Reference Indian male is between 18 - 29 yrs.
3. Cut off body weight of Indian reference man is 60.
4. Reference weight of Indian men and women is 60 and 55 kg respectively.
5. The recommended daily intake of energy for an adult woman engaged in stone cutting is 2900 kcal.

Dietary goals & role of nutritional factors in diseases

1. One dietary cycle comprises of 7 days
2. Test for efficacy of pasteurization of milk is Phosphatase test
3. Bacterial count is reduced by 90% after pasteurization of milk
4. Major toxic principle of 'Lathyrus' sativus' (khesari dal) causing neurolathyrism is BOAA
5. Aflatoxin is produced by Aspergillus flavus
6. Toxin responsible for epidemic dropsy is Sanguinarine
7. Food standards in India have to achieve a minimum level of quality under PFA standards.

Community Nutrition Programme

1. Mid-day meals provided in schools is One-third of calories and one half of protein.
2. Target for LBW reduction under nation nutrition policy is <10%.
3. The dose of pediatric IFA tab supplied under the RCH program is 20 mg of elemental Fe and 100 pg of Folic acid daily.

Environment & Health

Water

1. Nitrates in excess of 45 mg/L may cause infantile methemoglobinemia.
2. The vital layer in a slow sand filter is zoogleal layer
3. Trickling filter has biological zoogleal layer.
4. Chlorine demand of water is measured by Horrock's apparatus.
5. Disinfecting action of chlorine is due to Hypochlorous acid.
6. Residual chlorine is determined by Orthotolidine test.
7. Minimum chlorine content of water after chlorination should be 0.5 mg/L.
8. Orthotolidine test can detect Free & combined chlorine.
9. Chlorination acts best when pH is around 7.
10. Disinfecting action of chlorine on water is mainly due to Hypochlorous acid.
11. Indicator solution in Horrock's apparatus contains Starch iodide.
12. Hardness of drinking water should be 1-3 mEq / L .

13. Softening is for drinking water when hardiness of water is more than 150 mg/litre.
14. Normal fluoride level for drinking purposes is in mg per liter 0.5-0.8 mg /1.
15. Nalgonda technique for de fluoridation is in the sequence Lime + Alum.
16. Proposed guideline values for radioactivity in drinking water is gross a activity 0.5 Bq/L & gross P activity lBq/L.
17. Faecal contamination of drinking water is evaluated by E coli.
18. Most reliable evidence of fecal contamination of water is provided by coliform.
19. E. coli is as an indicator for recent fecal contamination of water.

Air

1. Kata thermometer is used to measure cooling power of air.
2. CO2 is the major greenhouse gas emission.
3. Humidity is measured by sling psychrometer.
4. Air velocity is measured by anemometer.
5. According to Floor Space standards, the half unit is considered at child age of 1-10 years.

Light, noise & radiation

1. An illumination of 15 to 20 foot candles is accepted as a basic min for satisfactory vision.
2. Ceilings & roofs should have a reflection factor of 80%.
3. Recommended illumination (lux) for general office work is 400.
4. Whispering produces sound of 20-30 db.
5. Rupture of Ear drum may actually occur at a decibel level above 160.
6. Chronic noise exposure above 100 db level permanent deafness.
7. The maximum permissible limit of daily exposure to noise level without causing damage to hearing is 90 db.
8. UV rays is non-ionizing radiation.

Disposal of wastes

1. Sewage is defined as waste water from community containing solid and liquid excreta.
2. Sullage is defined as waste water which does not contain human excreta.

3. The amount of sewage flowing in a system in 24 hours is called dry weather flow.
4. Biological oxygen demand gives an indication of organic matter.
5. Waste water from kitchen is called sullage.
6. A good trap should have effective seal of 2.5 cm.

Medical entomology

1. Tics transmit KFD.
2. Aedes aegypti is a vector of chikungunya.
3. Arthropod transmitted disease not found in India yellow fever.
4. The breeding place for anopheles' mosquito is clean water.
5. The cycle of yellow fever virus in Aedes is propagative.
6. Cyclo propagative biological transmission takes place in malaria.
7. The average life of a Cyclops is about 3 months.
8. Drinking water is best made free of Cyclops by filtration.
9. The concentration of abate recommended for killing Cyclops is 1 mg/L 1.
10. Culex is not resistant to DDT.
11. Pyrethrum is of plant origin.
12. Paris green is a larvicidal for Anopheles.
13. Malathion spray is effective for 3 months.
14. Dose of malathion used for residual insecticidal action is 100-200 mg/sq. foot.
15. Mite transmits scrub typhus
16. Sand fly is a vector in Kala-azar
17. Dengue is transmitted by Aedes
18. Endemic typhus is transmitted by flea
19. Epidemic relapsing fever is transmitted by louse

Diseases & National Health Programs

Communicable Diseases -1

1. World was declared free of small pox by WHO in 1980.
2. Smallpox was declared globally eradicated on 8th May 1980.
3. Smallpox was eradicated from India in the year in 1977.

4. Koplik's spots are seen in Rubeola.
5. Erythema infectiosum is known as Fifth disease.
6. The incubation period of mumps is 18 days.
7. McKeon's theory on reduced prevalence of Tb is based on social and environmental factor.
8. Rx for sputum positive pulmonary TB in First Trimester Cat I under DOTS.
9. TB is known as the barometer of social welfare.
10. As per the latest RNTCP guidelines, 2 weeks history of cough is required to qualify a patient as a TB suspect.
11. As per WHO, tuberculosis is said to be under control when prevalence of natural infection in the age group 0-14 years is of the order of 1 %.
12. Sputum positive TB is 1 out of 2 sputum sample +ve.
13. Case finding in RNTCP is based on sputum microscopy.
14. Tuberculin positive means patient is infected with mycobacterium .
15. For Mantoux test the standard dose of tuberculin used in India is 1.0 TU
16. The most common mode of HIV transmission in India is sexual transmission.
17. The highest number of AIDS cases in India have occurred in the age group of 30-44 years.
18. Nevirapine is used to prevent transmission of HIV from an infected pregnant mother to newborn child.
19. MC subtype of HIV in India is HIV-C.
20. HIV virus was discovered in the year 1983.
21. In an HIV infected child OPV should not be given.
22. Window period for HIV infection is 3-12 weeks.
23. Lymphogranuloma venereum is caused by Chlamydia trachomatis.

Communicable Diseases - II

1. Recommended adult prophylaxis for meningococcal infection is Rifampicin 600 mg twice daily for 2 days
2. In Salmonellosis, isolation is done till 3 consecutive negative stool cultures.
3. In AFP surveillance, re-evaluation of post-polio residual paralysis is done after 60 days.
4. Acute flaccid paralysis is reported in a child aged 0-15 years.

5. Man is the only known reservoir of infection in polio.
6. Roosevelt had polio.
7. Classification of leprosy depends on clinical examination.
8. Leprosy is considered a public health problem if the prevalence of leprosy is more than 1 per 10,000.
9. Lepromin test is used for prognosis.
10. In lepromin test, Mitsuda reaction is read after 4 weeks.
11. In typical tuberculoid form of leprosy, lepromin test is highly positive.
12. Herpes simplex-2 is sexually transmitted disease.

Communicable Diseases - III

1. Plague epidemic in Surat in 1995 has occurred after a 'silence period' of 28 years.
2. In India the natural reservoir of plague is Tatera indica.
3. Most diagnostic of rabies is Negri bodies.
4. Eight site rabies vaccine schedule is 8-0-4-0-1-1.
5. Rabies vaccine for pre exposure prophylaxis is given at 0, 7, 28 days
6. Post exposure vaccine of rabies already immunized patient is 0-3-7 .
7. Age is the most important risk factor for becoming a chronic carrier following an acute episode of hepatitis B.
8. Hepatitis B virus has a significant perinatal transmission.
9. A. culicifacies is the commonest vector for malaria transmission in India.
10. Number of holes per square inch of a standard mosquito net is 150.
11. First line of drug for falciparum malaria is Chloroquine.
12. Sporozoite is the infective stage of malarial parasite.
13. The organism most commonly causing genital filariasis in most parts of Bihar and Eastern U.P. is Wuchereria bancrofti.
14. Japanese encephalitis is transmitted by Culex.
15. In India, the most important vector for Japanese encephalitis is Culex tritaeniorhynchus.
16. In staphylococcal food poisoning signs and symptoms develops in 2-6 hours.
17. Tetracycline is the drug of choice for chemoprophylaxis of cholera.
18. According to WHO, cholera is a notifiable disease.
19. Incubation period of Cholera is less than 7days.

20. Dracunculiasis is spread by vector.
21. In India the incidence of guinea worm is 0.
22. The best method for prevention of guinea worm disease is the use of cotton cloth to filter the water.
23. Dog is the definite host for Echinococcus granulosus.
24. Most common site of hydatid cyst is liver.
25. Rhabditiform larva after molting twice is the infective form of Ancylostoma duodenale.

Non-communicable Diseases

1. Blindness as defined by WHO is the visual acuity of less than 3/60.
2. Commonest cause of blindness in India is cataract.
3. Under the National Programme for control of blindness, school teachers are supposed to conduct the vision screening of school students.
4. Goal for blindness under NCPB is to reduce prevalence of blindness in 2020 to 0.3%.
5. In vision 2020 ophthalmic surgeon population ratio is follows is 1:500000.
6. Mass treatment is given in trachoma if prevalence of moderate and severe trachoma in children below 10 years of age is more than 5%.
7. SAFE strategy is recommended for trachoma.
8. Type of surveillance included in integrated disease control program for non-communicable disease is periodic regular survey.
9. Obesity is defined as BMI more than 30.
10. Normal range of BMI Asian Individual is 18.5 to 22.99.
11. In morbid obesity, BMI is > 40.
12. Height in centimeters by cube root of body weight is also known as Ponderal index.
13. Screening of cervical cancer at PHC level is done by colposcopy.

National health Programmes & Policies

1. JSY is Janani suraksha yojana.
2. Janani suraksha yojna includes institutional deliveries.
3. The most common cause of maternal mortality in India is obstetric hemorrhage.
4. Denominator in maternal mortality ratio is the total number of live birth.

5. The vitamin A supplement administered in prevention of nutritional blindness in children programme contains 1 lakh lU/ml.
6. According to WHO, the oral rehydration solution (ORS) besides glucose 2Og/lit. and sodium; chloride 3.5g/lit, also contains 2.5 g sodium bicarbonate and 1.5g potassium chloride.
7. 12.ICDS was started in 1975.
8. Boys over 16 years of age, who are too difficult to be handled in a certified school or have misbehaved there, are sent to a remand home.
9. National Programme for the healthcare of elderly was started in year 2007.
10. India aims to eradicate Filariasis by 2015.

Demography & Family Welfare

Demography

1. Regarding 'Late expanding phase of demographic cycle', death rate declines more than birth rate.
2. India is in the late expanding phase of demographic cycle.
3. First disability census was done in the year 2001.
4. If annual growth rate of a population is 1.5 - 2%, then 47-35 yrs will be required to double the population.
5. Targets for IMR and MMR under 12th five-year plan is 25/1000 Live Births and 100/100000 Live Births.
6. Demographic Gap attains its maximum limit in late Stage II.
7. Contraction of demographic Gap starts in early stage III.
8. Demographic processes does not include morbidity.

Health Statistics

1. Total fertility rate is an indicator of COMPLETED FAMILY SIZE.
2. NRR is the only indicator of fertility which takes mortality into consideration
3. If the TFR in India is 2.2, the CBR would be 18.6 per 1000 population.
4. Number of live birth per 1000 women in reproductive age group is GFR.
5. Denominator in General fertility rate is women in reproductive age group in a-given year.

Family Planning

1. Contraception of choice in newly married couple is OCP.
2. Contraceptive of choice in lactating female is progesterone only pill.
3. Best index of contraceptive efficacy is Pearl index.
4. Pearl index is defined as accidental pregnancies per 100 women-years of exposure.
5. Conventional contraceptives include condom.
6. Emergency Contraception of choice is IUD.
7. Most common complication associated with IUD is bleeding.
8. Most common complication resulting in removal of IUD is pain.
9. MTP Act was passed by Parliament in 1971.
10. Under MTP Act, termination can be done maximum upto 20 weeks.
11. Population control can be achieved by spacing between the pregnancies.
12. Pearl index is used to evaluate contraceptive failure.

Biomedical Waste Management, ■gj
Disaster Management,
Occupational Health, Genetics and Health,
Mental Health

BMW Management - Part -1

1. Amount of infectious waste among hospital waste is 1.5%.
2. According to the Bio Medical Waste (Management and Handling) Rules, 1998 of India, schedule II, the waste included in Category 4 are waste sharps.
3. Incineration ash is seen in the category 9.
4. Blue bag in hospitals is used to dispose of waste sharps.
5. Discarded cytotoxic medicines should be disposed in black bag.
6. According to the Bio Medical Waste (Management and Handling) Rules, 1998 of India, the Yellow colour code is for Human Anatomical Waste.
7. Plastic cover of syringes are disposed in black bag.

8. Black colour Bag is used for Cat 5.
9. Biodegradable waste products are disposed in Yellow bags.
10. Category 8 (Liquid waste) of Biomedical wastes in India do not require containers bags for disposal.

BMW Management - Part - II

1. Outdated drugs and cytotoxic waste are disposed by destruction & disposal in secure land fill.
2. Disposal of placenta at PHC is treatment with bleaching powder and burial.
3. 3-D in hospital waste management means Disinfection, Disposal, Drainage.
4. Yellow plastic bags containing biomedical wastes are treated by incineration.
5. Animal waste is disposed of by incineration.
6. Incineration is high temperature oxidation process.
7. Yellow bag must be incinerated
8. According to the Biomedical Waste Rules (1998), for the hospital waste products disposed by incineration, the temperature of primary chamber of incineration should be 800 + /- 50°C.
9. Incineration is done for human anatomical waste.
10. Safe disposal of mercury is to collect carefully and recycle.
11. Mercury is disposed by safely collect and re-use.
12. Best way to dispose e-waste is recycling.

Disaster Management

1. Most commonly reported disease in the post disaster period is gastroenteritis.
2. In post disaster phase; for ensuring safe water supply, it is advisable to have a Residual Chlorine Level of 0.7 mg/ litre.
3. In draughts, commonly noticed vitamin deficiency is Vitamin A.
4. As per the most common classification of Triage system that is internationally accepted, the colour code that indicates high priority treatment or transfer is Red.
5. Black color in triage is death.

6. Triage is green-ambulatory.
7. Flood is the calamity with most amount of damage.
8. Natural disaster causing maximum deaths hydrological.
9. District is the nodal centre for disaster management.
10. Triage is categorization of patients and treating them according to the available resources.

Occupational Health - Part -1

1. A person working in hot environment who consumes more H20 without salt is likely to develop heat cramps.
2. Maximum permissible level of whole body occupational exposure to ionizing radiation is 5 rem per year.
3. Dust particle, in a industry is a chemical hazards.
4. Respirable dust, responsible for pnuemo coniosis, has a size limit of < 5 micron.
5. Respirable dust for pneumoconiosis is 0.1-5 m.
6. 0.5-3 microns dust particles gets lodged in the respiratory tract.
7. Anthrax, according to The Workmen's Compensation Act, 1992, is considered an occupational disease.
8. Silicosis occurs with Silica fibres.
9. Exposure to cotton dust causes Byssinosis.
10. Byssinosis is seen in textile industries
11. 'Bagassosis is an occupational caused by inhalation of sugarcane dust.
12. Thermoactinomyces saccharic causes Bagassosis
13. Bagassosis can be prevented by spraying 2% propionic acid
14. Main cause of Farmer's lung is due to Micropolyspora Faeni
15. Monday fever is associated with Byssinosis
16. "Snow-storm" appearance is seen in Silicosis
17. Silicosis affects upper lobes of lungs
18. Minimum duration to developing coal minor pneumoconiosis > 10 years.

Occupational Health - Part - II

1. Lead is the most common heavy metal poisoning in the world.
2. Lead poisoning in industries commonly occurs by inhalation.
3. Most common mode of lead poisoning is inhalation.

4. Useful screening test for lead is measurement of coproporphyrin in urine.
5. The clinical symptoms of lead toxicity are associated with blood levels of 70 mcg/lOOml blood.
6. Occupational exposure that may cause sterility in females is Lead.
7. Wrist drop may be caused as industrial hazard in battery use.
8. Nearly 3/4th of occupational cancers are Skin Cancers.
9. Naphthylamine are associated with Bladder cancer.
10. Benzene is associated with Leukemia.

Occupational Health - Part - III

1. Pre-placement Examination has an important role to play in occupational Health.
2. Periodic Examination of factory workers is a type of secondary prevention.
3. Sickness absenteeism is a useful index to assess the state of health of the workers.
4. Ergonomics is adjusting the worker to his job.
5. Indian constitution has declared that children less than 14 years should not be employed in factories or mines.
6. 'Safety officers' have to be appointed in factories where no. of workers is more than 1000.
7. According to "Factory Act, 1948" maximum permissible working hours per week are 48.
8. Minimum area per person mandatory under the factory act is 500 cu. Ft.
9. Under ESIS act, the state government's share of expenditure on medical care is 1/8.
10. Under ESI Act, sickness benefit is given for a period of 91 days.
11. Extended sickness benefit under the ESI Act is for 2 years

Genetics

1. "Eugenrcs" is the study of hereditary improvement of the human race by controlled selective breeding.
2. Environmental Manipulation which enables genes to express themselves readily is known as Euthenics.
3. Hemophilia is a genetic disorder of coagulation seen only in males and is transmitted as X-linked recessive.

4. Polygenic inheritance is seen in Hypertension.
5. Hardy Weinberg law is related to Population genetics.
6. The primary goal of Human Genome Project is to identify genes and sequence of base pairs in DNA of human genome.
7. Amniocentesis to detect chromosomal abnormalities can be done as early as 14th week of gestation.
8. "Founder effect" describes the distribution of diseases on the basis of genetics.
9. Punnet's square is used for finding genotype of offspring.

Mental health

1. Most commonly abused agent in India tobacco.
2. Anxiety is a socio-pathological factor associated with mental illness.
3. Endocrine diseases is associated with mental illness.
4. Maximum loss of DALY occurs in depression of all the psychiatric disorders.
5. Amphetamine is known as "superman drug".
6. Hereditary cause of mental health disorder is schizophrenia.
7. Mental retardation is defined if IQ is below 70.
8. WHO grading of IQ for mild mental retardation is 50-70.
9. The 1995 persons with disability act passed by the parliament included 7th disability, conditions was included as the 7th disability in Mental illness.

Health care in India, Health Planning & Management

1. ASHA is posted at the village level.
2. "Impact" indicator for evaluation of ASHA's performance is reduction in infant mortality.
3. AWW and ANM are responsible for training of ASHA.
4. One sub-centre caters to the population of 5000.
5. Planned endpoint of all activities is known as Objective.
6. Recommendations of Bhore committee include major changes in medical

education to prepare "social physicians".

7. Multi-purpose worker scheme in India was introduced following the recommendation of Kartar singh committee.
8. A group on medical education & support manpower was popularly known as Srivastava committee.
9. A 3 year graduate MBBS programme was suggested by Expert level committee on Universal Health coverage.
10. Set of statement for monitoring progress towards goal is referred as procedure.
11. Bajaj committee recommends health manpower policy.
12. Integration of health service was first proposed by Jungalwalla committee.
13. Bajaj committee in 1986 proposed manpower and planning.
14. Rural health scheme introduced by Srivastava committee.
15. One PHC is located for a population of 30,000.
16. A sub centre in a hilly area caters to a population of 3000.
17. Eligible couple Register is maintained at Sub centre.
18. One health assistant male female should be posted for every 30000 population.
19. Three- Tier system of Health care delivery in rural areas in India is based on the recommendations of Srivastava Committee.
20. Principal Unit of a administration in India is district.
21. A Sub-centre is manned by multipurpose worker.
22. Alma Ata conference was held in 1978.

MISCELLENOUS

1. Basic reproduction rate of infection best correlates to the rate of contact with infectious person.
2. HPV vaccine is bivalent & quadrivalent.
3. The first scientist to observe bacteria and other microscopic organisms was Anton Van Leeuwenhoek.
4. Anticonvulsant used in migraine is Valproic acid.
5. For operating the Blood bank, license given by Drug controller general of INDIA.
6. NDPS provides for punishment of drug addicts and illicit sale of drugs.

7. Rickettsial pox is caused by Rickettsia akari.
8. Rat is associated with Leptospirosis.
9. Father of Medicine/First true Epidemiologist - Hippocrates.
10. 'Epidemiological Triad 'comprises of-Agent, Host and Environment.
11. Extermination of organism is Eradication.
12. Action taken prior to onset of disease is Primary Prevention.
13. Early diagnosis and treatment Secondary Prevention.
14. Ivory Towers of disease Large hospitals.
15. Framingham heart study is a cohort study.
16. Sensitivity identifies true positives.
17. DANISH 1331 strain for BCG vaccine.
18. Chandler index for hookworms is Av. No of Eggs / gm of stool.
19. MC complaint of IUD insertion is bleeding.
20. MTP Act, 1971 was passed in - April 1972.
21. Paris green is a-Stomach poison.
22. Pyrethrum is a-Space spray.
23. Sickness benefit under ESI Act, 1948 - 91 days.
24. World Health day-7th April.
25. HEV transmission - Faeco - oral route.
26. DOC cholera (pregnancy) - Furazolidone.
27. Maximum allowable sweat rate - 4.5 liters per 4 hours.
28. The Factory Act and ESI Act were passed in 1948.
29. Q- fever is caused by Coxiella burnetii.
30. Amplifier host of Japanese encephalitis pigs.
31. MDR TB is - Resistance to INH and Rifampicin.
32. Most abundant Ig in breast milk IgA.
33. In DOTS diagnosis is based on Sputum smears.
34. Maximum tolerable sound level to human ears - 85dB.
35. Father of Modern Toxicology Mathieu OR fila.
36. Web of causation proposed by- McMahan and Pugh.
37. India is Demographic cycle - Stage 3 (Declining Birth rate and Declining Death rate).
38. Avian influenza DOC Oseltamivir 150mg BD X 5 days.
39. Normal distribution curve is - Bell shaped symmetric.
40. MPW is located at Sub center level.
41. MC disorder to be screened in neonate's Neonatal hypothyroidism.

42. Richest source of Vit. A/D is - Halibut liver oil.
43. Small pox was declared Eradicated on 8th may, 1980.
44. MCC of blindness: Cataract.
45. Extensive drug resistance (XDR) in a TB case is resistance to a fluoroquinolone and 2nd live injectable anti TB drug (Kanamycin, Amikacin or capreomycin).
46. Bedaquiline targets mycobacterial ATP synthase.
47. April 25,2016 is national switch date for switching from trivalent OPV to bivalent OPV.
48. Waste sharps are discarded in white translucent puncture proof contains.
49. Zika virus is transmitted to people through the bite of an infected Aedes species mosquito, through sexual contact & could pass to body during pregnancy.
50. RKSK is a health programme for adolescents in the group of 10-19 years.
51. VISION 2020 includes trachoma, Refractive errors & low vision, onchocerciasis, childhood blindness & cataract.
52. Under JSSK, free drugs & consumables, free diet is given up to 3 days during normal delivery and up to 7days for C- section.

Recent & High Yield Updated LMRPs

1. Regarding Factory Act: Child age less than 14 years cannot be employed in dangerous work.
2. Meningococcal vaccine not included in mission indradhanush.
3. The minimum gap to be kept while giving two live vaccines is 4 weeks.
4. In a screening test done on 1000 people 90 were found to be positive and on using gold standard test out of 1000, 100 were found positive, the sensitivity of the screening test is 90/100.
5. Nikshay is online TB registration system.
6. RDA of Iodine in lactating women is 250 mcg/day.
7. True about measles: Immunity after vaccination develops in 11-12 days.
8. If a person develops a disease from a primary case in a certain time period, then it is called Secondary attack rate.
9. Unit of ecological study is Population.

10. A new drug was found to be as effective as old drug in remission of patients in cancer after 1 year of treatment. The P value of the study was 0.4 the true statement is Insufficient data to comment on the efficacy of both.
11. Most peripheral microscopic facility for treatment of TB under the program RNTCP is Designated Microscopy centre.
12. You went to a sub center as part of an audit. 100 infants should be registered with a health worker working there.
13. Under National Health Mission Village health sanitation and nutrition committee (VHSNC) committee makes plan for village health.
14. Heart rate/min and Age cannot be analyzed with chi square test.
15. The parameters are used to determine the sensitivity of vaccine due to heat is VVM.
16. 2 or more proportions: Chi square test.
17. Comparing means of 2unrelated data sets: Unpaired t test.
18. 6-month old fast breathing: Above 50 breaths / minute.
19. Bird arthropod human are present in life cycle of JE.
20. Incidence over period of time shown by line diagram.
21. Probability of disease being positive out of those who test positive on a screening test: Positive predictive value.
22. Cross product ratio: Case control study.
23. Paradoxical carrier: Carrier to Carrier.
24. Malaria parasite indices incorrect: Annual parasite index.
25. Severe acute malnutrition: Weight for height < 3SD
26. Vaccine changed every year is influenza.
27. Confounding factor: independent association with risk factor and disease.
28. Area covered under 1SD is 68%.
29. Fruit bats of the Pteropodidae family are the natural host of Nipah virus.
    • Nipah virus is on the WHO list of Blueprint priority diseases.
30. The recommended isolation period in Measles is 15 days.
31. Adult JE is not included in UIP.
32. BCG is protective against CNS & disseminated TB.
33. Pulmonary TB with documented resistance to INH & Rifampicin. Appropriate management is 6 drugs for 6 months & 4 drugs for 18 months.
34. Blood bag should be disposed at yellow bin.

35. Urine bag should be disposed in red bin
36. In a trial, BP of patient was measured independently between two groups. The statistical test is applied is unpaired t test.
37. True about the screening tests done in series are Specificity increases sensitivity decreases.
38. Maternal Mortality Ratio is described in terms of No. of maternal deaths per 100000 births.
39. Mid-day meal scheme includes provision of l/3rd calories & 1/2 protein.
40. According to WHO the dose of Levonorgestrel in Emergency Contraception is 1.5 milligram
41. Test to identify the damaged drug due to over freezing is Shake test.
42. A health center reports 40 to 50 dengue cases in a week in the community. This week there are 48 cases normally. This is called as Endemic.
43. Provisions of mental health act 2017 based on WHO health action gap are Future will, Treatment services, Directive will.
44. North eastern state P. Falciparum treatment are artemether + lumefantrine + primaquine.
45. Scrub typhus doc is doxycycline.
46. Setup for health planning at village level are village health sanitation and nutrition committee.
47. Estimated no. of infant under health care worker in sub centre is 100

Medicine

Endocrinology

Carbohydrates

1. **eAG** (Estimated Average Glucose) is based on HBA1C
2. For diagnosis of DM, FBS >126mg/dl.
3. HbAlC > 6.5% is a new diagnostic criterion for DM
4. Impaired glucose tolerance on an oral GTT is indicated by 2 hrs after glucose load is 140-199 mg/dl; or fasting blood sugar < 126 mg/dl or HbAlC between 5.7 to 6.4 %.

Types of Diabetes

Type -I DM

1. Patient has normal Weight or under weight
2. Anti-glutamic acid decarboxylase (GAD) antibodies
3. HLADR3, DR4

Type - 2 DM

1. Patient has over Weight
2. Family history strongly positive
3. Initially Serum insulin levels are very high (hyperinsulinemia)
4. Thrifty Genes Cause over eating and obesity
5. Leptin reduces insulin resistance

Newer Types of Diabetes

1. Potential Diabetes:Patient's Positive familyhistory but he himself does not havediabetes.

2. Latent Diabetes: Diabetes under stressful conditions
3. Acute Fulminant DM is caused by viral infection.
4. MODY is Autosomal dominant
5. LADA: Type 1 DM in elderly person.
6. Brittle Diabetes: wide fluctuation in blood sugar level, seen in children
7. Tropical diabetes: Pancreatic calcification and pain abdomen.

Other causes of diabetes mellitus

1. Drug induced: steroids, thiazides, nicotinic acid, phenytoin, alpha IF, Protease inhibitor, beta agonist, clozapine.
2. Pancreatic: pancreatitis; surgery (where >90% pancreas is removed); trauma pancreatic destruction (hemochromatosis, cystic fibrosis); pancreatic cancer. Fibrocalculous pancreatopathy/ Tropical calcific pancreatitis/Malnutrition related DM.
3. Other Conditions Endocrine: Cushing's disease; acromegaly; pheochromocytoma; hyperthyroidism. Glucagonoma, Somatostatinoma (Note = In Addison disease, hypoglycemia occurs)

Treatment of diabetes

1. For any obese type II diabetic patient best initial therapy is diet therapy and exercise
2. BMI = body weight (kg) / height in meters2
3. Metformin Best Initial Drug in type II obese diabetic
4. Sulfonylurea is a Insulin secretogogue
5. Thiazolidinediones (Pioglitazone) can precipitate heart failure
6. Alpha-glucosidaseinhibitor can be given in both type I & type II DM
7. Meglitinide is a insulin secretogogue

INSULIN

1. Ultra Short-acting a. Aspart b. Glulisine
2. Long acting a. Detemir b. Glargine
3. Insulin degludec is an ultra-long-acting insulin
4. Injection Dulaglutide it itself is a GLP-1. It is given once a week
5. Insulin Resistance when requirement of Insulin is more than 200 units per day.

6. Insulin resistance in liver disease is due to steatosis

Recent Advances Newer drugs

1. GLP -1 and GIP Agonist a. Exenatide b. Liraglutide c. Dulaglutide
2. DPP-IV inhibitors a. Sitagliptin b. Vildagliptin
3. Amylin agonist a. Pramlintide
4. Drugs which do not cause hypoglycemia are:
   a. Metformin b. Alpha glucosidaseinhibitor
   c. Pioglitazone d.DPP-IV inhibitor
5. Linagliptin can be given in renal failure
6. Colesevelam is a Bile Acid Sequestrant
7. Canagliflozin Renal glucose transporter inhibitors
8. Resveratrol is a Anorexic drug
9. Lorcaserin is a 5HT2C agonist. It is an anorexic drug
10. Bromocriptine Reduces blood sugar.
11. Anti-Obesity Drugs a. Topiramate, b. Naltrexone
12. Epalrestat is a aldose reductase inhibitor
13. Sorbitol acts as a tissue toxin

Goals of treatment in a diabetic patient

1. HbAlC<7
2. BP < 140 / <90 mmHg. (In Younger patient <130/80)
3. LDL<100mg%
4. Pre-prandial blood sugar 70 - 130 mg% PP blood sugar < 180 mg%
5. BP < 140 / <90 mmHg. In Younger patient <130/90)
6. HDL >40mg% in male, >50mg% in female
7. Tg <150 mg%

Diabetic Ketoacidosis

Clinical feature

1. Abdominal pain
2. Kussmaul respiration
3. Fruity odour of the breath
4. Pseudohyponatremia

5. Hyperkalemia
6. Leucocytosis
7. Metabolic acidosis with increase anion gap
8. Treatment: l/v Regular insulin, normal saline, Antibiotic
9. Cerebral edema is the most dangerous complication of DKA

Lactic Acidosis

1. The Cohen-Woods classification is for lactic acidosis
2. Thiamine deficiency causes lactic acidosis
3. In lactin acidosis, there is metabolic acidosis with increase anion gap

Non Ketotic Hyperosmolar Coma (NKHOC)

Clinical Features

1. Serum osmolality= [2 x (serum Na + serum K) + plasma glucose (mg%)/18 + BUN (mg%) / 2.8)]
2. RBS = is in the range of 600 to 1200 mg%
3. Increase serum osmolality
4. Pseudohyponatremia occurs
5. Nausea, vomiting, pain abdomen are not the feature
6. l/v regular insulin and normal saline is given

Chronic Complications of Diabetes Mellitus CVS Complications

1. CAD is the commonest cause of death in diabetes.
2. Earliest dyslipidemia to occur is diabetes is raised Tg
3. Legacy effect or Metabolic memory is related to CVS complication in DM
4. ACEI are the drug of choice in diabetic with hypertension
5. Telmisartan is the only ARB which acts on PPAR gamma receptor. So it is the ARB of choice that should be used in diabetes
6. Wet gangrene occurs in DM
7. DM is the second most common cause of amputation in the world (M/C is trauma)
8. Saroglitazar Acts on PPAR alpha & gamma receptor so it reduces both blood sugar & lipid. It is a new drug.

9. Alicuromab is a new drug for hyperlipidemia. It is PCSK-9 Inhibitor.

Nephropathy

1. TGFR is the 1st manifestation of diabetic nephropathy.
2. Microalbuminuria is the most reliable marker of diabetic nephropathy.
3. ACEI are given as nephro protective drug.
4. ACEI are contraindicated in CRF because they cause hyperkalemia
5. In Diabetes Hyperkalemia can occur due to RTA type IV

Eye Involvement in Diabetes

1. Bevacizumab and Ranibizumab (VGEF Inhibitor) are used in the treatment of diabetic retinopathy
2. DM is a common cause of blindness
3. Snow flake cataract is seen in diabetes
4. Rubeosis iridis (New Vessel Formation in Iris) can cause glaucoma

Neuropathy& Diabetic Foot

1. Callus formation is the earliest manifestation of diabetic foot.
2. Vibration sensation is the first to be lost in DM polyneuropathy
3. Frequency of the tuning fork used to assess vibration sense is 128.
4. Erythromycin acts on the motilin receptor
5. Drug used for ED- a. Sildenafil, b. Apomorphine, c. Yohimbine, d. PgEl
6. In DM lllrd nerve is involved most commonly but pupillary reaction remains normal
7. Distal sensory neuropathy is the m/c neuropathy
8. Proximal muscle weakness can occur

Other Complications of DM

1. Malignant otitis Extern caused by Pseudomonas infection
2. Rhino cerebral mucormycosiscaused by Fungus
3. Emphysematous pyelonephritis caused by E. coli
4. Emphysematous cholecystitis caused by Clostridium or E. coli

Skin Involvement in DM

1. Pigmented pretibial papules
2. Necrobiosis lipoidica
3. Acanthosis nigricans
4. Granuloma annulare
5. Lipoatrophy and lipohypertrophy
6. Scleredema
7. Dupuytren's contracture.

Hypoglycemia

1. Somogyiphenomena = hypoglycemia at Midnight and hyperglycemiain the morning (8 am)
2. Dawn phenomena = hyperglycemia at Midnight and hyperglycemiain the morning (8 am)
3. In Addison disease, hypoglycemia occurs
4. In Nesidioblastosis, Infants and Children have fasting endogenous hyperinsulinemic hypoglycemia
5. Glucagonoma is characterized by Necrolytic migratory erythema

Insulinoma

1. Weight gain occurs in Insulinoma
2. 72 hours Fasting blood glucose levels is the "gold standard" test for Insulinoma
3. Whipple criteria is used in hypoglycemia
4. Diazoxide and octreotide are used in the treatment of Insulinoma

Metabolic Syndrome

1. Raised LDL cholesterol is not a feature of metabolic syndrome

Hyperthyroidism

1. If we give high dose of iodine for short period it inhibits T4 synthesis (Wolf Chaikoff effect)
2. If we give low dose of iodine for a long period it increases T4 synthesis (Job Basedow effect)

3. Drugs which inhibit peripheral conversion of T4 to T3 are:
   a. Propranolol b. Dexamethasone c. Propylthiouracil
   d. High dose of iodine e. Radiographic contrast media
4. Raised TSH is the best test to assess primary hypothyroid.
5. Thyrotoxicosis with reduced RAIL) is seen in
   a. Factitious hyperthyroid
   b. De Quervain thyroiditis (Sub acute thyroiditis)
6. Hypothyroid with increased RAIU = I_2 deficiency Hypothyroid (endemic hypothyroid)

Graves disease

1. Pre tibial myxedema occurs in dermopathy of Grave disease
2. Grave disease = HLA B8, DR3
3. Clinical features

a. Means Lerman sound (it is scratchy sound heard over the precordium), AR, Systolic HT
b. Proximal myopathy, Periodic paralysis
c. Diplopia occurs when patient looks up and laterally. Inferior rectus is most commonly involved
d. Thyroid acropathy (clubbing) occur in Grave disease

4. Propyl thiouracil (PTU) is DOC in pregnancy with hyperthyroid
5. Carbimazole& PTU can cause skin rash and aplastic anemia

Factitious Thyrotoxicosis

1. Factitious thyrotoxicosis occurs in nurses
2. In Factitious Thyrotoxicosis RAIU is low.

Hypothyroidism

Causes of Hypothyroidism

1. Amyloidosis, sarcoidosis, hemochromatosis, scleroderma, cystinosis
2. Drugs-amiodarone, Lithium
3. Hashimoto thyroiditis

Hypothyroidism

Clinical Features

1. Ankle Jerk relaxation is delayed (Hung up reflex).
2. Toad like face
3. Non-pitting oedema
4. Proximal myopathy
5. Sideroblastic anemia
6. Cerebellar ataxia

Thyroiditis

Parasitic diseases Causing thyroiditis = Strongyloidiasis, Echinococcosis, Cysticercosis (MNEMONIC = SEC)

Hashimoto's Thyroiditis(Chronic Lymphocytic Thyroiditis)

1. Hurthle cells are seen
2. Anti-thyroglobulin antibody and Thyroid peroxidase antibodies are present in the serum
3. M/C of goitrous hypothyroid

Riedel's Thyroiditis

1. Hard, non-tender Goiter,
2. Diagnosis is by open biopsy

J Subacute Granulomatous Thyroiditis (De Quervain's thyroiditis or viral thyroiditis).

Clinical Features

1. Painful and enlarged thyroid
2. High ESR
3. Low RAIU

Lymphocytic (Silent / Painless/Post-Partum) Thyroiditis

a. RAIU xk
b. ESR Is Normal

Dyshormonogenesis

The combination of dyshormonogenesis goitre and sensorineural deafness is known as PENDRED'S SYNDROME.

Hypothyroid and CAD

1. Levothyroxine should be started in the lowest possible dose
2. In children with hypothyroid levothyroxine should be started with full dose.

Myxoedema Coma

Clinical feature

1. Myxoedema coma is a medical emergency
2. I/V Hydrocortisone (1^{st} to be given) ,T_3 should be given after that
3. Hypoglycemia, hypothermia, hyponatremia occur

Hyper parathyroid

Bone conditions with increase ALP =

1. Hyper parathyroid
2. Paget disease,
3. Bone metastases,
4. Rickets, osteomalacia,
5. Osteogenesisimperfecta
6. Osteogenic sarcoma.

Secondary hyperparathyroidism

Causes

a. Low vitamin D intake
b. Chronic renal failure
c. Rickets
d. Osteomalacia
e. Malabsorption

Tests	Serum abnormality in Hyper parathyroid			
	Serum Ca	Serum phosphate	Alkaline phosphatase	PTH
Primary hyperparathyroidism	t		t	t
Secondary hyperparathyroidism due to CRF	4-	t	t	t
Secondary hyperparathyroidism due to malnutrition			T	T

Important Point

1. Hypercalcemia in malignancy occur due to increase level of PT HRP. In this PTH level are not raised.
2. Hypercalcemia occurs in squamous cell lung cancer

Features of hypoparathyroid

1. Polyuria
2. Constipation
3. Short QT interval in ECG
4. Psychiatric manifestation
5. Pain abdomen
6. Renal stones
7. Ectopic calcification

X-Ray Finding in Hyper parathyroid

1. Brown tumours
2. Osteitis fibrosa cystica
3. Tufting of the phalanges
4. Pepper pot appearance
5. Ratification on the radial side of fingers

William syndrome

a. Chromosome -7
b. Cocktail party personality
c. Elfin facies

d. Aortic stenosis
e. Hypercalcemia

Hypercalcemia Causes of Hypercalcemia

1. Drugs: Lithium, Thiazide
2. Cancer of breast, Squamous cell Lung cancer, Renal cell carcinoma, MM, lymphoma
3. Hyperparathyroidism, Hyperthyroid, Addison, Pheochromocytoma, MEN-1
4. Vit. D intoxication, Vit. A intoxication, Aluminium intoxication
5. Milk alkali syndrome
6. Prolong Immobilization
7. Sarcoidosis
8. Familial hypocalciuric hypercalcemia (FHH)

Treatment

1. Treatment of acute hypercalcemia = Saline + Frusemide
2. Thiazide cause hypercalcemia so they are never used in the treatment of hypercalcemia.
3. Treatment of chronic hypercalcemia = a. Biphosphonatesb. Prednisolone
4. Cinacalcet is used for primary hyper parathyroid

In PHP and PPHP

1. Short fourth and Fifth metacarpals and metatarsal
2. PTH levels are high
3. Imprinting occur
4. In PHP serum Ca is low, in PPHP & Calcium in high.

Magnesium Disorders

1. Hypomagnesemia occurs in

a. Gitelman syndrome b. Foscarnet

2. The clinical features (Tetany) and ECG finding (Prolong QT Interval) of hypomagnesemia are same as of hypocalcemia

Download From: AghaLibrary.com

Hypermagnesemia

1. Bradycardia, Hypotension occur in Hypermagnesemia.
2. Treatment of hypermagnesemia Cal. Gluconate, Frusemide

Tumor lysis syndrome

1. Hypocalcemia occurs in tumor lysis syndrome

Bony Lesion in Vitamin A Intoxication

1. In Vitamin D intoxication, metastatic calcification occurs

Hypophosphatemia

Drugs causing hypophosphatemia

- Diuretics
- Cisplatin
- Ifosfamide
- Foscarnet
- Calcitonin
- Pamidronate

Hyperphosphatemia

Causes

1. CRF
2. Pseudo Hypoparathyroidism
3. Vitamin D intoxication
4. Tumour lysis syndrome

Multiple Endocrine Neoplasia MEN

1. VHL is autosomal dominant and is associated with cerebellarhemangio blastoma
2. Polycythemia occurs in VHL (Von Hippel-Lindau Syndrome)

Cushing's Syndrome

1. Loss of diurnal variation of cortisol level is the earliest features of Cushing syndrome
2. High dose DM suppression test is done to differentiate between pituitary adenoma and ectopic secretion of ACTH

Download From: AghaLibrary.com

3. Medical adrenalectomy is done by

i. Metyrapone ii. Mitotane iii. Aminoglutethimideiv. Ketoconazole

Adrenal insufficiency

1. TB is the most common cause of Adrenal Insufficiency in India
2. The most common site of primary Cancer in a patient presenting with secondaries to adrenals is Melanoma
3. Due to low BP &hypoglycemia, the commonest presenting symptom of Addison's disease is Asthenia (Fatigue, Malaise).
4. ACTH stimulation test is the Most Confirmatory Test for Addison Disease
5. Low plasma cortisol (<3 mcg/dl) at 8 AM is diagnostic of Addison Disease especially if accompanied by simultaneous elevation of plasma ACTH level (usually >200 pg/ml)
6. Clinical Feature of addisonian crises, a. Extreme weakness

b. Pain in low back/ leg c. Intractable vomiting d. Acute pain abdomen

Hyperaldosteronism

1. Oedema feet is not a feature of primary hyperaldosteronism& SIADH
2. Polyuria is a feature of primary hyperaldosteronism

Pheochromocytoma

1. Headache, palpitation & diaphoresis are the classic triad of pheochromocytoma
2. Pheochromocytoma is a highly vascular tumor that is why FNAC is not done in this case.
3. Beta blocker alone are contraindicated in pheochromocytoma
4. Most common post operative complication is Hypotension which is managed by giving normal saline.

Anterior Pituitary

1. Insulin induced hypoglycemia is the most accurate test to diagnose hypopituitarism

Craniopharyngioma

1. Most common cause of hypopituitarism in children
2. Pituitary Calcification
3. Bitemporal hemianopia

Acromegaly

1. Increase heal pad thickness seen on X-ray
2. OGTT test is the most definite test

Diabetes Insipidus

1. Polyuria = Urine Output >3L/day
2. Urine osmolality < 250 mOsmol = diabetes insipidus
3. Urine osmolality (>300 mOsm/kg) = Solute Diuresis

Endocrine Paraneoplastic Syndrome

Hypercalcemia occur in squamous cell lung cancer.

Respiratory Systems

Pulmonary Function Test (PFT)

1. Feature of restrictive lung disease is FEV1/FVC increases and compliance decreases
2. Compliance is increase inEmphysema
3. Decreased maximum mid-expiratory flow rate indicates obstruction in Small airways
4. Most common cause of cyanosis is Chronic bronchitis
5. In methemoglobinemia the color of blood is Chocolate brown

Respiratory failure

1. In type I respiratory failure: A-a gradient is increased
2. In type - II respiratory failure, there is Low paO_2 and high $paCO_2$

3. Commonest cause of type II respiratory failure is Chronic bronchitis
4. Most common cause of type III respiratory failure is Lung atelectasis
5. Most common cause of type IV respiratory failure is Shock
6. Hypoxia is if PaO2 is less than 60 mmHg.

Acute respiratory distress syndrome (ARDS)

1. Diffuse alveolar damage occur in ARDS.
2. In ARDS type I failure occurs.
3. Stiff lung is seen in ARDS.
4. In ARDS left atrial pressure, (PCWP) is normal.
5. ARDS is characterized by Pa02/Fi02<300mm Hg.

Chronic obstructive pulmonary disease (COPD)

1. Reid's index is used in Chronic bronchitis.
2. Weight loss is seen inEmphysema.
3. Pneumothorax occur in Emphysema.
4. Polycythemia occurs in Chronic bronchitis.
5. GOLD criteria is used for severity of COPD.
6. Bode index is for Lung transplant.
7. "Sleep apnoea", is defined as a temporary pause in breathing during sleep lasting at least 10 seconds.

Asthma

1. Bronchial Asthma is best diagnosed by Demonstration of Reversible obstruction.
2. In Asthma Small airways are involved.
3. In Idiosyncratic Asthma IgE is not increased.
4. Aspirin-sensitive asthma is associated withNasal polyp.
5. Charcot Leyden crystals consist of Granules of eosinophils.
6. The size of a droplet for a drug is to be delivered by a nebulizer should be <2.5 micron.
7. Bradycardia indicate the most severe attack of bronchial asthma.
8. Montelukast is not useful in the treatment of a patient with acute bronchial asthma.

9. Drug used in refractory asthma is Omalizumab.
10. Most effective drug to treat brittle asthma is Epinephrine.

Bronchiectasis

1. Bronchiectasis is most common in left lower lobe.
2. Lung cancer is NOT a complication of bronchiectasis.
3. TB is not a cause of clubbing.

Pneumonia

1. Most important cause of nosocomial pneumoniae is Gram negative enterobacteria.
2. Tubular breathing is heard in Consolidation.
3. CURB - 65 score is used in pneumonia to assess its Severity.
4. Cavitatory lesion in lung are seen in Staph aureus.
5. Chocolate color sputum is seen in Klebsiella.
6. Hemolytic anemia is seen in Mycoplasma pneumonitis.
7. Indication for prophylaxis in Pneumocystiscarinii pneumonia is CD4 count <200 /p.1.
8. Pneumocystic Jiroveci is best diagnosed by BAL.
9. Commonest sign of aspiration pneumonitis is tachypnea.
10. Most common cause of empyema is Bacterial pneumonia.
11. Hypotension is not a Feature of SIRS.
12. Endotoxic shock is initiated by Endothelium damage.

TB

1. The most infective form of TB is Cavitary lesion.
2. Rich focus is present at Meninges.
3. True regarding presentation of primary T.B. is U/L hilar lymphadenopathy
4. Cavitatory lesion is not a feature of primary Tuberculosis.
5. Features indicating is hypersensitivity to Mycobacteria Phlyctenular conjunctivitis.
6. The commonest feature in Poncet's disease is Joint pains.
7. In Miliary Tuberculosis Mantoux is negative.
8. Cavity formation is not a feature of TB in HIV.
9. Streptomycin is not given in TBM.

10. Source of recurrent hemoptysis is Bronchial artery.

Tropical Pulmonary Eosinophilia (TPE)

1. Presence of Microfilaria in Peripheral blood is not a feature of Tropical pulmonary Eosinophilia.
2. Pulmonary eosinophilic granuloma is not associated with peripheral blood eosinophilia .

Pulmonary Embolism (PE)

1. Most important cause of acute Right Heart Failure is Massive Pulmonary embolism.
2. The most common symptom of Acute pulmonary embolism is sudden onset of Dyspnea.
3. In acute pulmonary embolism, the most frequent ECG finding is Sinus tachycardia.
4. D-dimer is a very useful diagnostic test for Pulmonary embolism.
5. Best investigation for pulmonary embolism is CT angiography.
6. Me Connell Sign is seen ECHO in Pulmonary embolism.
7. Caisson's disease is due to Gas embolism.

Pleural Effusion / Pneumothorax

1. Exudative pleural effusion occurs in Bronchogenic carcinoma.
2. Left -sided pleural effusion seen in a. Pancreatitis,b. Rheumatoid arthritis,
   c. Esophageal rupture.
3. In tubercular Pleural fluid has normal or slightly reduced glucose level.
4. Decreased Glucose in pleural effusion is seen in Rheumatoid arthritis.
5. A high amylase level in pleural fluid is seen in Malignancy.
6. Presence of cholesterol crystal in pleural effusion is a feature of Myxoedema.
7. True about hydropneumothoraxa. Horizontal fluid level, b. Succussion splash.
8. In an adult patient with plural effusion, the most appropriate site for pleurocentesis done by inserting a needle is in 7th intercostal space in mid axillary line.

9. Primary spontaneous pneumothorax is common in young age.

Sarcoidosis

1. B/L hilar lymphadenopathy, along with non caseating granulomas is a characteristic feature of Sarcoidosis.
2. Cavity formation of lungs is not a feature of sarcoidosis.
3. Seventh cranial nerve is most commonly involved in patients with sarcoidosis.
4. Uveoparotid fever is seen in Sarcoidosis.
5. Cause of nephrocalcinosis in Chronic granulomatous disease is Increased extrarenal conversion of 25 (OH) cholecalciferol to 1, 25 (OH)2 cholecalciferol vitamin D.
6. Serum ACE level is raised in sarcoidosis.
7. True about sarcoidosis = CD4/CD8 ratio is more than 3.5 in BAL.
8. PANDA sign is sarcoidosis is seen in Gallium scan.
9. Treatment of sarcoidosis is steroid.

Pneumoconiosis (ILD)

1. Silicosis
    a. Has predilection for upper lobes
    b. Is associated with calcific Hilar Adenopathy
    c. Is associated with Tuberculosis
2. Tobacco smoking is characteristically not associated with the development of interstitial lung disease.
3. Pleural plaques are seen in asbestosis.
4. Disease seen in weavers is Byssinosis.
5. Byssinosis occur due to Cotton fiber.

PAH

1. In primary pulmonary hypertension basic abnormality in gene lies in Bone morphogenic protein receptor II.
2. Sickle cell disease can cause PAH.
3. T Pulmonary capillary wedge pressure is not seen in pre capillary pulmonary hypertension.

Cor Pulmonale

1. The most common cause for chronic cor pulmonale is COPD.
2. Murmur seen in cor pulmonale TR.

Lung Cancer

1. Skeletal connective tissue syndromes including clubbing is usually seen in non small cell carcinomas
2. Clubbing is least common with small cell carcinoma of lung.
3. Most common histological variant associated with clubbing non small cell carcinoma
4. Most common histological variant presenting at peripheral location non small cell carcinoma.
5. Most common primary bronchogenic carcinoma is Adenocarcinoma.
6. Most common type of primary carcinoma lung in India is Squamous cell carcinoma.
7. Commonest type of primary lung carcinoma in non-smokers is Adenocarcinoma.
8. True statement about adenocarcinoma lung are a. Common in females, b. Not associated with smoking, c. Peripheral involvement is common.
9. Lung to lung metastasis is most commonly seen in Adenocarcinoma of lung.
10. In a chronic smoker, a highly malignant aggressive and metastatic lung carcinoma is Small cell Carcinoma.
11. Oat cell type carcinoma lung responding best to chemotherapy.
12. Most common symptom of primary lung carcinoma is Cough.
13. Bronchial adenoma commonly present as Recurrent hemoptysis.

Neurology

1. A lesion in the paracentral lobule causes Contralateral foot weakness
2. The characteristic feature of a frontal lobe tumor is Antisocial behaviour
3. Lesions of the medial temporal lobe may produce VisualAmnesia, AuditoryAmnesia, AntegradeAmnesia
4. Memory impairment occurs in embolism of posterior cerebral artery because of damage to Hippocampusgyrus
5. Cortical blindness is seen in lesion of Occipital Lobe
6. Akinetic mutism is seen in lesion of Frontal Lobe
7. HIV does not affect Cingulate cortex

Speech

1. Broca's area is located at Dominant inferior frontal gyrus
2. Wernicke area is located at Dominant superior temporal gyrus
3. Motor aphasia refers to defect in Verbal expression
4. Lesion in inferior frontal gyrus causes Motor aphasia
5. If Wernicke's area is damaged in the dominant hemisphere, it will result in Irrelevant and rapid speech

Urinary Bladder

1. Nerve carries parasympathetic fibers to urinary bladder Pelvic
2. Pudendal nerve supplies External sphincter
3. Site of disease of autonomous bladder is S2-4
4. Loss of social inhibition occurs when the site of disease is Frontal cortex

Headache

1. Dura is a pain sensitive structure.
2. Ophthalmoplegic migraine means When the headache is followed by partial paralysis of the IIIrd nerve on the same side
3. Telecagepant is a new drug for treatment of migraine

Cerebrovascular Diseases

1. Most common cause of stroke in young women in India among OCP users Cortical vein thrombosis
2. Most common cause of cerebrovascular accident is Embolism
3. Most common cause of intracranial hemorrhage is Intracerebral hemorrhage
4. The commonest cause of Intracerebral Bleed is Trauma
5. Lacunar infarcts are caused by Lipo hyalinosis of penetrating arteries
6. The most common location of hypertensive hemorrhage is Putamen
7. Anterior cerebral artery occlusion can cause Contralateral lower leg weakness
8. Hemiplegia is commonly associated with infarction of the area of distribution of the Middle cerebral artery
9. Posterior Communicating Artery Aneurysm can cause compression of Oculomotor nerve
10. Nerve most commonly involved in aneurysm of anterior cerebral artery is oculomotor (III)
11. Thalamic syndrome occurs due to involvement of PCA
12. Artery is involved in locked in is syndrome Basilar artery
13. True about carotid stenosis Aspirin reduces risk of TIA
14. In cerebral infarct maximum enhancement in CT scan is seen in 14 days
15. Investigation of choice for screening of proximal internal carotid artery stenosis is Doppler flow study
16. The only thrombolytic agent approved for the treatment of acute ischemic stroke is Tissue Plasminogen activator.
17. Watershed infract is most commonly seen in Brain
18. Dejerine -Roussy syndrome is seen in recover phase Thalamus Bleeding
19. Jackson's Sign is seen in Hemiplegia
20. B/L positive Babinski sign is seen in Pontine hemorrhage

Neurosurgery

J. Most common cause of SAH Trauma

2. The most common site of Berry aneurysm is Junction of anterior communicating artery with anterior cerebral artery
3. Sudden excruciating headache is most characteristic of SAH

4. Most common nerve involved in intracranial aneurysm is Oculomotor
5. Triple H therapy is done in SAH
6. Subdural hematoma most commonly results from rupture of Superior cerebral veins
7. Lucid interval is seen in Extra dural hematoma
8. Extradural hematoma occur most commonly due to trauma to Temporal bone.

Benign Intra Cranial Hypertension (Pseudo Tumour Cerebri)

1. The earliest manifestations of increased intracranial pressure following head injury is Altered mental status
2. Pseudotumor cerebri occurs due to vitamin A toxicity

Herniation

1. Nerve is most commonly involve in uncal herniation is lllrd
2. Part of the brain which herniates in central herniation is Thalamus
3. Part of the brain which herniates in cingulate herniation is Medial Frontal Lobe

Spinal Cord

1. Sensation transmitted by the Dorsal Tract / Posterior column Fine are position, vibration
2. Temperature sense not affected in lesion of posterior column of spinal cord
3. Type of sensation lost on same side in Brown Sequard syndrome is Proprioception, vibration
4. Painless burn in hand is a characteristic feature of Syringomyelia
5. Sacral sparing is a feature of Intramedullary tumour
6. In conus medullaris syndrome Ankle reflex is Absent
7. Beevor sign is seen in Abdominal muscle

Cranial Nerves

1. Olfactory cranial nerve is involved in Kallmann syndrome
2. In superior quadrantic hemianopia site of lesion in Temporal Lobe
3. Head ache with bitemporal hemianopia with 6/6 vision...seen with Chiasmal lesions

4. Trigeminal cranial nerve is involved in Tic Douloureux
5. TRUE regarding upper motor neuronVIIth nerve paralysis is Contralateral lower face paresis
6. In mimic paralysis Emotional movement of face impaired
7. Lateral medullary syndrome is caused by thrombosis of Vertebral artery or by posterior cerebellar artery.
8. Lesion of posterior inferior cerebellar artery at brain involves/affects Spinal tract of trigeminal nerve
9. Wallenberg's syndrome involves Ipsilateral 5, 8, 10 nerve palsy
10. Clinical features of medial medullary syndrome Ipsilateral 12th nerve palsy, Contralateral pyramidal tract sign
11. Contralateral hemiplegia is a feature of Medial Medullary Syndrome
12. True about Weber's syndrome Ipsilateral 3rd nerve palsy + contralateral hemiparesis
13. Facial Paralysis is a feature of Mobius syndrome
14. Facial Paralysis is a feature of Melkersson-Rosenthal syndrome
15. Ramsay - Hunt Syndrome is due to Herpes virus
16. Griesinger's sign is seen in Sigmoid sinus thrombosis

Multiple sclerosis

1. Impotence is a feature of Multiple sclerosis
2. Uhthoff's phenomenon is worsening of symptom due to Exposure to heat
3. Hydrocephalus is not a feature of multiple sclerosis
4. Dawson's finger sign is seen in MRI of MS
5. Visual evoke potential is used in the diagnosis of MS
6. Oligoclonal bands in CSF occur in multiple sclerosis.
7. Interferon Beta used in the prophylaxis of Multiple Sclerosis.

Parkinsonism

1. Parkinson can occur in Wilson disease
2. Drug of choice in phenothiazine-induced Dystonia is Benztropine
3. Lazabemide is a MAO-B inhibitor
4. In Shy Drager syndrome is Parkinson + Autonomic neuropathy
5. Pick's body in pick's disease is Tau protein
6. In Parkinson's disease the deposit seen in the brain are Alpha-synuclein

7. Milkmaid's sign is seen in Chorea

Cerebellar Diseases

1. Akinesia is a feature of cerebellar disease
2. Pendular jerk is best elicited at Knee joint
3. Dysmetria is seen in Cerebellar lesion

Dementia

1. A chromosomal anomaly associated with Alzheimer's dementia is Trisomy 21
2. Neurofibrillary tangles is a feature of Alzheimer's disease.
3. Part of the brain is most commonly involved in Alzheimer disease Nucleus basalis of Meynert
4. Biochemical abnormality in the brain in Alzheimer disease is Decrease Acetylcholine
5. Loss of consciousness is not a feature of Alzheimer disease
6. 'Huntington's disease is due to the loss of Intra striatal cholinergic and GABAergic neurons
7. Gait difficulty, urinary incontinence, memory loss, occur in Normal pressure hydrocephalus
8. Localised regional cerebral atrophy is seen in Frontotemporal dementia
9. Vitamin B12 Deficiency is a cause of reversible dementia.
10. Increase level of Homocystine can lead to dementia

Meningitis & Encephalitis

1. Subdural effusion is most commonly caused by H influenza
2. Normal CSF glucose level is 2/3 plasma glucose
3. CSF finding seen in TBM Increased protein, decreased sugar, increased lymphocytes
4. Characteristic finding in CT in a TB case is Exudate seen in basal cistern
5. True about CSF finding in TB meningitis is ProteinLymphocyte
6. The drug of choice in Cryptococcal Meningitis is Amphotericin B
7. Commonest cause of sporadic encephalitis is Herpes Simplex Virus
8. Most common cause of epidemic viral encephalitis Arbovirus.

9. The drug of choice in Herpes Simplex Encephalitis is Acyclovir

Neurocysticercosis.

1. Neurocysticercosis is the most common central nervous system parasitic infection.
2. Commonest presentation of neurocysticercosis is Seizures
3. Brain parenchyma is the most common location of intracranial neurocysticercosis
4. Albendazole is superior to praziquantel in the treatment of neurocysticercosis

Slow virus diseases

1. Myoclonic seizure typically seen in Creutzfeldt - Jakob disease
2. Inclusions in oligodendrocyte is a feature of Progressive multiple encephalopathy
3. Fatal familial insomnia is associated with Prion disease
4. Creutzfeldt - Jakob disease can be transmitted by corneal transplant also
5. Burst- suppression in EEG is seen in Subacute sclerosingPanencephalitis

Seizure Disorder

1. Absence seizures are seen in Petit mal epilepsy
2. Absence seizures are characterized on EEG by 3 Hz spike & wave
3. Commonest type of seizure in newborn Subtle
4. Lamotrigine drug has a wide range of action
5. Carbamazepine is not used for managing status epilepticus
6. Generalized Tonic clonic status epilepticus, Rx of choiceis Lorazepam
7. Valproate has a very wide range of action
8. Catamenial epilepsy occur most common is Young ladies during Menstruation.
9. Urinary incontinence is the characteristic feature to distinguish seizure from syncope
10. Epileptic surgery is the most effective treatment for medically non responsible seizures

Ataxia

1. Bilateral loss of ankle jerk and extensor plantar response is seen in Friedreich's ataxia
2. Regions of the spinal cord involved first in Friedreich's Ataxia Dorsal Root ganglion
3. Subacute combined degeneration due to Vit. B12 deficiency mainly involves Corticospinaltract Posterior column

Neurocutaneous Syndrome

1. The most common tumor associated with type I neurofibromatosis Optic nerve glioma
2. Acoustic neuromas is important feature of Neurofibromatosis type 2
3. Neurofibromatosis type-ll is associated with
   a. B/L acoustic schwannoma, b. Chromosome-22,
   c. Posterior subcapsular lenticular cataract
4. CNS tumor seen in Von Hippel-Lindau syndrome is Cerebellar hemangioblastoma
5. Seizures, Mental retardation and Sebaceous adenoma are seen in Tuberous sclerosis
6. Brain tumor is not associated with Sturge Weber syndrome
7. Ophthalmoplegia &hemolytic anemia occur in deficiency of Vit E

Peripheral Neuropathy

1. Neuropathy is not seen in Tuberculosis
2. Pure motor paralysis is seen in Polio
3. Predominantly sensory neuropathy are caused by a. Cisplatin b. Pyridoxine excess
4. Organism is involved in the pathogenesis of GBS Campylobacter jejuni
5. Best Treatment of GBS is Plasmapheresis
6. Autonomic neuropathy is characterized by Resting tachycardia
7. Onion bulb appearance on nerve biopsy is seen in CIDP

Myasthenia Gravis

1. Myasthenia gravis is associated with Decreased myoneural junction transmission

2. The most sensitive test for the diagnosis of myasthenia gravis is Measurement of jitter by single fibre electromyography.
3. Drug of choice for myasthenia gravis is Pyridostigmine
4. In Myasthenia Gravis, thymectomy Should be done in all cases of generalized myasthenia between the age 20-55.
5. Hypogammaglobulinemia is associated with Thymomas
6. Thymoma is associated with Myastheniagravis
7. Eaton-Lambert syndrome Repeated electrical stimulation enhances muscle power in it.
8. Site of dubious abscess is Thymus

Muscular Dystrophies

1. Dystrophic gene mutation leads to Duchenne muscular dystrophy
2. Dystrophin pathy is not a limb girdle dystrophy
3. Duchenne Muscular Dystrophy is a disease of Sarcolemmal proteins
4. In Duchenne's muscular dystrophy, muscle not involved is Vastusmedial
5. Gene for myotonic dystrophy is coded on chromosome number 19
6. Age of onset of Duchenne muscular dystrophy is 1 to 5 years
7. Inverted Champaign bottle muscle atrophy occurs in Peroneal muscular atrophy
8. Muscular weakness due to deficiency of magnesium is enhanced by presence of Metabolic alkalosis
9. Primary idiopathic polymyositis does not involve Ocular muscles
10. In dermato polymyositis CPK is Increased
11. Critical illness myo neuropathy, is due to Diaphragm atrophy due to prolonged mechanical ventilation
12. Heat stiffening occurs when a person is exposed at a temp of 60°C

Channelopathy

1. Hypokalemic Periodic Paralysis Attack are precipitated by heavy exercise followed by Heavy Meals & Rest.
2. Hyperkalemic Periodic Paralysis Attack are precipitated by heavy exercise followed by No Meals & Rest.

Motor Neuron Disease

1. UMN lesion is characterized by Weakness & spasticity
2. Lower motor neuron lesions is associated with Flaccid paralysis
3. Fasciculation is seen in LMN type of lesions
4. Bulbar paralysis refers to LMN lesion Paralysis of cranial nerve IX to XII
5. Fasciculation is pathognomonic for motor neuron disease
6. Spinomuscular atrophy is seen in lesion of Anterior horn
7. Amyotrophic lateral sclerosis involves Anterior horn cell + cortico spinal tract
8. Ocular motility is spared in Motor neuron disease.
9. Cerebellar degeneration is seen in Hodgkin Lymphoma

Syncope

1. Point which helps to exclude the diagnosis of seizure in a patient with sudden loss of consciousness is Sudden return to normal mental function upon awakening.

Acute Spinal Cord Injury

1. Hypotension in Acute Spinal Cord Injury is due to Loss of Sympathetic tone
2. Spinal shock is characterized by a). Sensory loss b). Urinary retention c). Areflexia
3. Cervical cord injury does not cause a). Loss of sensation over face b. Wasting with fasciculations of lower limb
4. Dose of methylprednisolone following spine injury 30mg/kg within 3 hrs of injury
5. In Neurogenic shock Hypotension with bradycardia occur

Glasgow Coma Scale

1. Best prognostic factor for head injury is Glasgow coma scale
2. According to the Glasgow Coma Scale (GCS), a verbal score of 1 indicates No response
3. Pupil size is not a component of Glasgow Coma Scale
4. Highest score of Glasgow coma scale is 15
5. Lowest score of Glasgow coma scale is 3
6. Anterograde amnesia is characteristic of Post traumatic head injury

Cardiology

Arterial pulse

1. Slow rising pulse is seen in AS
2. Pulsus alternans occurs in CHF
3. Pulses bigeminus is seen in Digoxin therapy
4. Dicrotic pulse is seen in Dilated cardiomyopathy
5. Pulsus paradoxus is seen in
    a. Cardiactamponade
    b. Constrictivepericarditis
    c. Severeasthma
6. Water hammer pulse is seen in Aortic regurgitation
7. Pulsus bisferiens is best felt in Radial artery

Jugular Venous Pulse (JVP)

1. 'C' wave in JVP is due to Tricuspid valve bulging into right atrium
2. In JVP. Cannon wave Complete heart block
3. In the JVP, 'a' waves are absent in Atrial fibrillation
4. Typical finding in cardiac tamponade- Absent 'Y' descent
5. "A" wave in JVP is absent in Hyperkalemia

Heart Sounds

1. Loud SI is caused by a. Short PR interval b. Tachycardia
2. Loud SI in Mitral stenosis is caused by Prolonged flow through mitral valve
3. Reverse splitting of 2^{nd} heart sound in heard in a. LBBB b.AS
4. Wide fixed split S2 occurs in ASD
5. Wide and variable -split second heart sound is seen in
    a. RBBB [x] b. PS
6. Single second heart sound is seen in
    a. TOF b. Pulmonary atresia c. Severe pulmonary stenosis

7. Loud pulmonary component of second heart sound heard in
    a. Pulmonary hypertension
    b. Eisenmenger's syndrome
8. Fourth heart sound S4 IS Heard during ventricular filling late phase
9. Opening snap is a high-pitched diastolic sound.

Heart Murmurs

1. AS has mid systolic murmur
2. MVP has late systolic murmur
3. AR has early diastolic murmur
4. Atrial myxoma has late diastolic murmur
5. Continuous murmur is found in Systemic A V fistula
6. HOCM murmur increases with Valsalva

ECG

1. Heart rate is 1500 / RR interval
2. P wave is due to Atrial depolarization
3. PR interval is reduced in WPW syndrome
4. In LVH, SV1 + RV6 is more than 35 mm
5. QT interval is shortened in Hypercalcemia
6. Congenital long QT syndrome can lead to Polymorphic ventricular tachycardia
7. ECG findings seen in Hypokalemiadncreased PR interval with ST depression, Prolong QT, U wave.
8. ECG changes in a patient with left pneumothorax Right axis deviation
9. Alternating RBBB with LBBB is seen in Trifascicular block
10. Prolongation of QRS is a feature of Bundle Branch Block.
11. Tachycardia is the commonest ECG finding in pulmonary embolism
12. Most characteristic finding in ECG in pulmonary embolism is Si Qm Tm
13. Normal axis is Between -30° and +100°
14. Left axis deviation is seen in Septum primum ASD
15. Low voltage ECG in seen in Hypothyroid
16. Osborn wave is seen in Hypothermia
17. Electrical alternans is seen in Cardiactamponade
18. Treatment of asymptomatic bradycardia is No treatment is required

19. Earliest finding in acute Ml is **Tall T wave**
20. Correct sequence of ECG changes in acute Ml is ST elevation, T inversion, Q wave
21. Most important ECG finding in non Q Ml is Symmetrical T wave inversion
22. Saw tooth appearance in ECG is seen in Atrial flutter
23. Embolic phenomena is most likely seen in Atrial fibrillation
24. Broad complex tachycardia, due to ventricular a tachycardia is suggested by a. Fusion Beats b. A V dissociation c. Capture Beats
25. Feature of Torse de pointes is Prolonged QTc interval
26. High idio ventricular rhythm is seen in Digitalis toxicity
27. Best Treatment of congenital long QT syndrome is Implantable cardioverter/defibrillator
28. Morbus Caeruleus is Congenital Heart Diseases with Cyanosis
29. Digoxin is not a treatment of WPW syndrome
30. Sudden RBBB is seen Ashman's phenomenon

Heart Failure

1. Most common cause of acute right heart failure is Pulmonary embolism
2. Anaemia is a cause of high output failure
3. Hepatomegaly is a minor Framingham criteria in CHF
4. Left atrial filling pressure closely approximates Pulmonary capillary wedge pressure (PCWP)
5. Normal PCWP with pulmonary oedema is seen in High altitude
6. Normal Ejection Fraction is 50 to 75%
7. Nesiritide is an BNP Analogue
8. Levosimendan is used in the treatment of CHF
9. Coenzyme Q is used in the treatment of CHF
10. First line Treatment of acute pulmonary edema Sublingual nitroglycerin

CAD

1. Risk factors for coronary artery disease (CAD)

a. Increased homocysteine levels

b. Increased lipoproteins a

2. Nephrotic syndrome increases the susceptibility to coronary artery disease

3. In an old patient, the best indicator of probability of developing cardiovascular disease can be calculated by LDL/HDL ratio.
4. Tendon xanthoma is seen in Familial hypercholesteremia
5. MC cause of abdominal aortic aneurysm Atherosclerosis
6. Coronary flow is maximum at early diastole phase of cardiac cycle
7. Angina pectoris is best diagnosed by History
8. A criteria of positive TMT: ST Depression >0.1 mm lasting for >0.08 sec
9. Agatston score is used for Quantification of calcified plaque
10. Test performed to detect stunned (reversible) myocardial ischemia PET scan
11. Complete occlusion of coronary artery is denoted by 0 in TIMI by angiography
12. Agent of first choice in an acute attack of Prinzmetal's angina is Nitrates
13. Ranolazine is used in the treatment of Angina
14. Echo is not a part of diagnostic criteria of acute Ml in WHO criteria
15. Bradycardia is a feature of Inferior wall Ml
16. Murmur that can be there in acute Ml isMRandVSD
17. Anterior septal wall of left ventricle is the most common site of myocardial infraction.
18. ST segment elevation is diagnostic of fresh myocardial infarction in ECG
19. Tall T wave is the first feature of acute Ml in ECG
20. ECG is poor at detecting ischemia in areas supplied by Right coronary artery
21. Intraoperative myocardial infarction is best diagnosed by Trans esophageal echocardiography
22. In stable angina The levels of cardiac markers remain unchanged
23. In Ml, enzyme raised in 4 to 6 hrs & decreases in 3 to 4 days is CPK
24. Drug used to perform stress ECHO Dobutamine
25. The best possible intervention for acute myocardial infarction is Streptokinase or PTCA.
26. Death in acute Ml with thrombolytic therapy is due to Intracranial hemorrhage
27. Reperfusion is useful for Hibernating myocardium
28. Right ventricular infarction is the most likely cause of shock
29. A patient had an inferior wall myocardial infarction and was in shock. The reason for the patient being in shock is- Right ventricular infarction

30. Myocardial infarction the mortality and morbidity of the patient is best indicated by Left ventricular ejection fraction
31. In a patient with myocardial infarction the valvular lesion commonly seen in- Mitral regurgitation
32. Maximum mortality of Ml occurs in day 1
33. Pulmonary edema, systolic BP >90 indicate which class of Killipe's classification in acute Ml Class III
34. Dressler's syndrome is seen in Ml
35. Raised level of biomarker which predict the increased risk of Ml is CRP
36. LAD also known as Widow's artery
37. Best biomarker of acute Mi is Troponin T
38. In Ml, thrombolytics can be given if patient comes within 12hrs

Cardiomyopathy

1. Amyloidosis is the most common cause for 'Restrictive cardiomyopathy
2. A young basketball player suddenly collapsed and has sudden cardiac death, is due to HOCM
3. The murmur of hypertrophic obstructive cardiomyopathy is decreased in Supine position
4. Aggravation of symptoms of angina in a patient when given nitrates is seen in Idiopathic hypertrophic sub aortic stenosis (HOCM)
5. Double apex beat is seen in HOCM
6. Digoxin is contraindication in HOCM

Pericardial diseases

1. Hydralazine causes pericarditis
2. Acute rheumatic fever is least likely to cause constrictive pericarditis (CP)
3. Kussmaul's sign is seen in Constrictive Pericarditis (CP)
4. Nephrotic syndrome is seen in CP
5. During ventricular pressure pulses square root wave is seen in Constrictive pericarditis
6. Pulsus paradoxus is a characteristic feature of Cardiac Tamponade
7. Beck's triad seen in Cardiactamponade
8. Ewart's sign is seen in Cardiactamponade
9. Electric alternans is seen in Cardiac tamponade

Hypertension

1. Mean arterial pressure is Diastolic + l/3rd Pulse pressure
2. Pulse pressure is Systolic - diastolic B.P.
3. The blood pressure measured by a sphygmomanometer Is higher than the intraarterial pressure
4. Spuriously high BP is seen in Silent gap
5. Critical ischemia for peripheral arterial disease if Ankle brachial index is 0.3
6. J curve phenomena is related to Hypertension
7. Characteristic feature seen in the kidney in malignant hypertension is Fibrinoid necrosis
8. Sustained severe hypertension in children is most commonly suggestive of Renal parenchymatous disease
9. MRI angiography is a specific and a sensitive screening test for Renovascular Hypertension.
10. In hypertensive retinopathy A-V nipping is seen in class II
11. Best drug for angina with hypertension is Metoprolol
12. Drugs contraindicated in diabetes with hypertension Thiazide
13. Drug of choice in BHP with hypertension is Alpha blocker
14. Side effect of ACEI Hyperkalemia
15. Side effect of hydralazine is SLE like feature
16. Aliskiren is a Renin antagonist
17. Main action of Ivabradine is Bradycardia
18. Fenoldopam is a DI receptor agonist
19. Urapidil is Alpha 1 blocker

Myxoma

1. Most common tumour of heart is Myxoma
2. Distant metastasis is not seen in Cardiac myxoma
3. Gradient in pulmonary artery wedge pressure and left ventricular end diastolic pressure is seen in Left atrial myxoma
4. Secondary in the heart which come maximum from primary tumor is MeL :oma

Rheumatic Fever

1. In Rheumatic fever Chorea is aggravated during pregnancy
2. Earliest valvular lesion in a case of acute rheumatic fever is Mitral regurgitation (MR)
3. True statement about Rheumatic fever in children a. Polyarthritis b. MC valve involvement is Mitral
4. Erythema Marginatum in Acute Rheumatic fever is Usually associated with carditis
5. Subcutaneous nodule in Rheumatic fever a. Non tender b. Present in extensor surfaces
6. Fever is a minor criteria for diagnosis of RF according to modified Jones criteria
7. Diagnostic feature in rheumatic heart disease is Aschoff's nodule
8. McCallum's patch is diagnostic of Rheumatic heart disease.

Valvular Heart Disease

1. LVH is not a feature of MS
2. S3 is not a feature of MS
3. Straitening of the left border of heart is the early feature of CXR of MS
4. MITRA clip is used in the treatment of MR.
5. Edward Sapiens valve is used for treatment of AS
6. Reduce EF slope in echo is seen in MS
7. Commonest valvular lesion in India & the World isMVP
8. MVP isAutosomal dominant
9. Valvular lesion seen in William's syndrome AS
10. Gallavardin sign is seen in AS
11. Sudden death can occur in AS
12. Commonest symptoms of AR is Palpitation
13. Austin flint murmur is heard in AR
14. Commonest cause of TR is Cor pulmonale
15. Carvallo's sign is seen in TR
16. Pulsatile liver is seen in TR
17. In TS,Giant a wave and slowY descent is seen
18. Pulmonary valve is least commonly involved in RHD
19. Graham steels murmur is heard in PR

20. Pulsatile liver and ascites is found in TR
21. Mid-diastolic murmur with presystolic accentuation is heard in MS
22. TEE is better than Trans thoracic Echo to identify the atrial thromboembolism

Endocarditis

1. Infective endocarditis is least likely to occur in Atrial septal defect (Secondary)
2. Most common heart valve involved in IV drug user is Tricuspid valve
3. Bacterial endocarditis is most commonly caused by Staphylococcus aureus
4. A patient has prosthetic valve replacement and he develops endocarditis 8 months later. Organism responsible is Coagulase negative staphylococci (CoNS)
5. Vegetations on under surface of AV. valves are found in Libman Sacks endocarditis
6. Flat vegetations in pockets of valves are due to Libman sacks Endocarditis
7. Osler's nodes are seen at Tip of Palm & Sole
8. Roth spots are seen in Endocarditis
9. Best investigation to diagnose endocarditis is Echo and blood culture.
10. Duke criteria is used in Endocarditis
11. MVP without MR has very low risk factor for endocarditis
12. In a patient of heart disease antibiotic prophylaxis for dental extraction is Amoxicillin

Liver & GIT

Jaundice

1. Unconjugated Bilirubin is absent in urine because it is attached to albumin
2. Unconjugated hyperbilirubinemia is seen in hemolytic anemia
3. Crigler-Najjar type II syndrome is Autosomal Recessive trait
4. The test used to diagnose Dubin Johnson syndrome is BSP test.
5. Conjugated hyperbilirubinemia is seen in Dubin Johnson syndrome
6. 5'-Nucleotidase activity is increased in Cholestatic disorders.

7. Low serum alkaline phosphatase is seen in Hypothyroid
8. Menghini needle is used for biopsy of Liver
9. HIDA scan is done to diagnose Acute cholecystitis

Viral Hepatitis

1. Non-parenteral hepatitis is Hepatitis E & A.
2. Councilman Bodies are seen in Acute viral hepatitis in liver biopsy.
3. The commonest hepatotropic virus progressing to chronicity is HCV
4. Hepatitis B viruses have significant perinatal transmission
5. Window period in hepatitis B is Disappearance of HBsAg and the appearance of anti HBs
6. Chance of vertical transmission in Hepatitis B is 90%

Hepatitis B

1. Acute infection of hepatitis B virus is diagnosed by IgM antibody of HBc Ag
2. Hepatitis B infectivity is indicated by HBsAg + HBeAg
3. A blood donor is not considered for safe transfusion, if he has HBS Ag +ve.
4. Reserve transcriptase of hepatitis B virus is coded on the P gene

Hepatitis E

1. The most common route of spread in hepatitis E is feco-Oral
2. During an epidemic of hepatitis E, Fatality is maximum in Pregnancy
3. Most common type of hepatitis responsible for epidemics in India is Hepatitis E
4. Human immunoglobulin are used in prophylaxis for hepatitis A

Chronic Hepatitis

1. Chronic persistent hepatitis can be differentiated from chronic active hepatitis by Liver biopsy
2. Treatment of a case of chronic hepatitis B is needed if Increase in DNA copies & raised ALT

Chronic Hepatitis C

1. Chronic liver disease is most commonly caused by Hepatitis C
2. Treatment of hepatitis C is Sofosbuvir
3. Cryoglobulinemia is seen in Hepatitis C
4. Characteristic episodic pattern of aminotransferase activity is seen in Hepatitis C

Cirrhosis

1. Ratio of A5T/ALT > 1 is present in Alcoholic hepatitis and in Pregnancy.
2. Enzyme assay useful to diagnose alcoholism Glutamyl aminotransferase
3. Pentoxifylline is useful to decrease mortality and renal failure in acute liver disease due to alcoholism
4. Steroid is used with treatment of Discriminant function
5. Most common symptom of primary biliary cirrhosis is Pruritus
6. Nutmeg liver is seen in Cardiac cirrhosis

Portal Hypertension

1. Normal portal pressure is 2-5 mmHg (10-15 cm of water)
2. In portal hypertension portal pressure is more than 30 cm of saline. (10 mm of Hg)
3. For severe hematemesis,the management of choice to increase the BP is Whole blood transfusion
4. Rockall score is used for Upper Gl bleed
5. Propranolol is not a treatment for acute variceal blood
6. USG can detect as little as 100 ml of peritoneal fluid
7. First line of treatment in Ascites is Salt and water Restriction
8. Most common organism causing spontaneous bacterial peritonitis E. coli
9. Features of Hepatorenal syndrome are
    a. Urine sodium < 10 mEq/l
    b. Normal renal histology
    c. Proteinuria < 500 mg/day
10. Best treatment of Hepato renal syndrome is Liver transplantation
11. Vasodilation in spider Naevi is due to Estrogen
12. Orthodeoxia is a feature of Hepatopulmonary syndrome

Hepatic Encephalopathy

1. First lab abnormality to occur in hepatic encephalopathy is Raised PT
2. In child with acute liver failure, the most important prognostic factor for death is Increasing prothrombin time
3. A symmetric high-voltage, triphasic slow wave pattern is seen on EEG in the Hepatic encephalopathy
4. Terry's nails are seen in Liver failure

Non-Cirrhotic portal fibrosis

1. Ingestion of arsenic causes Non cirrhotic portal fibrosis
2. Upper gastrointestinal bleeding is the most common presenting symptom of non-cirrhotic portal hypertension

Non-Alcoholic Fatty Liver Disease (NAFLD)

1. Gall stone is not a cause of NASH
2. Treatment of NASH is weight loss Pioglitazone

Drug Induce Hepatotoxicity

1. Rifampicin causes acute hepatitis
2. Drug which causes venous outflow obstruction is Busulphan
3. Drug lead to liver fibrosis is Methotrexate

Budd-Chiari Syndrome

1. Most common site of Budd Chiari syndrome is Hepatic veins
2. Common cause for Budd Chiari syndrome is Polycythemia vera, PNH

Wilson disease

1. It is a Autosomal recessive disorder occurs in persons under age 40.
2. Excessive deposition of copper in the liver and brain.
3. Basic defect is reduce biliary copper excretion
4. K F ring seen in Wilson's disease
5. Diagnosis of Wilson disease

a. Increased urinary copper excretion
b. Low serum ceruloplasmin levels
c. The most confirmatory test is elevated hepatic copper concentration (>250 mcg/g of dry liver).

6. Treatment of Wilson's Disease
    a. Zinc (Drug of choice for initial hepatic disease)
    b. Trientine

Hemochromatosis

1. Aetiology

a. Autosomal recessive,
b. Gene is located on chromosome 6.
c. Approximately 90% of patient have a single-point mutation at position C282Y & H63D in a protein (HFE).

2. Clinical features

a. Features of hepatic cirrhosis (especially hepatomegaly),
b. Diabetes mellitus
c. Heart failure.
d. Leaden-grey skin pigmentation due to excess melanin & iron occurs, especially in exposed parts, ('bronzed diabetes').
e. Impotence, loss of libido, testicular atrophy.
f. Arthritis with chondrocalcinosis secondary to calcium pyrophosphate deposition, (pseudogout)
g. Joints of hands especially 2^{nd}& 3^{rd} MCP joint are 1^{st} to be involved.

Managements

1. Main treatment consists of weekly venesection phlebotomy of 500 ml blood until the serum iron is normal.

Miscellaneous Liver Diseases

1. Jaundice is not a feature of liver abscess
2. Treatment of Hydatid cysts is Albendazole
3. CMV virus is most likely to cause liver dysfunction in HIV patient
4. Intrahepatic cholestasis occurs most likely at 3rd trimester of pregnancy

5. Acute fatty liver of pregnancy occurs most likely at 32-36 week of pregnancy.

Liver Carcinoma

1. a-fetoprotein levels are Normal in fibrolamellar hepatic carcinoma
2. Fibrolamellar carcinoma Has good prognosis
3. Following liver transplantation, recurrence of primary disease in the liver most likely occursin Autoimmune hepatitis
4. Hepatomegaly is not the important feature of Porphyria

Esophageal Reflux Disease (GERD)

1. Barrett's esophagus is diagnosed by Intestinal metaplasia
2. Barrett'sesophagus can lead to Stricture
3. Barrett's esophagus is Premalignant
4. Barrett's esophagus is commonly associated with Adenocarcinoma

Peptic Ulcer

1. Stress ulcers seen in burns are Curling's ulcer
2. Helicobacter pylori is not associated with Gastricleiomyoma
3. Endoscopic biopsy from a case of H. pylori related duodenal ulcer is most likely to reveal Antral predominant gastritis
4. Epidemiological studies of H. pylori are done by using Serological markers
5. The best method to detect presence of residual H. Pylori infection is Urea breath test
6. Commonest site of peptic ulcer is First part of duodenum
7. Most common complication of chronic gastric ulcer is Haemorrhage
8. Artery to bleed in duodenal ulcer haemorrhage Gastroduodenal artery
9. Hypergastrinemia with hypochlorhydria is seen in Pernicious anemia
10. Best screening test for ZES is Secretin injection test.
11. Best treatment for ZES is Proton pump inhibitor

Diarrhea

1. A patient is said to have chronic diarrhea if it is occurring for more than 4 Weeks.
2. Treatment of pseudomembranous colitis Oral Vancomycin

3. Giardiasis is parasitic infestation can lead to malabsorption syndrome
4. Most common site of TB of abdomen is lleocaecal junction

Coeliac disease

1. Celiac sprue is associated with Dermatitis herpetiformis
2. Rice can be used safely in patients with celiac sprue
3. Most sensitive and most specific immunological test to diagnosis coeliac disease is Anti tissue transglutaminase antibodies
4. Most common CNS manifestation of Whipple's disease is Dementia
5. An intestinal biopsy is diagnostic in Whipple's disease
6. Macrophages containing large quantities of undigested and partial digested bacteria in intestine are seen in Whipple's disease

Irritable Bowel Syndrome (IBS)

1. Tegaserod is 5-HT4 agonist

Inflammatory Bowel Disease

1. Pseudopolyps are features of Ulcerative colitis
2. Cryptitis and crypt abscesses are seen in Ulcerative colitis
3. Toxic megacolon is most commonly associated with Ulcerative colitis
4. 5-amino salicylicacid is drug of choice for ulcerative colitis
5. Skip granulomatous lesions are seen in Crohn's disease
6. Multiple fistulae in the perineum and multiple stricture in small intestine seen in Crohn's disease
7. The presence of anti-Saccharomycescerevisiae antibody is a marker of Crohn's disease
8. Lynch syndrome associated with Colon, endometrium, ovary
9. Mutations in NOD2 gene have been associated with Crohn's disease
10. Most common site of ulcerative colitis is Rectum
11. Anterior uveitis is a feature of ulcerative colitis
12. Ankylosing spondylitis is a feature of ulcerative colitis
13. Sclerosing cholangitis is seen in Ulcerative colitis
14. Clostridiumdifficileorganism has been implicated in Crohn's disease
15. Most common site of carcinoid is Appendix

Kidney

Kidney Function Test

1. Presence of 20% dysmorphic RBC's in the urine is diagnostic of glomerular injury
2. Dysmorphic R.B.C& R.B.cast is feature of glomerular hematuria.
3. Recurrent gross hematuria is seen in a. Alport'ssyndrome , b. IgA nephropathy
4. White cell casts is indicative of renal tubular disease
5. Most specific urinary finding Acute pyelonephritis Bacteria in gram stain
6. In differentiating glomerular proteinuria from Tubular proteinuria, Glomerular proteinuria is indicated best by Proteinuria >3.0 - 3.5 g/day
7. Bence Jones protein mostly derived from Gamma chains
8. Serum creatinine increased out of proportion to BUN is seen in a person with muscular body
9. In a child, non-functioning kidney is best diagnosed by DTPA renogram.
10. A patient with ARF with complete anuria, but a normal ultrasound. Next investigation is DTPA Renogram
11. Creatinine clearance measures GFR

Acute Renal Failure

1. The most common cause of Post Operative ARF occurs due to Decreased renal perfusion
2. As per Rifle criteria, for acute kidney injury urine production <0.5 ml/kg for 12 hours indicates Injury
3. Values suggestive of acute tubular necrosis Urine sodium>40 mmol/l
4. Fractional excretion of sodium <1 is seen in Prerenal azotemia
5. Prerenal and renal azotemia is best differentiated on the basis of fractional Excretion of Na (FENa)
6. In Acute Tubular Necrosis Blood urea creatinine ratio < 20:1
7. Fastest treatment of hyperkalemia is Dextrose insulin drip

CRF (End Stage Renal Disease = ESRD)

1. Type of glomerulonephritis is least likely to cause CRF Minimal change glomerulonephritis
2. Signs and symptoms of CRF appear when GFR goes down below 50%
3. The best initial test to know about CRF is GFR
4. Cockcroft Gault equation is used to calculate Creatinine clearance
5. Painless pericarditis is a feature of CRF
6. Restless leg syndrome (RLS) is seen in Chronic renal failure
7. Treatment of restless leg syndrome is Risperidone
8. Renal osteodystrophy differs from nutritional and genetic forms of osteomalacia in having Hyperphosphatemia
9. Nail and half nail sign, seen in uremia is due to increased capillary density at the distal half of nails
10. Band shaped keratopathy is seen in CRF
11. In urinary system disease, Gl symptoms appears because of Renogastric reflex
12. In Digoxin poisoning dialysis is not done
13. Hypotension is the commonest complication of hemodialysis
14. Fluid used in peritoneal dialysis is rich in Dextrose
15. Ultrafiltration is done mainly to remove Water

Glomerulonephritis

1. Post-Streptococcal Glomerulonephritis secondary to skin infection, is more common in summer
2. Crescent formation is characteristic of Rapidly progressive glomerulonephritis
3. The prognosis of rapidly proliferating glomerulo-nephritis (Crescentic GN) depends upon Number of crescents

IgA nephropathy

1. lgA-nephropathy is seen in Mesangioproliferative glomerulonephritis
2. Henoch - Schonlein Purpura Platelet count is Normal
3. A feature of Renal vasculitis in children is IgA nephropathy

Nephrotic syndrome

1. Edema is nephrotic syndrome is predominantly due to Hypoalbuminemia
2. Most common cause of nephrotic range proteinuria in an adult is Diabetes Mellitus
3. Nephrotic syndrome may be associated with HDL cholesterol
4. True about light microscopy in minimal change disease is No change seen
5. Minimal change glomerulopathy may progress to FSGS
6. Reflux nephropathy is most likely to cause FSGS
7. Tram Tract appearance is seen in Membrano proliferative GN
8. Complement level is reduced in Membrano proliferative GN
9. Renal Vein Thrombosis is most common in Membranous GN
10. Most sensitive test for renal vein thrombosis CT Angiography

Kidney involvement in systemic disease

1. Most common pathological features in diabetes mellitus is Diffuse glomerulo sclerosing
2. HIV associated nephropathy is a type of Collapsing glomerulopathy
3. In Collapsing glomerulopathy, features is Visceral epithelium cells injury
4. Reflux Nephropathy with proteinuria in the nephrotic range may be seen in patients with Focal segmental Glomerulosclerosis
5. Wire loop lesions are often characteristic for Diffuse proliferative glomerulonephritis (WHO class IV) class of lupus nephritis
6. Hypocomplementemia is seen a. PSGN, b. MPGN, c. Infective endocarditis, d. SLE
7. Proliferative glomerular deposits in kidney are found in IgA nephropathy

Tubulointerstitial Diseases of The Kidney

1. Saturnine gout occur due to Lead Poisoning
2. Renal papillary necrosis is associated with Diabetes-mellitus
3. Crush injury leads to ARF
4. Salt losing nephritis is a feature of Interstitial nephritis
5. Hypertension is a less important finding in interstitial nephritis

Rhabdomyolysis

1. Non oliguric renal failure is seen in Rhabdomyolysis
2. Tests
    a. Blood tests show a raised CK.
    b. Dark urine is +ve for blood on dipstick but without RBCs on microscopy.
    c. Confirmed by +ve urinary /serum myoglobin.
    d. Hyperkalemia, Hyperphosphatemia, Hyperuricemia, Hypocalcemia, Lactic Acidosis

RTA

1. Hyperkalemia occurs in Type IV RTA
2. Fanconi syndrome occurs in Type II RTA
3. Type 1 (Distal)
    a. Features include rickets, or osteomalacia, due to buffering of H+ with calcium in bone.
    b. Nephrocalcinosis with renal calculi is a feature.
    c. Urine citrate is reduced.
4. Type 2 (Proximal) RTA is due to a 'bicarbonate leak' a defect in HCO3 reabsorption in the proximal tubule resulting in excess HCO3 in the urine.

Barter Syndrome

1. Hypocalciuria occur in Gitelman
2. Hypertension occur in a. Liddle, b. Gordon syndrome
3. Hyperkalemia occur in Gordon syndrome

ADPKD

1. Adult polycystic kidney is inherited as Autosomaldominant
2. Berry Aneurysm in Circle of Willis is associated with adult polycystic kidney disease
3. Hepatic Cyst is the most common extra renal involvement in ADPKD.
4. The neonatal kidney achieves concentrating ability equivalent to adult's kidney by One year of age

Rheumatology

Arthritis

1. Osteoarthritis is not an inflammatory arthritis.
2. HLA B5 is associated with Behcet.
3. Proximal interphalangeal, distal interphalangeal& 1st carpometacarpal joint involvement and sparing of wrist is a feature of Osteoarthritis.
4. Least common site to be involved in osteoarthritis is Metacarpophalangeal joint.
5. Heberden's arthropathy affects Distal interphalangeal joints.
6. Arthroscopic washout is the best treatment of a patients of Osteo arthritis Aphrolan grade II.

Rheumatoid Arthritis

1. HLA most characteristically associated with Rheumatoid arthritis - HLA DR4.
2. TNF-alpha is involved in the pathogeneses of RA.
3. Synovium is the initial site of disease in RA.
4. DIP joint least likely involved in RA.
5. Erosion radiological feature would help differentiate rheumatoid arthritis with SLE.
6. Cervical spine is most commonly affected Vertebral Joint in Rheumatoid arthritis.

Ulnar deviation of fingers is Pathognomic of RA.
Hammer toe is seen in Rheumatoid arthritis.
Rheumatoid arthritis causes pleural effusion with low sugar.
Type of anemia seen in Rheumatoid arthritis is Normocytic normochromic anaemia.

11. Rh factor is a Antibody.
12. Rheumatoid factor is IgM.
13. Rheumatoid factor in rheumatoid arthritis is important because RA factor is associated with bad prognosis.
14. Anti CCP is the most specific antibody for rheumatoid arthritis.
ii Sclerosis is a X-ray finding in RA.

16. Leucocytosis is not a marker of active RA.
17. Hemophilia with Rheumatoid arthritis, analgesic of choice is Acetaminophen.
18. Anakinra is the IL-1 Receptor antagonist.
19. Flupirtine is Analgesic.

Systemic Lupus Erythematosus

1. Polyserositis is seen in SLE
2. Procainamide causes SLE.
3. In SLE, characteristic kidney lesion is Wire loop lesions.
4. Wire loop lesions are often characteristic diffuse proliferative glomerulonephritis (WHO class IV) class of lupus nephritis.
5. Shrinking lung is a feature of SLE.
6. Autoimmune destruction of platelet is seen in SLE.
7. Carpet tack sign is seen in SLE.
8. In APLA, BT & PT are normal but PTT is increased.
9. Thrombocytosis is not associated with an Anti-phospholipid syndrome.
10. Anti beta 2 glycoprotein antibody is used for diagnosis of antiphospholipid antibody syndrome.
11. ANA is the most sensitive test for SLE.
12. Anti ds DNA ab is specific test for SLE.
13. Anti - Ro (SS- A) antibody is associated with subacute cutaneous lupus.
14. Anti ribosomal P antibody is associated with psychosis or depression due to CNS SLE.
15. Best marker for drug induced lupus is Anti histone antibodies.
16. U1 RNP antibodies is most important in a diagnosis of Mixed Connective tissue disorder.
17. Sapporo criteria is used for Anti phospholipid syndrome.

Spondylo - Arthrosis

1. Ankylosing spondylitis in associated with HLA-B27.
2. Sacroiliitis is the earliest joint involved in ankylosing spondylitis.
3. The Schober test is done for Ankylosing Spondylitis.
4. Bamboo spine is seen in Ankylosing Spondylitis.
5. Treatment of choice in seronegative spondyl-arthritis is Indomethacin

6. Subcutaneous nodules are not seen in Reiter's syndrome.
7. Chlamydia most commonly causes reactive arthritis.
8. Reiter's disease can occur in epidemic form.
9. Circinate balanitis is seen in Reiter's disease.
10. Sausage dactylitis is seen in Reiter's disease.
11. Keratoderma blennorrhagica is seen in Reiter's disease.
12. Patrick test is done for Sacroiliitis.

Systemic Sclerosis

1. Sudden renal failure occurs in PSS.
2. Anti centromere antibodies are most commonly associated with CREST syndrome.
3. Bosentan is used to treat Raynaud's phenomena.
4. Hypothyroidism occurs in Scleroderma.

Sjogren syndrome

1. Commonest cause of secondary Sjogren's syndrome is RA.
2. Alpha fodrin antibodies are present in Sjogren's syndrome.
3. Focus score is use in the diagnosis of Sjogren's syndrome.
4. Schirmer's test is done to diagnose Sjogrensyndrome.

Behcet's Syndrome

1. Recurrent Bilateral Hypopyon formation associated with thrombophlebitis is most consistent with Behcet's syndrome.
2. Pathergy test is done for Behcet's syndrome.
3. Thalidomide is used to treat Behcet's syndrome.

Crystals deposit disease

1. Gout is a disorder of Purine metabolism.
2. Allopurinol is not used in treatment of acute gout.
3. Most specific test for gout is Raised uric acid in synovial fluid of joint.
4. Martel's or G'sign is seen in Gout.
5. Benzbromarone is used in gout because it is Uricosuric.
6. Tienilic acid is the only diuretic that can be used in Gout.
7. Febuxostat is a Xanthine oxidase inhibitor and is used in the treatment of

Gout.

8. Rasburicase is used in the treatment of Gout.
9. Small joints affected is not seen in pseudogout.
10. Hemochromatosis causes pseudogout.
11. Knee is the most common joint involved in pseudogout.

Vasculitis

1. ANCA is sensitive and specific for Idiopathic crescentic glomerulonephritis.
2. C-ANCA Positivity is specific for Wegener's granulomatosis.
3. c-ANCA positivity indicates, antibody formed against Proteinase 3.
4. p-ANCA is characteristic for Microscopic polyangiitis.
5. Headache is the most frequent presenting symptoms in patients with Giant cell arteritis.
6. The investigation of choice for diagnosis of Giant cell Arteritis is Temporal Artery biopsy.
7. Biopsy in PAN shows Necrotizing arteritis.
8. Kawasaki disease is common cause of Vasculitis in children.
9. Kawasaki disease is associated with coronary artery aneurysm.
10. The treatment of choice for Kawasaki disease is Immunoglobulins.
11. Intravenous immunoglobulin is given in a. Kawasaki disease, b. GB syndrome, c. Myasthenia gravis.
12. Cavitating lesion in lung is seen in Wegner's granulomatosis.
13. Churg Strauss diseases manifest as asthma.
14. A characteristic of Henoch - Schonlein Purpura Blood in stool.
15. Henoch - Schonlein purpura is characterized by the deposition IgAimmunoglobulin around the vessels.
16. Hypersensitive vasculitis involves Post capillary venules.

Marfan's syndrome

1. Root of aorta is the site of Aortic aneurysm in Marfan syndrome.
2. Ghent criteria is used to diagnose Marfan syndrome.
3. Most important differential diagnosis of Marfan syndrome is Homocystinuria.

Hematology

Anemia

1. Thalassemia is associated with microcytic hypochromic anemia.
2. Elevated serum ferritin, serum iron and increase transferrin saturation are most consistent with the diagnosis of Hemochromatosis.
3. Spherocytes are seen in Autoimmune hemolysis.
4. Fragmented RBCs are seen inHUS.
5. Howell-Jolly bodies are seen in Post splenectomy.
6. Hb level at birth is 20 gm%.
7. Soft Systolic murmur is a feature of anemia.

Iron deficiency anemia (IDA)

1. Increased TIBC, decreased serum ferritin is diagnostic of iron deficiency anemia.
2. The earliest sign of iron deficiency anaemia Decrease in serum ferritin level.
3. In iron deficiency anemia Bone marrow iron is decreased earlier than serum iron.
4. Most sensitive and specific test for diagnosis of iron deficiency is Serum ferritin levels.

Macrocytic anemia

1. Megaloblastic anemia in blind loop syndrome is due to bacterial overgrowth.
2. Type of anaemia caused by lleocaecale TB is Megaloblastic.
3. Deficiency of the 'intrinsic factor of Castle' causes Pernicious anemia.
4. MCH is high & MCHC is normal in pernicious anemia.
5. Hypokalemia can occur in the treatment of pernicious anemia.
6. Megaloblastic anemia due to folic acid deficiency is commonly due to Inadequate dietary intake.
7. Folate Deficiency occurs in Celiacdisease.
8. Thiamine deficiency lead to lactic acidosis.

Aplastic anemia

1. Pancytopenia with cellular marrow is seen in PNH.

Anaemia of Chronic Diseases (AOCD)

1. In chronic inflammatory anemia: Serum iron 4- S. ferritin T and transferrin saturation
2. In Anemia of chronic disease normocyticnormochromicanemia. Decreased serum iron and TIBC.
3. Transferrin saturation is Serum iron / TIBC X 100.

Sideroblastic anemias

1. Sideroblasticanaemia is seen in Hypothyroid.
2. Sideroblasticanaemia is caused by INH.
3. In Sideroblastic anaemia transferrin saturation is increase.
4. Treatment of sideroblastic anemia is Pyridoxine.
5. Pearson syndrome is Congenital sideroblastic anemia.

Hemolytic anemic

1. Cold autoimmune hemolysis is associated with Donath Landsteiner antibody.
2. Autoimmune hemolytic anemia is seen in CLL.
3. Coombs positive hemolytic anemia associated with SLE.
4. Low serum haptoglobin in hemolysis masked by burns.
5. Hemolysis is most likely occur in Army soldier due to prolong March.
6. Spur cell anemia is seen in Alcoholic liver disease.

Hereditary Spherocytosis (HS)

1. Osmotic fragility is increased in Hereditary spherocytosis.
2. Decreased osmotic fragility is seen in Thalassemia.
3. Aplastic anemia in hereditary spherocytosis can be precipitated by Parvo virus.
4. Splenectomy is useful in Hereditary spherocytosis.

PNH

1. A stem cell disorder affecting all the three cell line (Platelets, RBCs and leucocytes) is Paroxysmal nocturnal hemoglobinemia.
2. Chronic Hemolysis from PNH is associated with iron deficiency.
3. Increased LDH is seen in PNH.
4. HAM test is based upon acidic medium.
5. Flow cytometry test is gold standard to diagnose a case of PNH.
6. Most common cause of death in PNH is Venous thrombosis.
7. Prophylactic treatment of PNH is Eculizumab.

Sickle Cell Anemia

1. The primary defect which leads to sickle cell anemia is Replacement of glutamate by valine in B-chain of HbA.
2. Splenomegaly is not seen in a chronic case of Sickle cell anemia.
3. Commonest acute presentation of sickle cell anaemia is bone pain.
4. Crew haircut appearance in X-rays skull and Gandy gamma bodies are seen in Sickle cell anemia.
5. Sickle cell trait is protective against Plasmodium infection.

Thalassemia

1. In Beta thalassemia, there is decrease in beta chain, increase in alpha chain.
2. The most common mutations in Beta thalassemia involves lntron-1.
3. HbH is characterized by deletion of three alpha chain genes.
4. Cause of alpha thalassemia deletion of alpha genes.
5. Diagnosis of beta Thalassemia is best established by Hb electrophoresis.
6. NESTROFT test used as screening test in beta thalassemia.
7. Hair on end appearance in X-rays skull is seen in thalassemia.
8. In thalassemia Ineffective erythropoiesis and hemolysis occurs.

G6PD deficiency

1. Oestrogen doesn't cause hemolysis in G6PD deficiency.
2. Heinz bodies are seen in G6PD deficiency

Bone marrow transplantation

1. Herpes simplex is the earliest infection to occur in BMT.
2. After BMT interstitial pneumonitis occurs at Seven week.

Porphyria

1. Porphyria is AD
2. Hepatitis C is associated withPorphyriaCutanea tarda.
3. Hepatoma is associated withPorphyriaCutanea tarda.

Myeloproliferativedisorders

1. Gaisbock syndrome occurs in Dehydration.
2. Arterial oxygen tension <90% on room air can differentiate primary polycythemia from secondary polycythemia.
3. Tumor associated with polycythemia is Cerebellar hemangioblastoma, Hepatoma, Renal Cell Carcinoma.
4. Erythropoietin level is not increased in polycythemia vera.
5. Severe infection is not commonly seen in Polycythemia.
6. Presence of JAK2 mutation is an essential (Major) criteria for diagnosis of polycythemia vera.
7. Peripheral smear with increased neutrophils, basophils, eosinophils, and platelets is highly suggestive of Chronic myelogenous leukemia.
8. Size of spleen is a criteria of prognosis in CML.
9. Leukocyte alkaline phosphate is decreased in CML.
10. Drug of choice for chronic myeloid Leukemia is Imatinib
11. Best Rx for CML is allogenic BMT.
12. Hemoglobin F is raised in Juvenile chronic myeloid leukemia.
13. Priapism is seen in bite by Spanish fly.
14. Giant platelet are seen in Myelofibrosis
15. Extra medullary hemopoiesis occurs in Myelofibrosis

Hairy cell leukaemia

1. 'Hairy cell leukemia' is a Neoplastic proliferation of B. cells.
2. Treatment of choice in hairy cell leukemia is Cladribine.

3. Abscopal effect is related to radiation to Spleen.

Chronic Lymphocytic Leukemia (CLL)

1. Rituximab is used for the treatment of CLL.

Multiple myeloma

1. Bence Jones protein are derived from Gamma chains.
2. Commonest site of lytic lesion, in multiple myeloma is Vertebral column.
3. Russell bodies is seen in Multiple Myeloma.
4. Lytic bone lesions is a minor criteria for diagnosis of multiple myeloma.
5. Bone scan is not useful investigation in multiple myeloma.
6. Elevated alkaline phosphatase is not a feature of multiple myeloma.
7. High ESR is seen in Multiple myeloma.
8. Best marker for poor prognosis of the disease is Beta 2 micro globulin.
9. Bortezomib is used in the treatment of MM.
10. Franklin's disease is associated with Gamma heavy chain disease.
11. Plasmacytoid lymphoma is associated with IgM.

Lymphoma

1. The subtype of Hodgkin's disease, which is histologically distinct from all the other subtypes, is Lymphocyte predominant.
2. Cells characteristic of Hodgkin's disease are Reed-Sternberg cells.
3. The lymphocytic and Histiocytic variant of Reed Sternberg cell is seen in Lymphocyte predominant Hodgkin's disease.
4. Hodgkin's lymphoma of the nodular subtype is associated with Lacunar cells.
5. Most common type of Hodgkin's lymphoma is Nodular sclerosis.
6. Most common type of Hodgkin's lymphoma in India is Mixed cellularity.
7. Best prognostic type of Hodgkin's lymphoma is Lymphocytic predominant.
8. Classical markers for Hodgkin's disease is CD 15 and CD 30.
9. The paraneoplastic syndrome associated with Hodgkin's disease is cerebellar degenerative disease.
10. Treatment for Hodgkin stage IA is Radiotherapy.

Non-Hodgkin's Lymphoma

1. The classification proposed by the International Lymphoma Study Group for non-Hodgkin's lymphoma is known as REAL classification.
2. Angiocentric lymphoma is not a B-cell neoplasm.
3. Most malignant form of NHL is Burkitt lymphoma.
4. In Burkitt's lymphoma, translocation seen is 8 -14 translocation.
5. Translocation t (2- 8) is associated with Burkitt lymphoma.
6. Epstein-Barr virus can lead to non-Hodgkin lymphoma.

Acute Leukemia

1. The marker for B lymphocyte is CD 19.
2. MPO is marker specific for myeloid lineage.
3. CD3is a pan-T lymphocyte marker.
4. Memory T cells can be identified by using the CD45RO marker.
5. Paroxysmal cold hemoglobinuria is not a preleukemic condition.
6. The most common type of ALL is Pre B cell ALL.
7. L-asparaginase is particularly used in ALL leukemia.
8. Treatment of choice in intracranial ALL is Intrathecal methotrexate.
9. In ALL methotrexate is administered for CNS prophylaxis.
10. Poor prognostic factor for ALL is t(9;22) t(4;ll).
11. Poor prognosis in AML is indicated by Monosomy 7.
12. Arsenic is used in treatment of Acute promyelocytic leukemia.

Bleeding disorder

1. Converging point of both pathways in coagulation is at Stuart factor X.
2. Factor VII deficiency may present with isolated prolongation of prothrombin time (PT).
3. Platelet function may be assessed by Platelet adhesion Assays.
4. A patient is on aspirin, Prolonged BT will occur.
5. Feature of hemorrhagic disease of new born is Prolonged prothrombin time.
6. P.T. is most likely to be increased in Vit. K deficiency.

Platelet Disorders

1. Normal platelet counts and prolonged Bleeding time is the finding in functional defect in platelets.
2. The presence of small sized platelets on the peripheral smear is characteristic of Wiskott Aldrich syndrome.
3. Thrombocytopenia is not seen in H.S. purpura.
4. Cause of ITP is antibody to platelets.
5. Bleeding time is abnormally prolonged in ITP.
6. Platelet transfusion is not indicated in immunogenic thrombocytopenia.

HUS & TTP

1. MicroangiopathicHemolyticanemia is seen in a). TTP, b). Microscopic polyangiitis, c). Anti-phospholipid syndrome.

Hemophilia

1. The commonest mode of inheritance of Von Willebrand's disease autosomal dominant.
2. Bleeding time is used to differentiate hemophilia A from von Willebrand disease.
3. In a case of hemophilia, spontaneous bleeding occur when serum factor VIII level is below 1%.

Disseminated Intravascular Coagulation (DIC)

1. DIC is commonly seen in M3 AML.
2. The most sensitive test for DIC is Serum levels of fibrin degradation products (FDP).
3. Increased FDP, prolonged PT, reduced Platelets is the finding seen in DIC.

Hypercoagulable States

1. Predisposing factor for arterial thrombosis a). Protein S deficiency, b). Protein C deficiency, c). Homocystinemia.
2. Hypercoagulability due to defective factor V gene is called Leiden mutation.

3. Most common inherited thrombotic disorder is factor V Leiden mutation.
4. A Female with recurrent abortions, pain in calves, It is most likely due to deficiency of Protein C.

Blood Transfusion

1. Blood components products are a). Platelets, b). Fresh frozen plasma , c). Leukocyte depleted RBC.
2. Most Common blood transfusion reaction is- Febrile nonhemolytic transfusion reaction.

DRUGS

1. Clopidogrel is a phosphodiesterase inhibitor.
2. Factor Xa inhibition and Thrombin inhibition is the mechanism of action of Low-Molecular-Weight Heparin.
3. Factor Xa inhibition is the mechanism of action of Penta saccharide.

Antiplatelet drugs

1. GPIIb/llla Receptor Antagonists Abciximab, eptifibatide, and tirofiban
2. New Antiplatelet Agents

A. Direct-acting reversible P2Y12 antagonists

a. Cangrelor b. Ticagrelor

B. Orally active inhibitors of protease-activated receptor 1 (PAR-1), the major thrombin receptor on platelets.

a.Vorapaxar b. Atopaxar

Electrolyte Disturbance

POTASSIUM

1. RTA type IV is a cause of hyperkalemia.
2. Calcium Gluconatedoes not reduce potassium level.
3. Tall P wave is a ECG finding in hyperkalemia.
4. Pseudo hyperkalemia is seen inLeukemia.
5. Vit. B12 therapy is a cause of hypokalemia.

Sodium

1. Osmotic demyelination syndrome occur in Rx of SIADH.
2. Hyponatremia occurs in Small cell lung carcinoma.
3. Convulsion is the feature of SIADH.
4. Pseudohyponatremia occurs in Hyperlipidemia.
5. Drug used in treatment of cerebral salt wasting syndrome is Fludrocortisone.

Acid - Base Disturbance

1. Metabolic alkalosis is seen in Mineralocorticoid excess.
2. Normal blood ph is 7.36 to 7.44
3. Diagnostic features of metabolic acidosis is low bicarbonate
4. Diagnostic features of metabolic alkalosis is high bicarbonate
5. Diagnostic features of respiratory alkalosis is low CO_2
6. Diagnostic features of respiratory acidosis is high CO_2

Recent & High Yield Updated LMRPs

1. A child with hypertension, hypokalemia and alkalosis = Liddle's syndrome.
2. Wallenberg syndrome is caused due to obstruction of PICA.
3. Cranial Nerve involved in Weber's syndrome is Oculomotor nerve
4. Melanosis coli is caused due to Senna.
5. Most common presentation of factor V Leiden mutation is DVT.
6. Hyper prolactinoma due to cancer of pituitary is confirmed if the level of prolactin in blood is said to be more than 200 ng/dl.
7. Test for Tuberculosis exclusively needs whole blood of patient isGamma interferon.
8. A child presented with movement disorder, recurrent hepatitis and neurological complaints. Diagnosis is Wilson Disease.
9. In Pheochromocytoma disease there is a increase in urinary VMA level.
10. A patient of diabetes mellitus should restrict niacin becauseNiacin increases insulin resistance
11. Bartter Syndrome involves thick ascending loop of nephron.
12. Endocrine condition which can causes AV block is Hypothyroidism.
13. HIAA level increased in urine is due to Carcinoid Syndrome.
14. In Myasthenia gravis pathology is Antibody against Post synaptic receptors of Neuro Mascular Junction.
15. In grave's diseaseTSHIevel is Decreased.
16. Saturnine Gout is caused by Lead.
17. Arrhythmogenic right ventricular dysplasia (ARVD) is the stunned cardiomyopathy.
18. Ankylosing Spondylitis is a Seronegative arthritis.
19. Most common cancer therapy causing agranulocytosis is due to use of Alkylating agent.
20. In Crohn’sDisease discontinuous involvement of bowel occur.
21. In ulcerative colitis is Patient requires colectomy if patient develop toxic megacolon.
22. Non suppurative multiple draining sinus is Nocardia.
23. Cervical cancer is a AIDS defining condition.
24. Pseudo PPulmonale is seen in Hypokalemia
25. Prosopagnosia is loss of ability of Facial recognition.

26. The viral infection is most common after organ transplantation is CMV.
27. Enoxaparin is a low molecular weight heparin.
28. Cyanosis does not develop in severe anemia because of It requires a critical concentration of reduced haemoglobin (> 5 gm %) in blood.
29. The drug that be given in patients of primary pulmonary hypertension is Bosentan
30. ANA is not positive in Multiple Myeloma.
31. In CML tyrosine kinase inhibitors (Imatinib) are used in treatment.
32. Islet cell hyperplasia cannotcause pancreatitis.
33. Treatment of choice for late cardiovascular syphilis is Benzathinepenicillin 7.2 million units in three divided doses.
34. A woman presents with pain, swelling and redness of knee joint and hand. There were associated complaints of Morning stiffness with problem in squatting. The swelling spared the DIP joints. The most likely diagnosis is Rheumatoid Arthritis.
35. Diarrhea and intolerance to dairy products occurs in lactase deficiency.
36. 'a' wave in JVP Indicates Right atrial contraction.
37. A Patient is having Ph- 7.12, HCO3- 28 and PCO2- 50mmhg. The acid base disorder in this patient is Respiratory acidosis with renal compensation.
38. A Female patient was brought to the ER with altered sensorium. On examination BP was 88/67 mm with a pulse of 60/min. Rectal temperature was 34 Celsius. There was associated history of constipation, dry skin and menorrhagia. The most likely diagnosis is Myxedema Coma.
39. An old lady developed intractable vomiting for 7 days with loss of fluid in stools, decrease food intake and developed altered sensorium. She is brought to the hospital, where fluid loss is corrected with rapid fluids and electrolyte correction is given for hyponatremia. During the treatment, the patient started having quadriplegia and mutism. The most likely diagnosis is Pontine Demyelination (A rare complication of Rapid and aggressive sodium correction in SIADH).
40. A healthy middle-aged man was arguing with his brother and got emotionally upset due to the arguments with his brother.He suddenly developed chest pain and collapsed. When brought to the hospital, he was declared dead. The most likely diagnosis is Takotsubo cardiomyopathy.

41. A patient presented with headache and fever for 7 days. While doing a lumbar puncture, it was noticed that the opening CSF pressure increased on jugular vein compression and became normal on relieving the pressure on jugular vein. The interpretation of this is Patent subarachnoid space.
42. Osborn waves:Hypothermia
43. Brown squared true is same side kinaesthesia lost.
44. Tertiary syphilis is not an AIDS defining illness
45. Oesophageal obstruction can occur due to enlargement of Left atrium in mitral Stenosis.
46. Myasthenia graves Most Common presentation is Ptosis.
47. Lignocaine is given in Ventricular tachycardia.
48. PICA block causesWallenberg syndrome.
49. Calcitonin level is elevated in hyperparathyroidism.
50. PSVT with hypotension Rx: DC cardioversion
51. Duke criteria is used to diagnose endocarditis.
52. Apo E4 is associated with Alzheimer disease.
53. Malar rash except nasolabial fold is seen in SLE.
54. Murmur increase on standing in HOCM and MVP.
55. Kent bundle cause WPW syndrome.
56. Axillary hyperpigmentation is seen inAcanthosis nigricans.
57. Cowdry type A inclusion is seen in HSV 1.
58. During Pleural tapping needle is inserted in 7 intercostal space in mid axillary line.
59. In Wilson disease hemolytic anemia can occur.
60. Headache while eating (Jaw Claudication) occurs in Giant cell arteritis
61. Splenectomy can be done in advance case of ITP.
62. In cardiac tamponade pulses paradoxes occurs.
63. A 60 year old female with left brachiocephalic weakness for 1 hour comes with a BP of 160/ 100 mm Hg. CT brain- normal. Next best stepin the treatment is IV thrombolysis by tPA.
64. Cardiac axis at 90 degree 'R' wave will be maximum in aVFIead.
65. To differentiate between Tamponadevs. Tension Pneumothorax clinically isby listening to Breath sounds.
66. SLE cannot be diagnosed without antinuclear antibody positivity.

67. Patient comes with Chronic diarrhea with normal D- xylose test and abnormal schilling test. Duodenal biopsy is normal. The probable diagnosisis llealdisease.
68. Ventilators associated pneumonia can be due to Klebsiella.
69. Febuxostatis used in the treatment of Gout.
70. TOC cardiovascular syphilis:benzathine penicillin
71. Site of lesion of internuclear ophthalmoplegiais medial longitudinal fasciculus
72. Raised LDL is not a component of metabolic syndrome
73. Most common form of arthritis is osteoarthritis
74. Triad of eosinophilia, skin lesion, asymmetrical mononeuritis multiplex isseen in Churg-Strauss.
75. NARP syndrome is a mitochondrial function disorder.

Surgery

GIT

Achalasia Cardia

1. Impaired relaxation of the lower esophageal sphincter.
2. Progressive dysphagia is the most cardinal symptom, begins with liquids and progresses to solids.
3. Manometry most confirmatory investigation
4. Barium swallow " bird-beak sign " "Pencil's tip", "Rat's tail " appearance.
5. Mecholyl test is positive in Achalasia
6. Treatment of choice is Heller myotomy.
7. Botulinum toxin injection (High rate of recurrent).

Diffuse Esophageal Spasm

1. Abnormality of the esophageal body
2. Clinical presentation Chest pain and dysphagia
3. Barium swallow
4. Corkscrew or rosary-bead esophagus
5. Manometry is gold standard test for diagnosis.
6. Mainstay of treatment for DES is nonsurgical, and pharmacologic (Nitrates, calcium channel blockers)

Super squeezer oesophagus

1. Most painful esophageal hypermotility disorder.
2. The gold standard of diagnosis is manometric tracings.
3. The treatment if nutcracker esophagus is medical (Calcium channel blockers, nitrates, and antispasmodics)

Zenker's Diverticulum

1. Pulsion type (Pseudo diverticula), in the posterior hypopharynx through Killian triangle
2. Pneumonia & Lung abscess is most common complication.
3. Barium swallow is investigation of choice.
4. Treatment Surgical;
    a. Diverticulectomy with cricopharyngeal myotomy
    b. Diverticulum esophagostomy (Dolhman's procedure)

Oesophageal Rings and Webs/ Schatzki's Ring

1. Schatzki ring: squamo-columnar junction at the lower end of the oesophagus
2. Plummer: Wilson Syndrome / Paterson-Brown-Kelly syndrome
    A. Middle-aged women
    B. Upper Oesophageal web (postcricoid web)
    C. Iron deficiency anaemia

Tracheo Oesophageal Fistula

1. Most common type is Esophageal atresia with distal tracheoesophageal fistula
2. Radiological investigation of choice in Esophageal atresia(EA) is 3D CT
3. Associated congenital anomalies VATER, VACTERL
4. Presents with copious, fine, white, frothy bubbles of mucus in the mouth
5. Greatest risk to a child with EA and/or TEF is aspiration
6. Treatment Surgical correction

Malignant Tracheoesophageal Fistula

1. Occurs with advanced carcinoma
2. Self-expanding metallic stent is the best treatment.

Dysphagia Lusoria

1. Disorder of swallowing caused due to vascular anomalies
2. MC anomaly is right Subclavian artery arising from the descending aorta.
3. Angiography or HRCT is done to Identify the anomalous anatomy".
4. Odynophagia, painful swallowing seen in inflammatory lesion

Barrett's Oesophagus

1. Barrett's esophagus is a metaplastic change in response to chronic gastro esophageal reflex in lower esophagus.
2. Treatment of choice for Barrett's esophagus is Proton Pump Inhibitor and regular surveillance with endoscopy.

Carcinoma Oesophagus

1. Leiomyoma (M.C. benign tumour)
2. Adenocarcinoma (M.C. tumour)
3. Most common site of ca esophagus is middle 1/3 of esophagus
4. Squamous Cell Carcinoma
5. Most common site is middle 1/3 of esophagus
6. The most common symptoms are dysphagia and weight loss.

Treatment *I* Oesophagectomy

1. Treatment of choice for esophageal carcinoma is esophagectomy.
2. Orringer's Trans-hiatal esophagectomy, 2 incisions (Abdomen &Neck).
3. Ivor Lewis Transthoracic esophagectomy: Midline laparotomy followed by right sided thoracotomy.
4. McKeon En Bloc Esophagectomy:
   THREE incisions are right sided thoracotomy, midline laparotomy, followed by cervical incision.
5. Best conduit after esophagectomy (overall) is Stomach
6. Gastric conduit is based on right gastric and right gastroepiploic vessels

Stomach

1. Muscularis mucosa is responsible for the rugae.
2. Submucosa is the strongest layer.
3. Parietal cells secrete hydrochloric acid.
4. Chief cells secrete pepsin and leptin
5. G cells secrete gastrin.
6. Gastric pacemaker Interstitial cells of Cajal (ICC).

Peptic Ulcer

Benign Gastric Ulcer

1. Most common site is lesser curvature (near incisura angularis).
2. Duodenal ulcer, MC Site is 1st part of duodenum (overall MC site for peptic ulcer)
3. Gastrointestinal bleeding: Most common complication of peptic ulcer because of erosion of gastroduodenal artery.

Helicobacter pylori

1. First successful culture of organism was done by Marshall and Warren
2. MC site of colonization.
3. Produces potent urease
4. Highly selective vagotomy:
    a. Procedure of choice of chronic or intractable duodenal ulcers.
5. Vagotomy and Antrectomy:
    a. Procedure of choice for recurrent duodenal ulcers
    b. Lowest recurrence rate

Complications of Gastric surgery

1. MC metabolic defect appearing after gastrectomy Anemia
2. Dumping Syndrome, a post-operative complication of gastrectomy, related to ingestion of high carbohydrate meal.

Early Dumping	**Late dumping**
a. Immediately after meals	2-3 hrs after meal

b. Dumping of hyperosmolar contents into due to reactive hypoglycemia bowel

Duodenal stump blowout

1. Usually occurs on 4th to 7th post-operative day

Upper Gl Bleeding

1. The Forrest Classification:
    (For Endoscopic Findings and Rebleeding Risk)

2. Best tool for localization of the bleeding source is endoscopy
3. Radionuclide scanning with technetium-99m labeled RBCs is the most sensitive but least accurate method for localization of Gl bleeding

Mallory Weiss Tear and Dieulafoy's Lesion

1. Mallory Weis Tear
    a. Site below the esophago-gastric junction at the cardia in 90% of cases
    b. Common in alcoholic
    c. Investigation of choice is Endoscopy
    d. Managed by conservative treatment (90%)
2. Dieulafoy's Gastric Lesion
    a. Tortuous artery penetrating the submucosa
    b. Common along the lesser curvature
    c. Diagnosis: Endoscopy
    d. Treatment: Endoscopic attempts

GAVE (Gastric Antral Vascular Ectasia) / Water Melon Stomach & Menetrier's disease

1. Affects the distal portion (Antrum)
2. Elderly women with chronic bleeding
3. Associated autoimmune connective tissue disorder
4. Diagnosis is typical endoscopic and biopsy appearance
5. Indications for Gastrin Level Measurement
6. Cushing's ulcer in central nervous system disease
7. Curling's ulcer thermal burn injury
8. Hyperplasic is most common
9. Adenomatous polyp: Malignant potential.

Gastric Carcinoma

1. Commonest presentation Weight loss / abdominal pain
2. Lauren's classification
    a. Intestinal type
    b. Diffuse type

Leather Bottle Stomach (Linitis Plastica)

1. Stomach is massively thickened (feels like leather)
2. Treated by radical gastrectomy
3. Gastric Carcinogenesis:
   Esophagogastroduodenoscopy and biopsy is investigation of choice PET CT - Most sensitive and specific radiological investigation for gastric cancer staging.
4. Prognostic factor:
   Depth of invasion and presence or absence of regional LN
5. Treatment:
   Surgery is the only prospective of cure
   a. Subtotal gastrectomy for tumors of distal stomach
   b. Esophagogastrectomy for tumors of cardia & GE junction

Gastrointestinal Stromal Tumors (GIST) and Gastric Lymphomas

1. Most common site of GIST is stomach.
2. Originate from C-kit receptor of tyrosine kinase (Interstitial cells of Cajal)
3. Leiomyomas is the commonest benign tumours of the stomach.
4. 75% present with an upper gastrointestinal bleed
5. Diagnosis can be confirmed by endoscopy and biopsy.
6. Treatment of choice is gastrectomy
7. Adjuvant treatment or palliative treatment with imatinib.

Gastric lymphoma

1. Stomach is commonest extranodal primary site
2. Antibiotic to treat H. pylori can cause regression of 75% MALT lymphomas

Bezoars/Diverticula

1. Trichobezoars: Hair
2. Phytobezoars: Vegetable matter (most common bezoar)
3. Rapunzel Syndrome Gastric trichobezoars with long extension of hairs that trail into the duodenum.
4. Lacto bezoar: Undigested milk

Hypertrophic pyloric stenosis

1. Most common in first born males
2. Presents between 3 and 6 weeks of age
3. Metabolic abnormality hypochloremic, hypokalemic metabolic alkalosis with Paradoxical aciduria and Non-bilious vomiting
4. Typical olive in right upper quadrant.
5. Diagnosis ultrasound scanning is confirmatory,
6. Treatment is extra mucosal pyloromyotomy (Ramstedt's operation) procedure of choice is gastric carcinoma

Gastric Volvulus

1. Organo-axial is Most common type.
2. Gastric volvulus is the most common complication of paraesophageal hernias
3. Borchardt's triad (pain, retching, and inability to pass a nasogastric tube) is diagnostic of acute volvulus.
4. Emergent surgical intervention

Diverticula

1. Most gastric diverticula occur in the posterior cardia or fundus
2. Asymptomatic diverticula do not require treatment
3. Symptomatic lesions should be removed.

Duodenal Stricture

1. Prune-belly syndrome describes the wrinkled appearance of the anterior abdominal wall
2. Also known as Eagle-Barrett syndrome
    a. Extremely lax lower abdominal musculature
    b. Dilated urinary tract including the bladder
    c. Bilateral undescended testes
3. Hour-Glass Stomach-contraction of saddle shaped ulcer at the lesser curvature
4. Tea-Pot Stomach (Hand-Bag Stomach)-longitudinal shortening of gastric ulcer at the lesser curvature of stomach
5. Duodenal Adenocarcinoma:

a. MC site of small intestinal adenocarcinoma distal duodenum (MC)
b. Most often presents as obstruction,

6. Diagnosis is Endoscopy is the diagnostic test of choice
7. Treatment:
   a. For 1st or 2nd portion: Whipple procedure
   b. For 3rd or 4th portion: Segmental duodenal resection

Gall Bladder Anatomy and Physiology &Gall Stones

1. CBD enters the 2nd part of duodenum together with the pancreatic duct in the ampulla of Vater.
2. Boundaries of Calot's Triangle:
   a. Superiorly cystic artery
   b. Medially common hepatic duct
   c. Laterally, cystic duct
3. LN of Lund: Cystic lymph node

Gall Stones / Cholelithiasis

1. Asymptomatic gallstones are most common.
   Three types are:
   a. Cholesterol
   b. Black stone
   c. Brown Stone- infected stone (Most common)
2. Mixed stones. (Commonest)
3. Abdominal ultrasound: Gold standard for GB calculi.
4. Treatment is Cholecystectomy
5. Medication:
   a. Ursodeoxycholic acid
   b. Chenodeoxycholic acid.
6. Mercedes Benz sign or Seagull sign is gall stone may contain radiolucent gas
7. Bouveret's Syndrome Duodenal obstruction due to gall stones
8. Gall stone ileus: Passage of stone through a spontaneous biliary -enteric fistula leading to mechanical bowel obstruction.
9. Riegler's triad: Plain abdominal film showing a triad of small bowel obstruction pneumobilia and ectopic gallstone

10. Treatment of Gall Stones is Laparoscopic cholecystectomy is treatment of choice if in acute cholecystitis if presented within 72 hrs.
11. Mucocele is result from prolonged obstruction of the cystic duct, usually by a large solitary calculus.
12. Treatment is Early cholecystectomy

Cholecystitis and cholecystectomy

1. Yellow flakes over the mucosal surface, known as the strawberry gall bladder.
2. Porcelain gall bladder calcified gall bladder, Common: Elderly and critically ill patients
3. Ultrasound is most useful to rule out conditions

Emphysematous cholecystitis

1. T/T: Ultrasound guided per cutaneous cholecystostomy is the treatment of choice
2. Caused by gas: forming Organisms-E-coli (Most common)
3. Typical male older than 60 years, with type II diabetes mellitus
4. Treatment: A. Intravenous antibiotics B. Lap or open cholecystectomy
5. Focal or diffuse destructive inflammatory process with lipid-laden macrophages
6. Thickening of GB wall is most common radiological finding sometimes
7. Surgical treatment (Laparoscopic cholecystectomy)

Mirizzi syndrome

1. Mirizzi's Syndrome
    a. Obstruction of the common hepatic duct or CBD by stone in the Hartmann pouch or cystic duct.
    b. Types of Cholecystectomy: 1. Retrograde 2. Antegrade

Gall Bladder Polyp and Adenomyomatosis

1. Cholesterol polyps are the most common
2. Adenomatous polyp has malignant potentials.
3. Adenomyomatosis is a benign condition
4. USG" diamond ring sign", "V-shaped", or "comet-tail" artifacts on USG.

Gail Bladder Carcinoma

1. Adenocarcinoma is most frequent
2. Highest incidence in India
3. Risk factors are:
   A. Gallstones (Most common)
   B. Infiltrative (Most common)
   C. MC - symptom.
   D. Elevated CEA > 4 ng /ml and CA19-9 tumor markers

4. Treatment:

Stage	Procedure
I	Simple cholecystectomy
II	Radical cholecystectomy

Bile Duct cyst

1. It is a Pseudo Cyst
2. Caroli's disease

Choledocholithiasis and Cholangitis

1. Primary CBD stone 5 x usually brown pigment store
2. Secondary CBD stone 95%
3. Formed within the biliary tract: Formed initially in the GB
4. Migrate into CBD
5. Most of the stones in the CBD can be removed by supraduodenal choledochotomy (when ERCP is contraindicated).
6. Charcot's triad Right upper quadrant pain, Fever and Jaundice.
7. Reynaud's pentad-charcoal's triad + shock+ mental obtundation.
8. Treatment:
   a. Broad-spectrum antibiotics AND aggressive hydration
   b. Best method to accomplish biliary drainage is ERCP.
   c. In obstruction of the common bile duct due to a stone, distention of gallbladder seldom occurs; the organ usually is shriveled

Choledochotomy and CBD Exploration

1. Synthetic absorbable suture such as Vicryl is preferred for CBD.

Bile Duct Injury and Bile Duct Stricture

1. Latrogenic (M/C causes) resulting from operative trauma.
2. Strasberg Classification of Laparoscopic Biliary Injuries
3. Most common presentation is jaundice with or without abdominal pain.
4. Diagnosis is Cholangiography
5. GOALS of therapy:
    a. Control of infection
    b. Delineation of entire biliary anatomy
    c. Re-establishment of biliary enteric continuity

Carcinoma of Bile duct/ Cholangiocarcinoma

1. MC type is adenocarcinoma
2. Hilar cholangiocarcinoma known as Klatskin tumor
3. Sclerosing: MC type
4. Clinical features: Painless jaundice

Hemobilia

1. Latrogenic is most common
2. Investigation of choice is CT Angiography
3. Selective hepatic angiography with embolization

Liver (Surgical Anatomy)

1. Divided into a right and left by Cantlie line passing through the gallbladder bed towards the vena cava.
2. The caudate lobe has distinct anatomical segment and is labeled segment I.
3. MC surgical cause of obstructive jaundice is CBD stones
4. USG is the best test to differentiate medical from surgical Jaundice.
5. Liver biopsy is done through 8th Intercostal space in midaxillary line to avoid Lung
6. Right lobe most commonly involved.
7. Most common route of spread ascending infection through biliary tract.

Download From: AghaLibrary.com

8. Sign Fever, Tenderness, Jaundice
9. Serologic testing is a more useful diagnostic tool
10. Treatment: A. Metronidazole is the drug of choice B. Aspiration only if rupture is imminent
11. Pyogenic liver abscess:
    a. Routes of Infection: Biliary tract (MC)
    b. MC presenting symptom is fever.
    c. MSG and CT are the main diagnostic modalities
    d. Treatment: Percutaneous catheter drainage +IV antibiotics
12. Man is an accidental intermediate host
13. Liver is the commonest organ involved
14. Ultrasound is the initial investigation of choice.
15. CECT is best radiological investigation
16. Drug of choice is Albendazole
17. Surgical excision of the cyst is the treatment of choice

Liver Cancer

1. HCC is the most common primary malignancy of the liver.
2. HCV infection (Conversion to HCC is highest - 90%)
3. Cirrhosis of liver is most common etiology for HCC.
4. Diagnostic approach:
    A. CAT scans B.MRI most sensitive investigation
5. Okuda Staging System for HCC
6. Surgical resection is the treatment of choice
7. Specialized procedures are Transcatheter arterial embolization, Percutaneous ethanol
8. Sorafenib is approved as a standard therapy for unresectable HCC
9. Immature variant of HCC.
10. In children below 2 year of age Very high level of serum AFP
11. Presentation: Most common is asymptomatic abdominal mass

Liver Transplantation & Liver Trauma

1. MC indication for LT Cirrhosis from Hepatitis C (HCV)
2. MC indication for LT in children Biliary akinesia
3. Orthotopic LT implanted in normal anatomic position

4. MC organ injured in blunt abdominal trauma Spleen > liver
5. Diagnosis first diagnosed on FAST examination.
6. Management: Unstable patient's Immediate laparotomy
7. King's College Selection Criteria for Liver Transplantation in Acute Liver Failure

Portal Hypertension and Lower Gastrointestinal Bleeding

1. Portal hypertension is defined as a pressure > 12 mm Hg
2. EVL is the treatment of choice for variceal bleeding
3. Most common cause of portal hypertension is cirrhosis
4. Terlipressin is vasopressor drug of choice
5. Endoscopic banding is now better than sclerotherapy.
6. Beta-blockers (propranolol and nadolol) is only for prophylactic use
7. Surgical care includes decompressive shunts, devascularization procedures and liver transplantation.
8. Selective shunts: Distal splenorenal shunt (Warren shunt) - It is a surgical shunt of choice.
9. Lowest incidence of encephalopathy
10. PPH is pulmonary artery hypertension in portal hypertension
11. Gastric varices secondary to sinistral hypertension from splenic vein thrombosis
12. TIPSS is a non-selective shunt Indications of TIPSS
13. Prevention of rebleeding from varices
14. Cullen's sign (i.e., bluish discoloration of the periumbilical area) due to hemorrhagic pancreatitis.
15. Causes: Gallstones including microlithiasis (MC) Alcohol (2nd MC)
16. Ranson's Prognostic Signs of Pancreatitis
17. Amylase: 3 times the norm strongly suggests the diagnosis of acute pancreatitis.
18. Radiography may reveal a sentinel loop
19. CT scan (gold standard) is the most reliable imaging modality divided by Balthazar into 5 grades
20. ERCP narrowing and dilation of ducts, "chain of lakes" or a "string of pearls"
21. Autosomal dominant disease
22. Due to a missense mutation on cationic trypsinogen, or PRSS1

Pseudo pancreatic Cyst

1. Common complication of pancreatitis
2. Investigation of choice is CT Scan
3. Most common symptom is pain
4. Most common complication is infection
5. Symptomatic > 6 weeks
6. Size > 6 cm

Neoplasm of Pancreas

1. Carcinoma of the Pancreas
2. Most common site head of the pancreas
3. PAIN (MOST COMMON)
4. Obstructive jaundice (characteristic sign of head pancreatic carcinoma)
5. Mutations in K-ras gene have been found in >85% cases
6. Tumor marker is CA 19-9
7. CT-Scan is the investigation of choice.
8. Surgical Care: Pancreaticoduodenectomy (Whipple operation)
9. Chemotherapy: Gemcitabine
10. Pylorus Preserving Pancreaticoduodenectomy (PPPD) or Longmire-Travers Procedure preferred surgery for carcinoma head of pancreas
11. Insulinoma is Most Common
12. Associated with the Whipple triad
13. Gold standard is 72 hours, fasting test
14. Treatment laparoscopic resection or enucleation.
15. MC site gastrinoma is duodenum Passaro's Triangle

Pancreatic Divisum

1. Pancreas divisum is Most common congenital anomaly of Pancrease
2. Failure of fusion of dorsal and ventral pancreas
3. Treatment: Operative dorsal duct sphincterotomy

Annular pancreas & Pancreatic Trauma

1. Definitive diagnosis is made by ERCP
2. Treatment of choice is Duodenoduodenostomy
3. Pancreatic Trauma:

A. Uncommon.
B. CT scan Investigation of choice

Anatomy and Physiology of Large Intestine

1. Colon is mainly concerned with absorption of water and electrolytes
2. Widest portion of colon is Cecum
3. Narrowest portion of colon is Sigmoid
4. MC site of ischemic colitis Splenic flexure
5. Lymphatic Drainage of Large Intestine:
   a. Epicolic b. Paracolic c. Intermediate d. Primary or terminal
6. Duodenal atresia
7. Site of obstruction is distal to the ampulla of Vater in about 80% of cases
8. Symptoms: Vomiting
9. Typical double bubble sign
10. Duodeno: duodenostomy is the procedure of choice
11. Most common cause of small intestinal obstruction is adhesions
12. Most common cause of large bowel obstruction neoplasm
13. Causes of small bowel obstruction in pediatric patients include congenital atresia
14. Nausea and vomiting are more common with proximal obstruction
15. Cramping abdominal is Most prominent symptom in distal obstruction
16. Dilated small bowel loops with air fluid levels indicate SBO.
17. Partial intestinal obstruction may be treated conservatively with resuscitation and tube
18. Complete SBO requires operative interventions

Colonic & Pseudo Obstruction

1. A dilated colon without air in the rectum is more consistent with obstruction
2. Proximal colon is the most common site.
3. Conservative treatment is the option of choice.
4. Peak incidence is between 5 and 10 months.
5. Most common cause of hypertrophy of payer's patches.
6. Commonest site involved is the ileocaecal junction
7. Ileocolic is most common intussusceptions

8. Red currant jelly, Coiled spring sign, Claw sign are seen.
9. Treatment Barium enema (Hydro static reduction) is option of choice for infantile age group

Meconium Ileus

1. Neuhauser sign
2. Investigation of choice is Contrast enema
3. Gastrografin enemas (GGE) in the treatment of simple Ml, Contrast agent of choice is N- acetylcysteine.
4. Acute mesenteric arterial embolus (AMAE) most common cause of AMI
5. C/F Classical triad are:
   A. Severe abdominal pain with paucity of abdominal signs
   B. Increased Gl emptying
   C. Cardiac problem.
6. Investigation of choice for MVT is CT- Scan
7. Angiography: Investigation of choice of acute mesenteric arterial ischemia.
8. Prompt laparotomy is indicated when expeditious angiography is not available
9. Superior Mesenteric Artery Syndrome Vascular compression of duodenum.

Paralytic Ileus

1. Caused by impaired intestinal motility pain is not a feature of paralytic ileus
2. Hydrostatic reduction by contrast agent or air enema is the diagnostic and therapeutic procedure of choice.

Malrotation of the Gut & Colonic / Duodenal Diverticula

1. Incomplete or malrotation is commoner
2. Ladd's procedure is performed to repair the malrotation
3. Duodenal diverticula remedial aspect of duodenum (commonest site).
4. Investigation of choice upper Gl series
5. Diverticulosis is more common in the western world where diets include more fibre and roughages

6. Barium enema is investigation of choice
7. Saw-tooth appearance present.
8. Investigation of choice for diverticulitis is CT-Scan.
9. Treatment is A. Bowel rest &B. Intravenous antibiotics
10. Most common congenital anomaly of the gastrointestinal tract
11. Ectopic tissue is most commonly gastric in origin
12. Most remain asymptomatic but bleeding (Most common clinical presentation)
13. Most useful method of detection
14. Technetium-99m pertechnetate scanning, a bleeding diverticulum without ileal induration requires only resection of the diverticulum.
15. Jejunal diverticula are more common and are larger than those in the ileum.
16. Mostly asymptomatic, discovered incidentally
17. No treatment for incidentally noted, asymptomatic jejunoileal diverticula

Volvulus

1. Sigmoid is commonest site of colonic volvulus
2. Sign in plain X-Ray-Coffee bean sign
3. Initial management
    A. Resuscitation
    B. Decompression/detorsion
4. Sigmoid colectomy is indicated after the patient has stabilized
5. Cecal volvulus is actually a cecocolic volvulus
6. Predisposing factor Incomplete midgut rotation (clockwise)
7. Plain abdominal x-ray comma shaped caecal shadow
8. Elective right hemicolectomy performed.
9. Most common, neuroendocrine tumors from the argentaffin of Kulchitzky cells
10. Most common site is bronchus.
11. Malignant Carcinoid syndrome is due to the excessive 5- hydroxytryptamine
12. CT with scintigraphy with octreotide is investigation of choice
13. Surgical resection is the standard curative modality.
14. Familial Polyposis Syndromes: 5th chromosome association: APC gene mutation or deletion

15. Gardner syndrome: FAP associated with desmoids, Osteoma,
16. Turcot syndrome: FAP associated with brain tumor (Medulloblastoma)
17. Inflammatory Bowel Disease is increase the risk of colon cancer.
18. (HNPCC) Lynch Syndrome
19. (MMR) genes mutation, autosomal dominant
20. Lynch syndrome I CRC only
21. Lynch syndrome II CRC and associated malignancies
22. Right-sided lesions Iron deficiency anaemia due occult Gl Blood loss
23. Left-sided lesions Alteration in bowel habit, increasing constipation.
24. Rectal Cancer Bleeding is most common symptom.
25. Investigation of choice is colonoscopy and biopsy
26. Staging: A. Modified Duke Staging System B.TNM Staging
27. Surgical option is the treatment of choice.
28. Right hemicolectomy is for Lesion in right colon
29. Left hemicolectomy is for Lesion in left colon
30. Sigmoid colectomy is for early lesion in sigmoid colon

Colonic Ischemic Colitis & Colonic Ischemic Colitis

1. Abdominal radiograph shows thumbprinting', sign
2. Majority of patients with ischemic colitis can be treated medically.
3. MC site of stricture is sigmoid colon
4. Caused by C. difficile, a gram-positive bacillus
5. Leading cause of nosocomially acquired diarrheas
6. Clindamycin is first antimicrobial agent associated with C. difficile colitis
7. Treatment: A. Metronidazole B. Vancomycin

Inflammatory Bowel Disease

1. Ulcerative colitis is acute mucosal inflammation with crypt abscesses
2. Crohn's disease is Patchy transmural inflammation with non-caseating granuloma
3. Ulcerative colitis: Crohn's disease
4. Rectum always involved (Most common site)
5. Terminal ileum involved in 30% (Most common site)
6. Cobblestone appearance with Assuring
7. Pseudo polyp present Anal lesions in 75%

8. Anal fistulae & chronic fissures
9. Possible malignant change
10. Barium anemia: Lead pipe
11. Barium meal: String sign of Kantor
12. Extraintestinal manifestations
    A. Skin B. Joints C. Eyes D. Hepatobiliary conditions E. Joints
13. Treatment-:
    A. 5-Aminosalicylic acid, Corticosteroids, Immunosuppressive and immunomodulatory agents
    B. Surgical options-
    a. Emergency-Total colectomy with ileostomy and mucus fistula
    b. Elective-Restorative proctocolectomy with ileal pouch

Acute Appendicitis & Vermiform Appendix

1. Most common site of gangrenous appendix is TIP.
2. Appendicolith associated with 90% of acute appendicitis.
3. Migration of pain from the periumbilical area to the RLQ, most discriminating historical feature.
4. Sign of acute appendicitis:
   a. Dunphy's Sign b. Rovsing's sign c. Obturator sign d. Ponting Sign
5. Computed tomography scan is Diagnostic test of choice.
6. Ultrasound more than 90% specificity
7. Alvarado's score Scoring system for appendicitis
8. MANTRELS scoring system.
9. Treatment is Open or laparoscopic appendectomy when no lump formation is there
10. When lump is formed: Ochsner Sherren regimen is the treatment of choice.
11. Incision for open appendicectomy:
    A. Grid iron B. Ruther ford Morrison incision. C. Lanz incision.
12. Suspected fever with a temperature of > 39°C (102°F) and a WBC count of > 18,000 cells/mm

Appendicitis in Pregnancy

1. MC non-obstetric surgical disease of the abdomen during pregnancy.
2. Perforation is more common in the 3rd trimesters
3. Location of tenderness varies with gestation,
4. Ultrasound is helpful
5. Early appendectomy is the appropriate therapy
6. A rising pulse rate
7. Increasing or spreading abdominal pain
8. Increasing size of the mass

Appendectomy

1. Wound infection MC postoperative complications
2. Adhesive intestinal obstruction
3. MC late complication of appendectomy

Neoplasm of Appendix

1. MC neoplasm of appendix (MAC) Mucinous adenocarcinoma
2. Majority of carcinoid are located in the tip of the appendix.

Anatomy of the Anal Canal

1. The anal valves are often called the dentate line
2. Two sphincters-internal sphincter and the external sphincter
3. Anal canal
4. Upper (Mucous) zone: Lined by simple columnar mucous membrane
5. Middle (Transitional) zone: Lined by non-keratinized stratified squamous epithelium
6. Lower (cutaneous) zone: Lined by non-keratinized stratified squamous epithelium
7. Dentate/ Pectinate line lies between upper and middle part
8. White line of Hilton lies at lower limit of middle (transitional) part
9. Anal glands open at the dentate line
10. Resting pressure or tone Due to Internal sphincter (90 cm H20)
11. Rectal continence depends solely on the anorectal ring
12. Anorectal ring is formed by fusion of
13. Puborectalis: Deep external anal sphincter / Internal anal sphincter

14. External Anal Sphincter Voluntary
15. Internal Anal Sphincter Involuntary
16. **Anal stenosis**
17. A lateral decubitus radiograph or Invert gram
18. Treatment of choice for high type is closure of fistula
19. Posterior Sagittal Anorectoplasty, pelvic floor repair with colostomy
20. **Anal fissure**
21. MC site Mid-line posteriorly
22. MC symptom Pain
23. Treatment:
    a. Conservative initially
    b. Surgery if above fails
    c. Lateral internal sphincterotomy
    d. Intersphincteric abscess
    e. Park / standard classification
24. Low type / High type (Supra levator / Pelvi rectal)
25. MRI is the 'gold standard' for fistula imaging
26. Primary fistulotomy (LOW FISTULA)
27. High trans sphincteric and supra levator fistulas are managed with a cutting seton.
28. A seton is a ligature of silk, nylon, Silastic or Linen
29. A high fistula may be converted into a low fistula by setons
30. Goodsall's rule:
    a. Used to indicate the likely position of the internal opening according to the position of the external opening(s)
    b. MC type of carcinoma to arise in fistula-in-ano Colloid carcinoma

Rectal Prolapse

1. Partial is most common type.
2. Treatment in children is digital reposition after each and every defecation.
3. Operative treatment:
    A. Repstein (preferred) or Thiersch's operation
    B. Total (procidentia)
    C. Actually a hernia - en - glissade of the rectum,
    D. Definitive treatment is for complete prolapse is surgery.
    E. Trans anal approach

F. Thiersch's operation
G. Delorme's operation
H. Altemeier operation
I. Abdominal approach

4. Laparoscopic mesh rectopexy is the option of choice
5. Well's operation

Solitary Rectal Ulcer Syndrome & Pilonidal Sinus

1. Mucosal prolapse syndrome
2. Most common site is anterior rectal wall
3. Benign condition
4. Diagnosis is flexible recto-sigmoidoscopy & biopsy to confirm the diagnosis and exclude malignant ulcer.
5. Treatment is Non-operative therapy, subcutaneous sinus containing hair lined by granulation tissue.
6. Site natal cleft
7. Treatment:
   A. Excision and healing by secondary intention
   B. Excision and primary closure
   C. Skin flap procedures
8. Hemorrhoids: Idiopathic
9. **Internal Hemorrhoids** **External Hemorrhoids**
   Located proximal to the dentate Line Located distal to dentate Line
   Painless, Painful,
10. Classification of Internal hemorrhoids:
    1st degree, 2nd degree, 3rd degree, 4th degree
11. Conservative treatment for 10 and 20
12. Rubber band ligation or sclerotherapy (only for internatal hemorrhoid)
13. Surgical management required for 30 and 40
14. Closed hemorrhoidectomy and Stapler anopexy or hemorrhoid pexy

Carcinoma of Anal Canal

1. M.C. type is squamous cell carcinoma
2. 2.6th/7th decades of life
3. Etiology/Risk factors

4. Sexually transmitted HPV (16,18,31,33)
5. Investigation of choice is biopsy from anal growth
6. Treatment of choice is Nigro regimen
7. Chemoradiation is Radical surgery (abdomino perineal resection for Residual tumor)
8. Adenocarcinoma of anal canal
9. HPV forms the etiological basis of Warts
10. Many are asymptomatic
11. Diagnosis is confirmed by biopsy
12. Application of 25% podophyllin
13. Surgical excision
14. MC site of extra-mammary Paget's disease Anogenital region
15. MC site in females is Vulva
16. MC synchronous tumor is Colorectal adenocarcinoma
17. Diagnosis is made on biopsy
18. Wide local excision is treatment of choice
19. MC site of melanoma Skin >Eye >Anorectum
20. More common in females
21. Most common symptoms include bleeding, itching
22. Wide local excision has replaced APR for the treatment of anal melanoma

Urology

Kidney anatomy and physiology

1. Right renal artery is longer than left
2. Left renal vein is longer than right
3. Left kidney is preferred for transplantation due to longer renal vein
4. Resting ureteric pressure is 0-5cm H2O
5. Retroperitoneal loin approach is preferred method except in malignant tumors and renal injuries (to exclude other injuries
6. Muscles cut
    A. Latissimus Doris
    B. Serratus posterior-inferior
    C. External and internal oblique, transversus abdominis

Congenital Anomalies of Kidney

1. The double ureter always cross (Weigert-Meyer Law).
    a. Potty's facies (seen in bilateral RA).
    b. Hypertelorism, prominent inner canthal fold
2. Autosomal recessive defect
3. Associated with Nephrocalcinosis
4. Clinical features are infection and stone formation.
5. Diagnosis:
    A. Contrast is enhanced CT scan
    B. IVP IOC to diagnose medullary sponge kidney
    C. "Bristles on brush" appearance
    D. "Bouquet of flowers" appearance
    E. Therapy is directed toward the complications

Renal Collar

1. Renal vein
2. Left side

Persistent Fetal Persistent Fetal Lobulation

1. Persistent fetal lobulation is a normal variant seen occasionally in adult kidneys should be distinguished from renal cortical scarring

Retrocaval Ureter (Circumcaval Ureter)

1. Signs and Symptoms of ureteric obstruction
2. MRIislOC
3. IVP Reverse J, Fish Hook or Shepherd crook deformity

Surgical Management

1. Ureteral division with relocation ureteroureterostomy in cases of obstruction.

Horse shoe shaped kidney

1. Most common type of renal fusion anomaly
2. Most common associated finding
3. Ureteropelvic junction obstruction

4. An IVP is the best initial radiological study
5. Finding of IUV
6. Flower vas appearance
7. Hand joining sign

Pelvic Ureteric Junction Obstruction

1. PUJ obstruction is the most common cause of antenatal and neonatal hydronephrosis
2. Left kidney is more commonly affected
3. Back and Flank Pain is most common
4. Whitaker antegrade pressure is flow study
5. Treatment:
   A. Dilation / Surgical repair
   B. Surgical therapy
   C. Anderson - Hynes pyeloplasty (dismembered pyeloplasty) is the surgical option of choice.

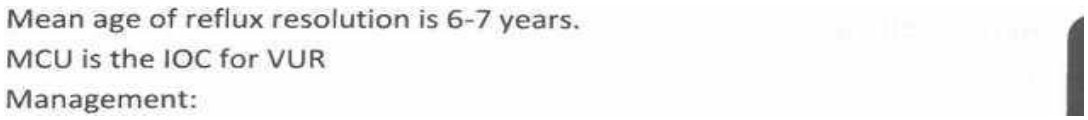
Adult Polycystic Kidney Disease (Ad)

1. Autosomal dominant
2. Kidneys are grossly enlarged with multiple cysts
3. MC clinical feature is hypertension It6
4. MC cause of death is CRF.
5. IVPin ADPKD
6. Spider leg or bell like deformity)
7. CT scan is IOC in ADPKD
8. Pain relief by:
   a. Rovsing's operation (DE roofing of the cyst)
   b. Dialysis or renal transplantation (only definitive treatment) for renal failure

Infantile Polycystic Disease (Ar)

1. Rare, autosomal recessive usually bilateral
2. MC congenital anomaly of upper urinary tract
3. Autosomal dominant in males

4. Ectopic ureter is always proximal to the external sphincter, and incontinence does not occur
5. In females, opening distal to the external sphincter
6. Males Prostatic or posterior urethra (MC)
7. Females Anterior urethra (MC)
8. Cystic dilation of the terminal ureter
9. USG Hydroureteronephrosis, cyst in bladder
10. IVP Adder head or Cobra head or Spring onion appearance
11. MCU A smooth filling defect
12. Treatment is Endoscopic incision
13. Most common inheritable disease of the genitourinary tract
14. Autosomal dominant: primary or secondary.



A. Children without renal scaring at diagnosis, antibiotics

B. Surgical option of choice is Unilateral or bilateral ureteric reimplantation.

Urological Trauma (Kidney and Ureter)

1. Hematuria is the best indicator
2. CECT is the investigation of choice
3. Catheterization is contraindicated if blood is present at urethral meatus.
4. Late Features is Urinoma (MC)
5. CECT Is investigation of choice
6. In 90% of renal injuries conservative measure is treatment of choice

Ureteral Injuries

1. Mid ureter is most common site in penetrating injuries
2. CECT Extravasation of contrast from the injured ureter
3. Immediate exploration and repair is indicated.
4. A bladder tube flap can be used if the ureter is short (Boari flap).

Nephrolithiasis

1. Most common renal stone is calcium oxalate
2. Struvite (triple phosphate or stag horn calculi)
3. Associated with alkaline urine
4. Uric acid calculi
5. Associated with acidic urine
6. Softest stone
7. Cystine stone is hardest stone
8. Most common symptoms are Pain
9. Hypercalciuria is the single most common metabolic abnormality found.
10. NCCT scan is the most sensitive and specific is imaging modality of choice.

Renal Cell Ca

1. Hypernephroma/Grawitz's tumor.
    a. Upper pole of kidney (most common), from proximal tubular cells.
    b. Most common gene associated is VHL gene
    c. Chromosome 3 (3p)
2. Most common histopathology is clear cell cancer.
3. Paraneoplastic syndromes, including hypercalcemia, erythrocytosis, and nonmetastatic hepatic dysfunction
4. Most common site of distant spread lung
5. Contrast is enhanced CT scanning imaging procedure of choice
6. FNAC not required if operable case
7. Robson modification of the Flocks and Kennedy system
8. Radical nephrectomy is standard procedure
9. Partial nephrectomy for tumor up to 4 cm localized at either pole of kidney
10. Targeted therapy (tyrosine kinase inhibitor): Sorafenib, Sunitinib It is gold standard for metastatic renal cell cancer.

WAGR syndrome

1. Deletion of Wilms' tumor gene, WT1, and on chromosome llpl3.
2. Beckwith-Wiedemann syndrome from mutations at the llpl5.5 locus.
3. The most common feature at presentation is an abdominal mass
4. Lump, Pain & Fever is triad for Wilms.
5. IOC: CT Scan

6. Surgical therapy is treatment of choice

Emphysematous Pyelonephritis

1. Characterized by the presence of gas within the renal parenchyma
2. Most frequently
3. E. coli(MC)
4. Triad "Fever, flank pain, and vomiting"
5. CT scan is more sensitive
6. Most cases require nephrectomy.
7. Most commonly caused by Proteus >E. coli
8. Affected kidney is almost always hydronephrotic and obstructed

Xanthogranulomatous pyelonephritis

1. CT scan is lOCforXGP
2. Partial nephrectomy is indicated in XGP
3. Kidney is a bag of pus
4. MC cause Renal stones

Hydronephrosis

1. Mostly unilateral
2. Immediate antibiotic therapy and drainage of the infected collecting system.
3. Causes:
    a. Extramural
    b. Intramural
    c. Intraluminal obstruction
4. Unilateral hydronephrosis (commonly caused by idiopathic pelviureteral junction obstruction or calculus)
5. Bilateral hydronephrosis
6. Bladder outflow obstruction predominate.
7. Ultrasound is the least invasive means of detecting hydronephrosis
8. Complete development of lower anterior abdominal wall with incomplete development of ant. wall of bladder
9. In males, complete epispadias with a wide and shallow scrotum.
10. In females, bifid clitoris with wide separation of the labia

11. Congenital Pulsion diverticulum in outlet obstruction
12. Commonest site is near the ureteric orifice
13. Traction diverticulum: Sliding hernia

Vesical Calculus

1. Primary-in absence of any known functional, anatomic or infectious factors
2. Secondary injection with bladder outlet obstruction.
3. Most common type of stone in adult is uric acid stone
4. Spiral CT is Most sensitive & specific test in transurethral cystolithalopaxy.

Urinary Bladder Injury

1. Causes blunt trauma (MC)
2. First investigation is Cystogram/RGU
3. Flame sign or pear sign.
4. Most common type of bladder injury is extra peritoneal rupture. (MC cause is pelvic fracture
    a. Extravesical injury: Catheter drainage for 10 days
    b. Intraperitoneal injury: Laparotomy, repair and bladder drainage

Carcinoma of Bladder

1. Smoking is most common risk factor
2. Schistosoma hematobia
3. Increased risk of squamous carcinoma (Bilharzia)
4. 4.80% present with painless hematuria
5. Superficial TCC
6. Transurethral resection and Immunotherapy
7. BCG
8. Invasive TCC
9. Radical cystectomy
10. Urinary diversion achieved by:
    a. Ureterosigmoidostomy
    b. Ileal conduit
    c. Neo-bladder
11. Cystoscopy Diagnosis is confirmed by Cystoscopy.

12'. Gold standard for diagnosis is cystoscopy & biopsy.

Incontinence

1. Causes of acute urinary retention
2. Bladder outlet obstruction (the commonest cause)
3. In males it is commonly caused by BPH
4. A flow rate of <10 is considered evidence of obstruction
5. In males most common cause is outlet obstruction (BPH) and overflow incontinence.
6. In female most common cause is stress incontinence.

Schistosomiasis

1. Endemic in Africa, Egypt and Middle East
2. Man is the only definitive host and intermediate host is snail.
3. Produce a calcified bladder or bladder stones.
4. Schistosomiasis is the MC cause of bladder calcification worldwide.
5. Squamous cell carcinoma (Most serious complication)
6. MC symptom of urinary schistosomiasis is urinary frequency
7. On plain radiographs (Fetal head appearance)
8. Praziquantel (DOC)

Prostatic Calculi

1. Composed of calcium phosphate
2. Usually asymptomatic

Benign Hypertrophy of Prostate

1. Most common site is periurethral zone (transitional zone)
2. Medial lobe of most common lobe involved in BPH.
3. Frequency is the earliest symptom
4. USG is the investigation of choice
5. Urodynamic study (uroflowmetry, cystometrogram, and urethral pressure profile) is also helpful
6. Treatment: Alpha-blockers, Alpha-reductase inhibitors
7. Surgical Minimally Invasive Therapy in BPH

TURP and complications

1. TURP (Gold standard)
2. Retrograde ejaculation (75%)
3. TUR syndrome (Dilutional hyponatremia or water intoxication)
4. Open simple prostatectomy
5. Transvesical (Freyer's)
6. Operation of choice:
    a. Retropubic prostatectomy (Millin's)
    b. Perineal prostatectomy (Young's) Abandoned now
7. Verumontanum is the single most important anatomical landmark in TURP.

Carcinoma Prostate

1. Commonest malignant condition in men over 65 years.
2. Posterior lobe peripheral zone
3. Commonest type is Adenocarcinoma.
4. Most common site of origin to bone metastasis.
5. Diagnosis is confirmed by ultrasound guided needle biopsy of mass lesion
6. Bone secondary in Ca prostate is sclerotic
7. PSA is the single test with highest positive predictive value for CA prostate.
8. Gleason Grading system is most widely used grading system.
9. Radical prostatectomy is surgical option of choice
10. Radiation Therapy
11. Hormone ablation therapy:
    A. GnRH analogue, Leuprolide is hormonal therapy of choice

Prostatitis

1. E. Coli (commonest),
2. Rectal examination reveals hot and tender prostate
3. Treatment: Antibiotics
4. Urethral instrumentation should be avoided in acute phase.
5. Commonest presenting symptom is acute urinary retention and fever > 35%
6. Main diagnostic tools are TRUS and CT scan.

7. Treatment: Transurethral drainage under antibiotic cover
8. Prostatodynia (PD)
9. A symptoms of prostatitis but, no H/O UTI, culture is negative and typically normal Prostatic secretion.

Infertility

1. Testicular biopsy will show whether azoospermia is a result of obstruction or failure of sperm maturation

Semen Analysis

1. Sperm concentration should be >20 million sperm/mL
2. Sperm morphology is a sensitive indicator of overall testicular health

Azoospermia

1. Obstructive Azoospermia
2. Azoospermia due to obstruction
3. Hypogonadotrophic Azoospermia
4. Azoospermia due to hypothalami or pituitary failure
5. Hypergonadotropic Azoospermia
6. Azoospermia due to testicular (end organ) failure

Urethra and Penis

1. Urethral injury
2. Trauma is the most common
3. Site of localization of urine
4. Posterior urethral (membranous urethra) injury - deep perineal pouch.
5. Bulbous urethral injury
6. Extravasation of urine in arterial abdominal wall.
7. Genitalia
8. RGU is investigation of choice.
9. Treatment Immediate temporary measure is SPC
10. Bulbar urethral injury

Urethral Stricture

1. Trauma most common
2. MCU/RGU helps in determining the length of stricture.
3. External urethrotomy.
4. Internal urethrotomy.
5. Urethroplasty

Peyronie's Disease

1. Penile fibromatosis
2. Deviation of penis toward the site of plaque.
3. Spontaneous remission occurs in 50% of cases.
4. Nesbitt operation
5. Over correction on contra lateral side.
6. Phimosis and Paraphimosis
7. Phimosis
8. Causes congenital, poor local hygiene and chronic infection
9. Difficulty in micturition, (MC)
10. Treatment: Circumcision if no response to steroids
11. Paraphimosis
12. Acquired condition
13. Foreskin, once retracted over the glans, cannot be replaced in its normal positiory venous congestion leading to edema
14. Ice bags, gentle manual compression and injection of a solution of hyaluronidase
15. Circumcision if conservative method fails

Priapism

1. Painful, persistent erection
2. In Children: Most common due to sickle cell disease
3. In Adults: Latrogenic
4. Winter's procedure (percutaneous cavern glandular shunt)
5. Corpora-saphenous shunts
6. Gray hack shunt

Carcinoma Penis

1. Most commonly occurs in 6th decade of life
2. Most common etiology; poor hygiene
3. Carcinoma in Situ; Bowen's disease,
4. Erythroplasia of Queyrat
5. MC symptom is lesion associated with foul smell discharge.
6. Earliest metastasis is to the inguinal nodes
7. Most frequent on the glans
8. Surgery: Circumcision
9. Partial amputation
10. Total amputation with perineal urethrostomy.
11. Prognosis Depends on the presence or absence of nodal disease.

Congenital Anomalies of Urethra (Posterior Urethral Valve)

1. Most common obstructive urethral lesion in male child
2. Type 1 is MC (just distal to the verumontanum)
3. Investigation of choice is MCU
4. Cystoscopic fulguration is the treatment of choice
5. Urethral meatus opens on the ventral side of the penis
6. Most common congenital anomaly of male genitalia
7. Glandular is most common type
8. Penis has a ventral curvature (Chordee)
9. Treatment is not required in anterior variety
10. Meatal advancement or local skin flap advancement is the surgical procedure done along with removal of chordee.

Epispadias

1. Urethra opens on the dorsum
2. Dorsal Chordee

Testis and Scrotum (Undescended Testis)

1. Testes absent from the scrotum after 3 months of age are unlikely to descend fully
2. Diagnostic Laparoscopy

3. IOC for non-palpable UDT
4. Management Orchiopexy, Ideal time 6-12 months of age. (best time is 6 months)

Ectopic Testis

1. Superficial inguinal pouch (MC location)

Cryptorchidism

1. Incidence Preterm infants-30%.
2. Treatment is Surgical. Testis is brought down to the scrotum
3. Best time of operation is 6 months.

Testicular Torsion

1. Called "Winter syndrome"
2. Inversion of testis (most common)
3. Main D/D is Epididymo-orchitis
4. Prehn's sign
5. Doppler study is confirmatory
6. Trans scrotal exploration is option of choice

Varicocele and Spermatocele.

1. Left side is more commonly affected
2. Feels like a bag of worms.
3. Investigation of Choice is Color Doppler
4. Simplest procedure is ligation of the testicular vein is PALAMO's OPERATION

Spermatocele

1. Unilocular retention cyst derived from
2. Sperm: conducting mechanism of the epididymis.
3. Typically lies in the epididymal head

Fournier's Gangrene

1. Necrotizing fasciitis involving the soft tissues of the male genitalia.
2. Hallmark of FG is a rapid progression

3. Broad-spectrum antibiotics
4. All necrotic tissue must be excised

Testicular Tumor

1. Undescended testis is a very important predisposing factor
2. More common on the right side.
3. Seminoma
4. Commonest between 35-40 years
5. Patient presents with a nodule or painless testicular enlargement
6. The commonest tumour in children is Yolk sac tumour.

Carcinoma Scrotum (Chimney Sweep's Cancer)

1. Squamous cell carcinoma of scrotum, most commonly resulted from exposure to environmental carcinogens including chimney soot
2. Superficial inguinal lymph nodes are the first lymph nodes involved.
3. Wide excision with 2 cm margins

Epididymo-orchitis (Acute Epididymo-orchitis)

1. Mostly in men younger than 35 years
2. Due to sexually transmitted organisms [C. trachomatis (MC)]
3. Cremasteric reflex is present
4. Prehn's sign is positive
5. Treatment Antibiotics, rest, scrotal elevation and NSAIDs.

Thyroid

Radioactive Iodine (RAI) therapy

1. Radioiodine is the agent of choice because it is selectively taken up by the thyroid gland
2. Advantage: Avoidance of a surgical procedure
3. Surgical Care:

   A. Preoperative preparation involves the use of Lugol's iodine or saturated Potassium Iodide for about 7-10 days prior to surgery to make the goiter less vascular, reduces the risk of precipitating thyroid crisis

   B. Propranolol- administered for at least 48 hours before surgery

Thyroid Cancer

1. Papillary cancer of thyroid is most common
2. Peak onset ages 30 - 50, WOMEN mainly affected, due to radiation exposure, multicentricity
3. RARELY encapsulated
4. Orphan Annie appearance
5. Papillary projections
6. PS mamma bodies
7. Lymph node metastases are common
8. FNAC is the investigation of choice.
9. Treatment total or near total thyroidectomy
10. Excellent prognosis

Follicular Carcinoma

1. More commonly in iodine deficient areas.
2. Solitary, with a capsule
3. MOST common Distant spread is BONES
4. FNAC is unable to differentiate between follicular carcinoma and benign follicular lesions.
5. Treatment: Follicular lesion Hemithyroidectomy
6. Thyroid cancer total thyroidectomy

Hurthle Cell Carcinoma

1. Subtype of follicular thyroid cancer.
2. Characterized by vascular or capsular invasion
3. More often multifocal and bilateral
4. Usually do not take up RAI
5. More likely to metastasize to local nodes
6. Associated with a higher mortality rate

Medullary Carcinoma

1. Origin from parafollicular C cells / neural crest
2. 80 % cases are sporadic
3. DIAGNOSIS: FNAC, I 131 scan is of no use, since the carcinoma is iodine independent.

4. High level of calcitonin, and CEA
5. Germ line abnormality of chromosome 10 (RET protooncogene)
6. Familial pattern (both MEN II a, MEN II b)
7. Amyloid is seen in stroma on histology.
8. Diagnosed by FNAC
9. Treatment: Total thyroidectomy + Central LN dissection

Anaplastic Carcinoma

1. Most aggressive form of thyroid cancer
2. Rapidly growing neck mass along with Hoarseness of voice
3. <6 months' survival
4. Treatment is only supportive (Palliative)
5. Most patients of malignant thyroid nodule are euthyroid.
6. Serum level of thyroglobulin may be used as tumour markers for well differentiated carcinoma

Thyroidectomy (Operative Precautions)

1. Ligate superior thyroid artery close to the thyroid gland to prevent injury to external laryngeal nerve
2. Ligate Inferior thyroid artery too close to the thyroid gland to prevent injury.
3. Respiratory obstruction is due to hematoma beneath the skin, slipping off a ligature from Superior Thyroid Artery
4. Recurrent laryngeal nerve paralysis: Bilateral - Respiratory distress.
5. Thyroid Storm:
    A. In patients with preexisting thyrotoxicosis
    B. Surgical treatment was the most common precipitating factor.
6. Wound Hemorrhage-Treatment consists of opening the incision, evacuating the clot and securing the bleeding vessel.

Solitary Thyroid Nodule

1. MC solitary thyroid nodule is benign colloid nodule
2. FNAC Single most important test in the evaluation of thyroid masses

Adrenal Carcinoma

1. Causes of Cushing's Syndrome
2. Latrogenic exogenous Administration of steroids (MC cause)
3. In children, virilization (in girls) or precocious puberty (in boys) is the most common endocrine presentation of a functional AC
4. Best screening tests for Cushing syndrome are dexamethasone suppression test and the 24-hour urinary cortisol excretion test.
5. Adrenal CT scans and MRI are the imaging studies of choice
6. Treatment Medical Care:
    A. Mitotane
    B. Gossypol
    C. Cisplatin is based on chemotherapy

Incidentaloma

1. Biochemical investigations for hormonally active tumors are followed by consideration of size criteria.
2. Tumors >6 cm carry a >25% risk for malignancy
3. Remove all incidentalomas measuring >5 cm and to strongly consider removal of those measuring 3-5 cm

Pheochromocytoma

1. Tumors arising from chromaffin cells
2. Most Common site of extra adrenal tumor is organ of Zuckerkandl
3. Also called 10% tumor

Anaplastic Carcinoma

1. Unilateral and solitary
2. Classic triad Headache + Diaphoresis + Palpitation
3. MC symptom is headache
4. MC manifestation is hypertension
5. Biochemical test:
    A. Most sensitive screening test Urinary catecholamines and VMA level
    B. Best test for diagnosis Fractionated plasma metanephrine
6. Biopsy is contraindicated as it precipitates hypertensive crisis.

7. Imaging: MRI is IOC for adrenal, extra adrenal pheochromocytoma
8. Treatment: Resection followed by chemotherapy

Neuroblastoma

1. MC tumor in infants < 1-year age
2. MC intra-abdominal malignancy in children.
3. Most common site is neural crest, sympathetic chain
4. Spontaneous regression is unique behavior especially in stage 4S.
5. MC presentation Fixed, lobular mass extending from the flank toward the midline of the abdomen.
6. MC site of metastasis in older children are bones
7. MRI is superior to CT scan.

Hyperparathyroidism

1. Primary hyperparathyroidism is due to intrinsic abnormality of one or more parathyroid glands
2. PHPT-presents with the "classic" pentad for symptoms:
   a. Kidney stones
   b. Painful bones
   c. Abdominal groans
   d. Psychic moans
   e. Fatigue overtones

   however, these clinical features are not seen these days due to advanced diagnostic modalities.
3. Secondary hyperparathyroidism is increased secretion of PTH by the parathyroids in response to a lowered serum ionized calcium level
4. Chronic renal failure is the most common cause

Tertiary Hyperparathyroidism

1. Follows long standing secondary HPT when the chronically stimulated parathyroid glands act independently of the serum calcium concentration.
2. Treatment:
   A. Single parathyroid adenoma — Resection
   B. Hyperplasia of all four glands — Resection of 31/2 glands or
3. All four glands can be removed autotransplantation of a parathyroid gland in the forearm or sternocleidomastoid muscle.

Multiple Endocrine Neoplasia

MEN-1 (Wermer's Syndrome)

1. Parathyroid Adenoma-MC endocrine abnormality in MEN -1
2. Pancreatic NET
3. Pituitary Adenoma

MEN-2A (Sipple syndrome)

1. Medullary carcinoma thyroid
2. Pheochromocytoma
3. Parathyroid hyperplasia or adenoma

MEN-2B

1. Medullary carcinoma thyroid
2. Pheochromocytoma
3. Intestinal ganglioneuromas
4. Mucosal neuromas
5. Marfanoid features

Pituitary

1. Pituitary Adenoma-prolactinoma is most common
2. Prophylactic Thyroidectomy in RET Mutation Carriers

Hernia &Abdominal wall

Anatomy of Abdominal Wall

1. Superficial Inguinal Ring
    a. Triangular defect in the external oblique
    b. Aponeurosis.
2. Deep Inguinal Ring is Defect in the fascia transversalis
3. Inguinal canal:
    a. Spermatic cord in males
    b. Round ligament in females
    c. Ilioinguinal nerve in both

4. Transpyloric plane also known as Addison's Plane, Tips of the 9 costal cartilages

Inguinal Hernia

1. Strangulated is blood supply of bowel is obstructed
2. Direct inguinal hernia does not strangulate
3. Direct through the Hesselbach's triangle
4. Indirect Inguinal hernia is most common of all forms of hernia.
5. Bubonocele: hernia is limited in the inguinal canal.
6. Direct: Through Posterior Wall of Inguinal Canal (Hesselbach's Triangle)
7. Indirect: Through Deep Inguinal ring
8. Triangle of Doom:
    a. Bounded laterally by the gonadal vessels
    b. Medially by the vas deferens
9. Hernia Repairs:
    a. ModifiedBassini's
    b. Shouldice repair
    c. Lichtenstein on-lay patch repair (Tension-Free Hernia Repair)
    d. Stoppa: Rives giant prosthetic repair of the visceral sac

Femoral Hernia

1. More common in elderly women
2. Strangulation occurs often without pain
3. Treatment:
    a. Low Approach **(LOCKWOOD)**
    b. High Approach **(McEVEDY)**
    c. Inguinal Approach **(LOTHEISSEN)**

Umbilical Hernia

1. Observe as most hernias close spontaneously before 5 years of age.
2. MAYO REPAIR

Incisional Hernia

1. Develops in scar of prior laparotomy or drain site
2. Repair of larger defects generally requires the use of prosthetic materials, a tension free repair

Other Hernia's

1. Sliding hernia (Hernia en glissade)
    a. Posterior wall of sac is also formed by cecum (right), Sigmoid colon (left)
    b. MORE common on the left side.
2. Spigelian hernia Occurs commonly at the level of arcuate line
3. Lumbar hernia through inferior lumber triangle of Petit
4. Obturator hernia through the obturator canal
5. Paraduodenal hernia MC variety of internal hernia
6. Richter's hernia: Hernia in which the sac contains only a part of the circumference of the intestine

NEUROSURGERY

CNS Tumor Predisposing factors (Brain Tumor)

1. MC intracranial tumor in adults: SECONDARIES
2. MC intracranial tumor in children: Cerebellar astrocytoma
3. MC supratentorial brain tumor in children: Craniopharyngioma
4. MC symptom is Headache

Craniopharyngioma

1. Derived from Rathke s Pouch,
2. MC cause of suprasellar calcification
3. Visual field abnormalities (bitemporal hemianopsia)
4. Treatment: Transcranial/Transsphenoidal surgical resection followed by postoperative radiation.
    a. MC PNET; Medulloblastoma
    b. MC malignant brain tumor in children
    c. Investigation: MRI is best

Meningiomas

1. Usually benign
2. MC site is along sagittal sinus
3. Investigations is CT/MRI
4. Treatment is Total surgical resection

Oligodendroglioma

1. Fried egg appearance seen.

Brain Metastasis

1. MC intracranial tumors in adults.
2. MC mode of spread is HEMATOGENOUS.
3. MC Primary is Lung cancer
4. Investigation of Choice is Contrast enhanced MRI
5. Treatment: Palliative therapy mainly
6. Mainstay of initial treatment is corticosteroids
7. TOC of solitary, surgically accessible metastasis is surgical excision
8. RADIATION is primary treatment for curative brain metastasis

Brain Metastasis

1. Secondaries in Brain
2. MC intracranial tumors in adults.
3. MC mode of spread is HEMATOGENOUS.
4. MC Primary is Lung cancer
5. MC Symptom is Headache, Sign is focal neurological deficit
6. Choice of contrast is enhanced MRI
7. Mainstay of initial treatment is corticosteroids
8. RADIATION is primary treatment for brain metastasis
9. Leptomeningeal Metastases
10. CA Breast 41% (MC)
11. Treatment: Mainstay — Intrathecal chemotherapy (Methotrexate/ara-C, thiotepa)

Breast

Carcinoma of Breast

1. Risk Factors:
    a. Increasing Age is the most important risk factors.
    b. Increase risk
    c. By Early menarche.
    d. By Late menopause.
    e. Nulliparous women
2. BRCA1 (Chromosome 17)-increased cancer incidence of breast and ovary.
3. BRCA2 (Chromosome 13)-increased cancer incidence of male Breast cancer,
4. Carcinoma Breast Risk Assessment Models-Gail Model is Most frequently used
5. DCIS: Ductal Carcinoma in Situ-DCIS most frequently presents as mammographic calcifications.
6. Comedo type is Central necrosis of the involved ducts is a prominent feature.
7. Peau-d-orange is due to cutaneous lymphatic edema
8. Due to obstruction of subdermal lymphatic
9. Lymphatic metastasis occurs primarily to the axillary (75%)

Investigation of Ca Breast

1. MC type of CA breast Invasive ductal (scirrhous) carcinoma
2. Most malignant type of CA breast Inflammatory breast cancer
3. MC site of CA breast Upper outer quadrant (left breast >right)
4. MC site of metastasis is Bone (Osteolytic deposit in Lumbar vertebra
5. Triple Assessment:
    a. Clinical examination
    b. Imaging (USG or mammography)
    c. Tissue sampling (FNAC or true cut biopsy)
6. First investigation FNAC:
7. Best and diagnostic investigation is Biopsy

Ultrasonography in Breast Disease

1. Initial investigation for palpable lesions in women <35 years
2. MRI indicated in post lumpectomy, breast scar and breast implant.
3. Carcinoma Breast Management
4. Modified Radical Mastectomy removes the entire breast parenchyma including the nipple-areolar complex, an ipsilateral axillary dissection is included.
5. Subcutaneous Mastectomy is Indicated in gynecomastia.
6. Halstead's Radical mastectomy:
   A. STRUCTURES Removed

   B. Whole breast, skin and nipple-areola complex
   C. Pectoralis major and minor muscle with clavipectoral fascia
   D. Level I, II and III axillary LNs
7. Contraindications for breast conservative surgery

Absolute

A. **Multicentric tumour**
   1. Diffuse microcalcification involved in whole breast.
   2. T4 tumor.

B. **Structure preserve in MRM -**
   1. Long Thoracic Nerve (Nerve to serratus anterior)
   2. Thoracodorsal Nerve
   3. Axillary vein
   4. Tamoxifen is a standard hormonal treatment of breast cancer effective in Estrogen Receptor (ER) positive breast carcinoma

Complications of Mastectomy

1. Injury to the Intercostobrachial (Sensory) Nerve is a permanent numbness in the lateral axillary and the inferior aspect of the arm
2. Injury to the Long Thoracic (Motor) Nerve create a classical winged scapula.
3. Seroma is MC complication

Breast Reconstruction

1. Most common implant internal / external is silicone
2. Autologous Tissue Flaps, most common are the latissimus dorsi flap and the TRAM flap. (TRAM) flap is currently considered the gold standard of breast reconstruction.

Carcinoma Breast Prognostic Factors

1. Stage >Axillary LN status
2. Hormone receptor (ER, PR) status five major patterns of gene expression in the NST group luminal A, luminal B, normal, basal-like, and HER2 positive.

Fibroadenoma

1. Most common benign breast tumours younger female population (Breast mouse)
2. Diagnosis is confirmed by FNAC
3. Mammographic appearance is Popcorn appearance.
4. Treatment is excisional biopsy

Breast cyst

1. Multiple & Bilateral
2. Treatment is Aspiration

Phyllodes tumor (Cystosarcoma Phyllodes)

1. Commonly seen after 40 years.
2. It is usually benign but it has malignant potential.
3. GROSS APPERANCE tabulated, leaf-like appearance.
4. Biopsy is the investigation of choice.
5. A wide local excision is Treatment of choice

Paget's Disease of Nipple

1. Superficial manifestation of the underlying breast cancer
2. Infiltrating ductal carcinoma 90%

Gynecomastia

1. Gynecomastia refers to an enlarged breast in the male.
2. Excess of circulating estrogens in relation to circulating testosterone.
3. Most cases resolve spontaneously
4. Surgical Procedures: Mastectomy, subtotal mastectomy, subcutaneous mastectomy, reduction mammoplasty

intraductal Papilloma and breast abscess

1. Usually occurs within a major duct
2. Frequently cause are nipple discharge, bleeding,
3. Diagnosis is Ductography
4. Treatment is excision (Microdiscectomy).

Mammary duct ectasia (periductal mastitis)

1. Dilatation of the major subareolar ducts
2. Diagnosis is Ductography
3. Treatment is Hadfield's operation

Breast Abscess

1. Typically seen in staphylococcal infections
2. Drainage procedure is best accomplished via circumareolar incisions or incision paralleling Langer's lines.

General Surgery

1. Splenectomy is the treatment of choice for larger and symptomatic hemangiomas

Necrotizing Fasciitis

1. Rapidly progressive bacterial infection
2. MC site of infection is Lower extremities
    a. MC single etiological agents Group A beta hemolytic streptococci
    b. Pain is the most important presenting symptom
    c. Surgical emergency and surgical debridement is mandatory.

    d. Mortality rate is nearly 100% without surgical debridement
3. Non-suppurative inflammation, spreading along the subcutaneous tissues
4. MC causative organism IS Streptococcus pyogenes
5. Rest and elevation of the part to reduce edema
6. Penicillin is still sensitive against streptococci
7. Demarcated streptococcal infection of the superficial lymphatic vessels,
8. Prompt administration of broad is spectrum antibiotics

Abscess

1. An abscess larger than a boil
2. Most commonly by Staphylococcus aureus; MC location Nape of the neck
3. Proper excision by cruciate incision

Gas Gangrene

1. Caused by C. perfringens (Gram-positive, anaerobic, spore-bearing bacilli
2. Risk Factors are Immunocompromised, diabetics or patients with malignant disease
3. Antibiotic prophylaxis in patients at risk,

Tetanus

1. Caused by Clostridium tetani (anaerobic, terminal spore-bearing, Gram-positive bacterium), mediated by the release of the exotoxin tetanospasmin
2. MC initial symptoms Trismus (lockjaw),
3. Risus sardonicus: Highly characteristic
4. Prophylaxis with tetanus toxoid is the best preventative treatment.

Syphilis

1. Early Congenital Syphilis: Snuffles (rhinitis) is earliest feature.
2. Late Congenital Syphilis is characterized by Hutchinson's triad (interstitial keratitis + 8th nerve deafness +
3. Hutchinson's teeth i.e. pegged central upper incisors)
    a. Caused by Treponema pertenue
    b. Several primary lesions ("mother Yaws") followed by multiple disseminated skin lesions.

4. A single intramuscular injection of penicillin

Felon - Felon is terminal Pulp space infection

Acute Paronychia

A. MC hand infection, Often due to Inappropriate nail trimming

Chronic Paronychia Usually a fungal infection,

a. MC nosocomial or hospital acquired infection Surgical site infections
b. MC non-surgical hospital acquired infection UTI
c. Hilton's method protects underlying important vessels and nerves.

Head & Neck

1. Cleft lip with palate is most common
2. Failure of fusion of medial nasal & lateral maxillary process causes cleft lip.
3. Failure of fusion of two lateral palatine process causes cleft palate.
4. Age of repair
    a. Cleft lip - 6 months
    b. Cleft palate-soft-6 months
    c. Cleft palate-hard - 12 -18 months
    d. Cleft lip with palate - stage 1 - lip and soft palate repair at 6 months
    e. Stage 2 - hard palate - 12 to 18th months
    f. Rhinoplasty if needed required at 16 - 18 years.

Thyroglossal fistula

1. Follows infection or inadequate removal of a thyroglossal cyst
2. Excised along with the thyroglossal tract up to the base of the tongue.
3. Removing the central (middle one third) of the hyoid bone.

Chemodectoma

1. It is a non-chromaffin paraganglioma
2. Most commonly in the 5^{th}decade.
3. Mass is firm, rubbery pulsatile and is mobile from side to side but not up and down
4. Operation is best avoided in elderly patients.
5. Preoperative embolization is performed for tumors >3 cm.

Cystic hygroma

1. Most cystic hygromas involve the lymphatic jugular sacs
2. MC site Posterior neck region
3. It may show spontaneous regression.
4. Complete surgical excision is the preferred treatment.
5. Injection of sclerosing agent so such as bleomycin
6. Typically present as a lateral neck mass on a toddler.

Branchial Cyst

1. Develops from the vestigial remnants of 2nd branchial cleft
2. Found at the junction of upper third and middle third of the SCM muscle at its anterior border.

Branchial Fistula

1. Represent a persistent 2nd branchial cleft.
2. External orifice is nearly always situated in the lower third of the neck near the anterior border of the SCM
3. Lower trunk of the plexus (mainly Tl) is compressed in injuries.
4. Virchow or left supraclavicular nodes are included in level IV.
5. Radical Neck Dissection Removal of lymph nodes
6. I-V + spinal accessory nerve + internal jugular vein + sternocleidomastoid muscle
7. Modified Radical Neck Dissection type III Removal of level l-V lymph nodes with preservation of spinal accessory nerve, internal jugulate vein and sternocleidomastoid muscle (Mnemonic SISm)
8. Modified Radical Neck Dissection type II: Removal of level l-V lymph nodes with preservation of spinal accessory nerve and internal jugular vein (Mnemonic SISm)
9. Modified Radical Neck Dissection type I: Removal of level l-V lymph nodes with preservation of spinal accessory nerve (Mnemonic SISm)

Plastic Surgery

Skin Grafting

1. Full-thickness skin grafts (FTSGs) and split-partial thickness skin grafts
2. STSGs are most commonly used when Cosmesis is not a primary concern or when the defect to be corrected is of a substantial size
3. Specific locations for FTSGs include the nasal tip, helical rim, forehead, eyelids, medial canthus, concha, and digits.
4. Split-thickness skin grafts- donor sites are anterior, lateral, or medial part of the thigh; the buttock; or the medial aspect of the arm

Graft Take

1. Graft survives up to first 48 Hours because of plasma Imbibition
2. Partial Thickness is also known as Thiersch or Split Skin Graft
3. MC cause of skin graft failure hematoma (or seroma),
4. The Z-plasty is an ingenious principle to revise and redirect existing scars or to provide additional length in the setting of scar contractor.

Skin Flaps

1. Unlike a graft, a flap has its own blood supply.
2. Random-flaps rely on the low Perfusion pressures found in Subdermal plexus to sustain the flap
3. Axial based on a named blood vessel
4. Free Autogenous transplantation of vascularized tissue

Lipoma

1. Most common site is trunk
2. Surgical Removal is required for tumour removal.

Hemangioma/Skin Patch/Stain

1. Types of hemangioma are:
    A. Capillary Hemangioma
    B. Venous Hemangioma
    C. Arterial Hemangioma

Download From: AghaLibrary.com

2. Capillary hemangioma is most commonly known as a strawberry hemangioma
3. As most strawberry birthmarks disappear without any treatment by themselves over 5-7 years,
4. Cavernous hemangioma caused by overgrown blood vessels deep within the skin, resulting in a bluish swollen-up appearance.
5. Kasabach-Merritt syndrome is also known as hemangioma-thrombocytopenia syndrome
6. Small capillary spots are called Campbell de Morgan lesions
7. Treatment of a cavernous hemangioma:
    a. Injection of a sclerosant material
    b. Embolization injection
    c. Surgical excision
    d. Laser radiation

Basal Cell Carcinoma

1. MC type of skin cancer
2. Slow growing tumor that rarely metastasize
3. Lymphatic spread is not seen.
4. MC site of occurrence FACE
5. Inner canthus of eye is most common site, may ulcerate (called RODENT ULCER)
6. Treatment: Electrodesiccation and Curettage
7. Surgical excision (TOC)
8. More common in fair and dry skinned people
9. Exposure to sunlight is an important etiological factor

Mohs' Micrographic Surgery for SCC and BCC

1. Serial excision in small increments

Malignant Melanoma

1. Develop most commonly in junctional nevi.
2. Most important clinical sign of the disease is a change in the color in a pigmented lesion
3. Most important prognostic factor is the stage
4. The prognosis depends on thickness of the primary tumor

5. The earliest metastasis is often to regional lymph nodes.
6. MC staging method used is CLARK'S METHOD (assesses the level of invasion).
7. Most widely used antigenic marker for:
    a. S-100 protein
    b. HMB-45 (more specific
8. TOC is primarily surgical excision with wide margin:
    a. Stage IV 0 PALLIATIVE

Squamous Cell Carcinoma

1. MC site is Head and neck region (sun exposed areas)
2. Draining osteomyelitis (Marjolin's ulcers)
3. Continuous heat by a charcoal burner (Kangri ulcer)
4. Diagnosis requires histologic confirmation (Epithelial pearl formation)
5. Most common type is ulcerative.
6. TOC is surgical excision

Verrucous carcinoma

1. Type of squamous cell carcinoma
2. Deep invasion without metastasis

Marjolin's ulcer

1. Squamous cell carcinoma arises in a chronic benign ulcer or Burn scar.
2. Commonest ulcer to become malignant is long standing venous ulcer.
    a. Premalignant disease of Skin
    b. Bowen's Disease
3. SCC in situ
4. Topical therapy with 5-fluorouracil is an effective treatment.

Epidermoid Cyst (Sebaceous or Epidermal Cyst)

1. Type of retention cyst
2. Excision with the wall is treatment of choice.
3. **Hidradenitis Suppurativa:**
    a. Occurs due to Apocrine gland blockage
    b. Axillary, inguinal and perianal regions

Keratoacanthoma

1. Is self-healing nodular lesion with central ulceration
2. Excision is recommended for persistent lesions

Frostbite

1. Affect the peripheries in cold climates.

Pyoderma Gangrenosum

1. Uncommon destructive cutaneous lesion
2. A rapidly enlarging, necrotic lesion
3. First line therapy Systemic treatment by corticosteroids and cyclosporine

Pyogenic Granuloma

1. Common vascular lesion of skin and mucosa.
2. Misnomer (it is neither a granuloma, nor pyogenic in origin)

Ainhum

1. Usually affects black men
2. Fissure appears at the level of the interphalangeal joint of a toe, usually of the little toe.
3. Neuropathic Foot/Trophic Ulcers
4. Basic Defect
5. Loss of sensation due to neurological disorder.
6. Ulcer occurs due to repeated injury or pressure.

Total Parenteral Nutrition (TPN)

1. Jejunostomy tube feeding
    a. Unless the Gl tract is nonfunctional, jejunostomy is preferable as compared toTPN.
    b. Further, in a patient who is comatose, either NG feeding or feeding through a gastrostomy tube may lead to vomiting and aspiration.
2. Feeding Jejunostomy is also a preferred procedure, as it provides protection to the pancreatic anastomosis

3. Indications for Parenteral Nutrition
   A. Gastrointestinal cutaneous fistulas
   B. Short-bowel syndrome
4. Central venous Pressure (CVP)assists in distinguishing cardiogenic shock and Hypovolemic shock.
5. PCWP: Better indicator for both blood volume and left ventricular function thanCVP.
6. Obtained by balloon catheter (Swan-Ganz).
7. Four Classes of Hemorrhagic Shock

Blood loss (%)			
I	II	III	IV
0-15	15-30	30-40	>40

Oncology

BONE SECONDARIES

1. Most common route is hematogenous.
2. Most common primary tumour:
   a. Female: Breast
   b. Male: Developed world - Prostate
   c. Male: Developing world - Lung
3. Bone scan is investigation of choice for bone metastasis.
4. Treatment options are Bisphosphonates, corticosteroids, radiotherapy (EBRT) and radio nucleotides.
5. X-rays and gamma rays are sparsely ionizing.
6. Delivered in two ways are
   (1) Intracavitary implants (2) Interstitial implants
   Two types:
   A. Permanent implants
   B. Temporary implants

Spleen

Idiopathic thrombocytopenic purpura

1. Low platelet counts despite normal bone marrow
2. A disease of young women
3. Autoantibodies are responsible for the disordered platelet destruction
4. Typical presentation Purpura, epistaxis and gingival bleeding
5. The diagnosis of ITP involves exclusion of other relatively common cases of thrombocytopenia
6. Laparoscopic splenectomy has become the gold standard for ITP Patients.
7. Characterized by splenic enlargement, any combination of anemia, leucopenia or thrombocytopenia, compensatory bone marrow hyperplasia and improvement after splenectomy
8. Left lower lobe atelectasis is MC complication
9. MC infection after splenectomy is Streptococcus pneumonia

Spleen trauma

1. MC organ injured in blunt trauma abdomen spleen
2. Kehr's sign Pain may be referred to tip of left shoulder in splenic rupture.
3. Unstable patients with intra-abdominal fluid on FAST require exploration.
4. In stable patients, abdominal CT performed with IV contrast is the mainstay for diagnosing
5. Variety of "spleen- sparing" techniques are Considered in cases of less server splenic injury (e.g., grades I and II, and occasionally grade III).

Splenic abscess

1. Unusual but potentially life threatening illness'
2. 70% of splenic abscesses result from hematogenous spread of the infective organism from another
3. Location, as in endocarditis, osteomyelitis and IV drug use.
4. CT is Investigation of choice

Hemangioma

1. MC benign tumor of the spleen.
2. Splenectomy is the treatment of choice for larger and symptomatic hemangiomas

Trauma

1. Catecholamines increase immediately after trauma
2. First preference for venous access is always for upper extremity veins.
3. Triage means "to sort/[1] involves prioritizing victims into categories based on their severity of injury
4. Red color is given first priority and signifies a critical patient.
5. MC organ injured in blunt trauma abdomen Spleen>Liver
6. MC organ injured in penetrating trauma Small intestine(JETUNUM)
7. Most common organ injured in seat belt injury is Mesentery.
8. Primary Survey is to exclude any life threatening emergency
9. FAST is performed within 2-4 minutes.
10. 4'Ps'are evaluated in sequence:
    Pericardial sac -> Perihepatic region -> Perisplenic region » Pelvis - HYPOGASTRIUM
11. Used to detect significant intraperitoneal injury requiring surgical intervention, replaced by FAST.
12. Phases of Damage Control Surgery are:
    a. Phase I (Initial Exploration)
    b. Phase II (Secondary Resuscitation)
    c. Phase III (Definitive Operation)

Abdominal compartment syndrome

1. Defined as increased in intra-abdominal pressure
2. Diagnosis is confirmed by measuring bladder pressure
3. Treatment is including rapid decompression

Pericardial tamponade

1. Most commonly the result of penetrating trauma.
2. Beck's Triad (MDH) Muffled heart sounds. Distended neck veins and Hypotension
3. Treatment:
    A. Needle pericardiocentesis
    B. Treatment of choice Surgical pericardiotomy

Flail chest

1. Paradoxical respiration
2. Fracture of 3 or 4 ribs
3. Treatment are oxygen administration, adequate analgesia, IPPV

Panda eye

1. Periorbital hematoma or "Raccoon eyes"
2. Battle sign Bruising behind the ear

Burn

1. Full thickness (3rd degree, burn is usually pale, bloodless and insensitive to the firm touch of a sterile needle.
2. Escharotomy is the procedure of incising through the burnt tissue until healthy tissue is reached,
3. 'Rule of nines' -preferred method of assessment of the extent of the burn
4. Acaurate assessment of the burnt area is done through the use of the Lund-Browder Chart.
5. *Wallace's rule of nines is not applicable to children under the age of 14 years,*
6. Superficial partial is thickness burn injury Blisters or bullae may be present,
7. Fluid resuscitation is instituted as soon as possible.
8. Parklands: Crystalloid resuscitation with Hartmann's Solution / RL 24-hour fluid requirement = 4 x %BSA x Wt (Kg)

9. Modified parkland used now.
10. Laryngeal oedema develops from direct thermal injury leading to early loss of the airway.
11. For topical treatment of deep burns is *1%* silver sulphadiazine cream
12. Curling's ulcers are associated with severe burns

Transplantation

1. Amputated digits are cleansed under saline solution, wrapped in saline moistened gauze, and placed m a plastic bag
2. Hyperacute rejection Immediate graft destruction due to ABO or preformed anti-HLA antibodies.
3. Acute: Occurs during the first 6 months
4. Chronic: Occurs after the first 6 months

HLA antigens

1. Most common cause of graft rejection is HLA-A, -B (class I) and -DR (class II) are the most important in organ transplantation
2. CMV is most important pathogen in clinical transplantation
3. BK virus is Polyoma virus associated with nephropathy, typically after I-4moths after transplant.
4. Urinary ascites occurs when high intraluminal pressure forces urine to extravasate from the kidney, usually across a renal fornix.

Oral Cavity

RANULA

1. A cystic translucent lesion seen in the floor of mouth on one able of frenulum.
2. Arises from the sublingual salivary gland.
3. Some extend into the neck (plunging ranula)
4. Treatment is Surgical removal or marsupialization,

Oral carcinoma

1. Risk factor for oral cavity malignancies (squamous cell carcinoma) is significantly associated with the use of pan masala areca nut
2. Scarring produces contracture, resulting in limited mouth opening and restricted tongue movement
3. MC site of CA oral cavity Tongue >Lip
4. MC histological type of CA oral cavity Squamous cell carcinoma
5. MRI IOC for staging of head and neck malignancies
6. Most Common Site Vermillion of lower lip
7. Most Common Lymph node involved is submental
8. Treatment are:
    a. For T1 and T2: Surgery is TOC
    b. For T3 and T4: Combined radiation and surgery (vermilionectomy or lip shave)
9. CA lip has the best prognosis in CA oral cavity
10. Lip-Switch (Abbe-Estlander) flap used to repair defects of either upper or lower lip, based on labial artery
11. M. C. site is middle 1/3 of the lateral margins or vential aspects.
12. M. C. Lymph nodes involved are submandibular and upper deep cervical nodes.
13. M. Common aetiological agents are Tobacco chewing & smoking,
14. M. C. site is buccal sulcus (where tobacco quid is kept).
15. Commando's operation Total glossectomy hemimandibulectomy Removal of floor of mouth + Radical lymph node dissection
16. CT & MRI are best for imaging tumors

Salivary gland tumours

1. Open surgical biopsy is absolutely contraindicated.
2. MC benign tumor of salivary glands
3. Site Parotid (MC)
4. Known as adenolymphoma
5. 'hot[1] spot in 99m Tc-pertechnetate scan
6. FNAC is best diagnostic modality
7. Superficial parotidectomy.
8. MC site of metastasis is lung
9. Best diagnostic modality is FNAC

10. MRI is radiological IOC as

Sjogren syndrome

1. Characterized by dry eyes (keratoconjunctivitis sicca) and dry mouth (xerostomia) resulting from immunologically mediated destruction of the lacrimal and salivary glands,
2. Occurs most commonly in women between the ages of 50 and 60.

Parotid abscess

1. MC organism (responsible for) Staph, aureus
2. Abscess develops then it is drained by giving a J shaped incision.

Bariatric Surgery

1. Non-surgical means of losing weight are effective in achieving 5-15% body weight loss.
2. Patient qualify for bariatric surgery according to NIH consensus conference 1996 are:
    a. BMI > 40 kg/m2 with or without co-morbidity.
    b. BMI > 35 kg/m2 with associated co-morbidities
3. Restrictive procedures:
    a. Laparoscopic adjustable
    b. Gastric band (LAGB)
    c. Vertical banded gastroplasty (VBG)
    d. BPD-DS

Recent & High Yield Updated LMRPs

1. A male came to the ER after car accident. He had dyspnea and chest pain with ecchymosis on anterior chest wall. On examination, pulse - 120/min, BP-80/50mmHg, breaths sounds were decreased on left side, JVP was raised and tympanic note was present on percussion. Pelvis and extremities were normal. The diagnosis is Tension pneumothorax.
2. Correct Statement regarding the boundaries of triangle of doom are Medially vas deferens, laterally gonadal vessel, interiorly peritoneum.
3. Class 3 hemorrhagic shock refers to Blood loss between 30%-40%.
4. An intubated patient with eye opening to pain with abnormal flexion. The possible GCS score is E2VTM4.
5. The second step of damage control resuscitation carried out In ICU.
6. A 20-year old male presents with hard painless testicular swelling. On investigation AFP is 3080. No paraaortic or iliac nodes as well as no mediastinal lymph nodes found. USG shows uniform echotexture and small areas of necrosis. Surrounding structure are normal. The next best step os investigation is High inguinal orchidectomy.
7. A 50 years old male presented in the emergency with high BP (160/100) and heart rate of 120. A CECT is done which is given. The best management for the given condition is Surgical repair.
8. Best graft for femoro-popliteal anastomosis is to Reverse saphenous vein graft.
9. The Class 3 non-heart beating donor is awaiting cardiac arrest.
10. Heller's operation is done for the treatment of Achalasia cardia.
11. True about upper Gl bleed is Rockall scoring is for risk assessment.
12. A patient of 50kg with 40% burn surface area was brought to casualty. The initial fluid should be given in first 8 hours is 4 liters.
13. A patient of chronic pancreatitis with hypovolemic shock was brought to casualty. The first line of treatment is Wide short bore cannula with isotonic solution.
14. Ankle brachial index is falsely increased in Calcified and thickened arteries.
15. True about keloid that It has more vascularity and collagen.

16. Size of asymptomatic abdominal aortic aneurysm which needs active management is 55mm.
17. The technique is used for repair of intestinal anastomosis is Double layer repair including sub mucosa.
18. Most common site of gastric ulcer is to Lesser curvature at incisura angularis.
19. First investigation for a suspected case of cancer head of pancreas is Endoscopic USG guided FNAC.
20. Laxative abuse causes Ammonium acid urate type of stones in kidney.
21. A patient came with a Chest trauma and Tachypnea (RR >40) and after checkup he had hypertension (BP- 90/60) and hyperresonant note on involved side. The next best step us Wide bore needle insertion on 2nd ICS.
22. Patient presents with Osteomalacia and severe phosphoturia. The cancers are known to this case is Fibrosarcoma.
23. Death due to smoke inhalation is due to Anemic hypoxia.
24. Breast abscess t/t: I & D.
25. Retrosternal thyroid surgery approach is neck approach.
26. Omphalocele is due to intestine not moving into abdomen.
27. Cushing Ulcer: Head trauma.
28. Dohlam Surgery: Endoscopic stapling.
29. Most common cause of chronic pancreatitis is Alcohol.
30. The abdominal mass in pyloric stenosis in a new born child can be best palpated in the epigastric area.
31. The color of triage is given the highest priority is Red.
32. In a burn patient, the doctor should be looking for the curling 1st part of duodenum.
33. The reflex which reverts back after a spinal anaesthesia is Bulbocavernosus reflex.
34. Gamma probe is used to locate sentinel node position.
35. The best position to insert Ryle's tube is Ideal position is sitting with neck flexion (if conscious).
36. While doing an Emergency Laparotomy for an intestinal obstruction, the organ which is first visualize to say whether it's a Small Bowel or Large bowel obstruction is Caecum.
37. Tinel's sign is representative used of Carpal Turner syndrome.

38. In a trauma patient color of cannula will resident use to obtain maximum flow rate is Grey.
39. When taking ABG wrist is generally kept in hypersecretion. This is to make the vessel straight and to fix the position. Flexion will make the vessel loose & the vessel will slip easily while poking.
40. Reason for thyroid storm after thyroid surgery is Inadequate preparation.
41. The surgical flap procedure used for Pilonidal sinus treatment is Rhomboidal flap.
42. Sentinel lymph node biopsy most useful for Ca endometrium.
43. 16F Foley's catheter colour is Orange.

OBG

Anatomy & Embryology

1. Trophoblast give rise to placenta
2. The uterine blood flow at term is 500 -750 ml/min
3. Utero placental blood flow at term = 450-650 ml/min
4. Feto placental blood flow =400 ml/min
5. The folds of Hoboken are found in the umbilical cord
6. Fetal blood loss in abnormal cord insertion is seen in Vasa previa
7. Decidual space is obliterated by 16th week
8. The finding of a single umbilical artery on examination of the umbilical cord after delivery is an indicator of considerably increased incidence of major malformation of the fetus.
9. Uteroplacental circulation is established on 10-12 days after fertilization
10. Feto placental circulation is established 21 days' post fertilization
11. Longest part of the fallopian tube is ampulla
12. Narrowest part of fallopian tube is interstitial portion
13. Complete failure of fusion of the Mullerian duct leads to uterus didelphys
14. Paramesonephric duct develop into uterus
15. Fertilized ovum reaches the uterine cavity in 3 days
16. Protective bacterium in normal vagina is Lactobacillus
17. The main source of physiological secretion found in the vagina is cervix
18. Uterine-cervix ratio up to 10 years of age is 1:2
19. The epithelial lining of cervical canal is high columnar
20. Nabothian follicles occur in erosion of cervix
21. Vaginal defense is lost after 10 days of birth
22. Ovary is attached to the posterior layer of the broad ligament by mesovarium

23. To diagnose uterus didelphys, procedure of choice is MRI 3, which is better thanD-USG
24. The most important indication for surgical repair of a bicornuate uterus is habitual abortion
25. SRY gene is located on the short arm of Y chromosome
26. Thickness of endometrium:

a) On D5 (Immediately after menses) = 0.5
b) Periovulatory phase = 2-3 mm
c) Secretory phase = 6mm
d) At the time of implantation = 10-12 mm

| Physiological Changes Endocrinology in Pregnancy

1. Progesterone Is produced by luteinized granulosa cells.
2. The risk of thromboembolism increases in pregnancy because of increased hepatic production of clotting factor
3. Fibrinogen increases during pregnancy.
4. Highest cardiac output in pregnancy is after delivery
5. Lactose is present normally in the urine of a pregnant women in the third trimester and lactation
6. During foetal life maximum growth is caused by Insulin
7.
8. HCG is secreted by Syncytiotrophoblast cells
9. In normal pregnancy character of vagina is 'T'ed number of lactobacilli
10. Hormone responsible for decidual reaction and Arias Stella reaction in ectopic pregnancy is Progesterone
11. Schwangerschaft protein is the other name of Pregnancy specific betal glycoprotein
12. Most sensitive for detecting hCG is Fluorescent Immuno Assay (FIA)
13. Decreasing sensitivity for detecting hCG is FI A>RIA>ELISA = RRA(radioreceptor assay>IRMA (Immunoradiometric)
14. Placental sign denotes spotting on the expected date of period in early pregnancy
    Subcostal angle increases from 68° to 103° in pregnancy

Implantation & Fetus

1. Fetal kidneys start producing urine by 3 months
2. Fetal stage starts at 9weeks
3. The foetal circulation is first intact and functional, separated from maternal circulation at the age of 21 days
4. Lifespan of the fetal RBC approximates 80 days
5. In the embryonic phase, the erythropoiesis is first demonstrated in the primitive mesoderm
6. Fetal sex can be detected by USG at 14 weeks
7. Oxygenated blood from the placenta reaches the fetal heart in utero via Ductus venosus
8. Ligamentum teres is formed after Obliteration of the ductus venous
9. • Insulin identified in fetal pancreas by 9-10 weeks but secretion begins at 12 weeks
10. Glucagon identified in fetal pancreas by 8 weeks but secretion after birth
11. Urine production by fetus at term is 27ml/hr,
12. 1st stimulant for production of testosterone from fetal kidneys is hCG
13. Main product of fetal adrenal gland is DHEA-S

Pre Natal and Antenatal

1. Best timing of transabdominal chorionic villous biopsy is **10-13 weeks**
2. Increased nuchal translucency at 14 weeks of gestation is seen in Down syndrome
3. The best marker for neural tube defect is acetyl cholinesterase
4. Hydrocephalus is best detected antenatal by ultrasonography
5. Consequence of maternal use of cocaine is cerebral infarction
6. Heparin do not cross placenta
7. Vasopressor of choice in pregnancy is Phenylephrine
8. Propylthiouracil can be given safe in pregnancy
9. The use of Misoprostol during pregnancy can lead to Mobius syndrome
10. HCG is produced from Syncitiotrophoblast

Fetal Surveillance

1. With reference to fetal heart rate, a non-stress test is considered reactive when two fetal heart rate accelerations are noted in 20 mins
2. Late deceleration indicates foetal hypoxia
3. Early decelerations indicate fetal head compression
4. Variable decelerations indicate cord compression
5. Sinusoidal pattern indicate fetal anemia
6. Modified Biophysical profile includes Non stress test and amniotic fluid index
7. Meconium is excreted by a new born till 3 days

Fetus & Pelvis & Applied Obstetrics (Contracted pelvis, CPD, Trial of Labor)

1. Cephalhematoma does not vary in tension with crying
2. An abnormal attitude is illustrated by face presentation
3. The smallest diameter of the true pelvis is interspinous diameter
4. The shortest diameter of fetal head is bimastoid diameter (7.5cm) cbitemporal (8.0cm)
5. Shortest anterior posterior diameter of pelvis is obstetric conjugate
6. Longest diameter of fetal skull is mento vertical (14cm) >submentovertical (11.5cm)
7. Critical obstetric conjugate for trial of labour is 10.0 cms
8. Most important diameter of pelvis during labor is inter spinous diameter.
9. Best method of detecting CPD is Trial of labor> pelvic assessment
10. One ala of sacrum absent - **NAEGELE'S PELVIS**
11. Both ala of sacrum absent - **ROBERT PELVIS**

Labour (Normal, Abnormal, Analgesia, Induction)

1. Cardinal movements of labour are engagement descent -> flexion internal rotation extension -> external rotation -> expulsion
2. Sensitivity of uterine musculature is enhanced by estrogen and inhibited by progesterone

3. Assessment of progress of labour is best done by partogram
4. During active labour cervical dilatation per hour in primi is 1.2 cms / hr
5. Living ligature of the uterus is middle layer of myometrium
6. Bag of membrane ruptures after full dilatation of cervix
7. Ritgen maneuver is done in delivery of head in normal labour, **using one hand to apply upward pressure against the perineum, and the other hand on the fetal occiput to control the expulsion of the fetal head**
8. Post-term pregnancy is that which continues beyond 294 days
9. Pain in early labour is limited to dermatomes is T10 - LI
10. Bandl's ring is also called as retraction ring
11. Perineal tear should be repaired immediately
12. Percentage of women who deliver on EDD is 4%
13. Uterine contractions are clinically palpable when intensity is more than 10 **mm Hg**
14. Pudendal nerve block - nerve roots blocked are S2 S3 S4

Operative, Destructive Delivery

1. The advantage of ventouse extraction is that it can be applied without full dilatation of cervix
2. Vento use in the 2nd stage of labour is contraindicated in premature fetus
3. In heart disease, prophylactic forceps are applied at head station of +2
4. An absolute indication for LSCS in case of a Heart disease is co-arctation of Aorta
5. Not a Contraindication of vaginal delivery after previous Caesarean IS Breech presentation in previous pregnancy
6. ARM is contraindicated in Hydramnios - controlled ARM can be done
7. Level of anesthesia in caesarean is T4
8. Ideal time to conceive after caesarean is 18 months (minimum time = 6 months)

Obstetric Complications

1. The incidence of Placenta previa increases by two fold after LSCS
2. Singers Alkali denaturation test is done for Fetal Hb
3. A positive "Stall worthy's sign" is suggestive of low lying placenta
4. Placenta praevia on USG at anomaly scan
   / \
5. No Bleeding no Bleeding & major placenta praevia or accreta
   Or |
6. Minor placenta praeviaUSG repeat at 32 wks.
   I
7. Repeat USG at 36 wks

8. Expectant management in a case of placenta praevia is MacAfee and Johnson regime
9. Classification of severity of abruption is by PAGE'S classification

Postpartum Hemorrhage

1. Most common cause of postpartum hemorrhage is uterine atony
2. Atonic uterus is more common in multigravida
3. B Lynch suture is applied on uterus in PPH.
4. True about placenta accreta is seen in cesarean scar
5. Minimum duration between onset of symptoms and death is seen in PPH
6. A patient after delivery goes into shock - most probable cause in PPH
7. A patient after delivery goes immediately into shock - most probable cause is uterine inversion
8. A patient after delivery goes into unexplained shock -most probable cause is Amniotic fluid embolism

PIH

1. In PIH an impending sign of eclampsia is visual symptoms
2. Antihypertensives not safe in pregnancy is ACE inhibitors/Enalapril
3. Drug of Choice for severe Preeclampsia is Labetalol
4. Earliest sign of Mg toxicity is depression of deep tendon reflexes
5. Endothelial dysfunction is related to preeclampsia
6. Criteria now removed to differentiate between mild & severe pre eclampsia- proteinuria, oliguria , IUGR
7. MC hematological finding in PIH is decreased platelet count.
8. MC type of eclampsia - Antepartum eclampsia
9. Eclampsia with worst prognosis - Antepartum eclampsia
10. MC MRI finding in eclampsia - subcortical white matter edema
11. MC cause of death in eclampsia- intracranial bleeding
12. Persistence of diastolic notch in uterine Artery Doppler beyond 24 wks is predictive of PIH
13. Low dose Aspirin is given to prevent pre - eclampsia in high risk pregnancies only, (from 12 WKS onwards).
14. Calcium supplementation for pre- eclampsia prevention is recommended only for women who are calcium deficient.
15. In a pregnant female with BP > 150 /100 mm Hg, a protein / creatinine ratio of > 0.30 suggests pre - eclampsia.

Multi fetal Gestation

1. According to Hellin's law chances of twins in pregnancy are 1 in 80
2. Most common type of twin pregnancy is both vertex
3. Twin peak sign seen in diamniotic dichorionic
4. In twin discordance the differences in the two twins should be 25% with the larger twin as index
5. Second twin has more chances of developing polycythemia(LQ)
6. Blood chimerism is maintained by monochorionic dizygotic twins
7. In super fecundation there is fertilization of 2 ova released at same time, by sperms released at intercourse on 2 different occasions
8. A double headed monster is known as a dicephalus
9. Absolute proof of monozygosity is determined by DNA finger printing

10. Embryo reduction of multiple pregnancy is done at 11-13 weeks
11. Uncomplicateddichorionic twins - deliver at 38 wk (DCDA)
12. Uncomplicated monochorionicdiamniotic twins - Deliver at 37 wk(MCDA)
13. Uncomplicated triplets - Deliver at 35 wk
14. Monochorionic-> caesarean section at 32 - 34 wks after giving corticosteroids

Abortions & MTP

1. Most common cause of first trimester abortion is chromosomal abnormalities Aneuploidies
2. Commonest cause of first trimester abortion is Trisomy > monosomy X
3. Most specific chromosomal anomaly a/w abortions - monosomy > trisomy 16
4. MC cause of RPL-> Idiopathic
5. Me chromosomal anomaly a/w RPL -> balanced reciprocal translocation
6. Recurrent abortion in 1st trimester, investigation of choice karyotyping
7. Anti progesterone compound RU-486 is effective for inducing abortion if the duration of pregnancy is 63 days
8. Govt, of India allows medical abortion using mifepristone up to 7 weeks (49 days)
9. For medical termination of pregnancy, consent should be obtained from the female partner
10. Suction evacuation can be done up to 15 weeks
11. Anembryonic gestation - mean gestational sac diameter -> 25 mm and no embryo seen
12. MSD > 20 mm & no fetal pole OR CRL > 7 mm & no CA -> high probability of non viable pregnancy -> Repeat scan after 7 days to confirm
13. CRL >= 10 mm & no CA -> embryonic death /missed abortion

Ectopic Pregnancy

1. In the fallopian tube, ectopic pregnancy will have longest survival in the interstitium
2. The cause of fetal death in ectopic pregnancy is postulated as vascular accident
3. In ectopic pregnancy decidua is shed as decidua vera
4. Medical treatment of ectopic pregnancy is contraindicated in the presence of fetal heart activity
5. Indications of medical management in ectopic pregnancy size <4cms (if CA absent) & size <3.5cm (if CA present)
6. Diagnostic criteria for primary abdominal pregnancy is studdiford criteria
7. Highest risk of ectopic pregnancy is with h/o previous ectopic pregnancy > h/o tubal surgery
8. MC risk factor for ectopic is PID (chlamydia)
9. All contraceptives reduce absolute risk of ectopic
10. But failure of contraception leads to ectopic gestation, max chances with sterilization failure> IUCD >POP
11. Least chances with OCPs
12. Amongst lUDs, max chances with Progestasert>Mirena>cut

Trophoblastic Disease & Choriocarcinoma

1. The highest incidence of Gestational Trophoblastic Disease is in Asia
2. Follow up in a patient of H mole is done by Serum Beta-HCG monitoring
3. Snow storm appearance on USG is seen in Hydatidiform mole
4. Treatment of the lutein cyst in Hydatiform mole is Suction evacuation
5. A case of Gestational Trophoblastic Neoplasia belongs to high risk group if disease develops after full term pregnancy
6. Most common site for metastasis in choriocarcinoma is lungs
7. The ideal treatment for metastatic choriocarcinoma in the lungs in a young woman is chemotherapy
8. Most common gestational trophoblastic disease following H. Mole is invasive mole
9. Molar pregnancy is diagnosed in 1st trimester.

10. Hydatidiform - mole is characterized histologically by hydropic degeneration of the villous stroma
11. The advantages of hysterectomy in molar pregnancy are chances of pulmonary embolization are minimal
12. Hydatidiform mole is principally a disease of chorion
13. Risk of recurrence of H mole in future pregnancy is 1-4%
14. Percentage of complete moles progressing to persistent GTN is 15-20%
15. Choriocarcinoma is differentiated from invasive mole (chorioadenoma destruens) by the absence of villi structure on histological examination of the lesion
16. p57 kip 2 staining is negative in complete mole but positive in partial mole (it's a paternally imprinted gene, which is maternally expressed. Absence of maternal genes in androgenic complete moles means this gene cannot be expressed in complete moles)

Preterm Labour, Prom & Postdatism

1. Cut-off value of cervical length at 24 weeks of gestation for prediction of preterm delivery is 2.5 cm
2. On TVS ' U' shape of cervix indicates preterm labour
3. The drug that inhibits uterine contractility and cause pulmonary edema is Ritodrine
4. Drug given to reduce uterine contractions during preterm labour with least side effects is Nifedipine
5. Rupture of membrane is said to be premature when it occurs at prior to 1st stage of labour
6. Blood will interfere with the nitrazine test for detecting ruptured membranes because it is alkaline
7. Post term labour is seen in anencephaly
8. Saffron colored meconium is seen in post maturity TB
9. In a pregnant woman of 28 weeks gestation IUD is earliest demonstrated on X-ray by gas in vessels - ROBERT SIGN
10. Cause of death in breech delivery in intracranial hemorrhage
11. The most likely complication of IUD is Hypofibrinogenemia

12. Treatment for intrauterine death at 36 weeks is waiting for spontaneous expulsion
13. Antibiotics don't have any role in preterm labor unless membranes are also ruptured
14. Progesterone helps in preventing preterm labor but cannot be used as tocolytic
15. MC cause of post term pregnancy is wrong dates
16. Fetal fibronectin> 50 ng/ml in cervicovaginal discharge beyond 22 wks of gestation & before rupture of membranes is predictive of preterm labor
17. SPALDING SIGN - comes one week after fetal death in utero

Amniotic Fluid Volume Disorders

1. Amniotic fluid is mainly produced by fetus
2. The pH of amniotic fluid is 7.1 to 7.3
3. Oligohydramnios is seen in renal agenesis
4. Cleft palate is associated polyhydramnios
5. Amount of liquor is maximum at 32 to 34 weeks
6. Golden colour amniotic fluid is seen in Rh incompatibility
7. The major contribution of the amniotic fluid after 20 weeks of gestation is fetal urine
8. Amniotic fluid at 38 weeks in normal pregnancy is 800 cc
    a. MC cause of mild oligohydramnios - Idiopathic
    b. MC cause of mild polyhydramnios -Idiopathic
    c. MC cause of severe oligohydramnios - Renal anomalies
    d. MC cause of severe polyhydramnios - gross congenital anomalies GIT anomalies (cleft Lip & palate) > NTDs

Misc. Medical & Surgical Emergencies with P s'egn a n cy

1. Best diagnostic test for cholestasis of pregnancy is Bile acid
2. Intrahepatic cholestasis treatment in pregnancy is Ursodiol
3. At 38 wks, pregnancy with cholestasis be terminated
4. Highest transmission of hepatitis B from mother to fetus occurs if the mother is infected during lllrd trimester
5. PIH decreases GFR
6. Retention of urine in a pregnant woman with retroverted uterus is most commonly seen at 12-16 weeks
7. In pregnancy, the most common cause of transient- diabetes insipidus is severe preeclampsia
8. Treatment of ovarian cyst in postpartum patient is, immediate removal
9. Dermoid cyst is most prone to undergo torsion during pregnancy
10. Treatment of Red degeneration of fibroid in pregnancy is analgesics
11. Metronidazole is the best drug of choice for treatment of bacterial vaginosis during pregnancy
12. Only observation is the emergency management of bleeding vulvar varices during pregnancy
13. Colposcopy is the procedure of choice in a woman with 12 weeks pregnancy and atypical pap smear
    a. Max risk of maternal mortality is with hepatitis E
    b. Max risk of perinatal transmission is with hepatitis B
    c. Max transmission of hepatitis B occurs at the time of delivery
    d. If hepatitis B in 1st trim, MTP is not recommended
    e. Hepatitis B in pregnancy not an indication for Caesarean
    f. Breast feeding is not contraindicated in case of hepatitis

Rh Isoimmunization & NIHF

1. The consequences of Rh incompatibility are not serious during first pregnancy because in first pregnancy only IgM antibody is formed
2. Serial USG can diagnose hydrops early

3. Fetal blood differentiated from maternal blood is by Apt test
    a. In abortions >= 12 wks, always give anti D , 300pg dose
    b. Abortion before 12 wks, 50pg anti D given
    c. 300pg of anti = 1500 III of anti D = neutralizes 15ml of D positive red cells or 30ml of fetal whole blood.

Anemia

1. According to WHO, anemia in pregnancy is diagnosed, when hemoglobin is less than 11.0 gm%
2. Serum ferritin is most sensitive for the detection of iron depletion in pregnancy
3. Tablets supplied by government of India containlOO mg elemental iron +500 meg of folic acid
4. Total amount of iron needed by the fetus during entire pregnancy is 300 mg
5. With oral iron therapy, rise in Hb% can be seen after 3 weeks
6. Formula used for estimation of the total iron requirement is 4.4 x body weight (kg) x Hb deficit (g/dl)
7. 2500 mg iron is the amount a patient can tolerate at a time given intravenously
8. Ideal / best contraceptive for sickle cell women is progesterone only contraceptive (implants, injections, pills
9. Dose of folic acid in pregnancy: (per day)
    a. To prevent NTD = 400 j_ig
    b. With previous n/o NTD / on anticonvulsants = 4mg
    c. For tx of megaloblastic anemia =lmg
    d. For sickle cell disease=4mg

Fetal Growth Restriction (IUGR)

1. IUGR is defined when birth weight is below the tenth percentile of the average of gestational age

2. Best parameter for ultrasound evaluation of IUGR is abdominal circumference
3. Birth weight of a baby can be increased by cessation of smoking
4. A large baby is born with which complication in pregnancy is gestational diabetes

Fetal Infections in pregnancy

1. Congenital infection in fetus with minimal teratogenic risk is HIV
2. Most common cause of intrauterine infection is Cytomegalovirus
3. Congenital anomalies are most severe in Rubella infection (max risk in 1st trimester)
4. Blood dyscrasias is commonly seen in a fetus with congenital CMV infection
5. The drug of choice in treatment of typhoid fever in pregnancy is Ceftriaxone
6. Transmission of herpes is maximum in during parturition
7. DOC for syphilis in pregnancy is Penicillin
8. During pregnancy HIV transmission occurs mostly during during labour
9. Most common cause of HIV infection in infant is perinatal transmission (peripartum>intrapartum)
10. Nevirapine is given to prevent HIV transmission from mother to child
11. CS elective will decrease transmission to baby in case of an HIV +ve pregnant woman
12. Toxoplasmosis is not transmitted to the baby at delivery
13. Cesarean section is preferred in Herpes
14. Regarding listeriosis in pregnancy mode of Transmission of infection is sexual
15. Absent fetal risk if rubella infection is beyond 20 weeks
16. MC single defect which occurs with rubella is sensory neural hearing loss
17. CMV never leads to heart defects in fetus
18. But fetus is most severely affected in toxoplasma if infection is in 1st trimester
19. Triad of toxoplasma infection is intracerebral calcification, chorioretinitis& hydrocephalus
20. Rate of transmission of toxoplasma to fetus is maximum in the 3rd trimester

Diabetes

1. Late hyperglycemia in pregnancy is associated with Macrosomia
2. Most sensitive screening test in diabetic mothers for congenital malformation is HbAlC (Glycosylated hemoglobin)
3. Polycythemia is seen in the infant of a diabetic mother
4. Complication seen in fetus of a diabetic mother is B cell hyperplasia
5. Best test for fetal maturity in a diabetic mother is Phosphatidyl glycerol
6. The one measurement of fetal maturity that is not affected by a 'bloody tap' during amniocentesis is Phosphatidyl glycerol
7. Fasting Blood sugar should be maintained in a pregnant diabetic female as 70 -100 mg%
8. Gestational diabetes is diagnosed by Glucose tolerance test (GTT)
9. Glycosuria during routine investigation of antenatal visit indicates that there is need for Glucose tolerance test
    a. Hb Ale levels <6.5% = no greater risk of malformation than non diabetic mothers
    b. MC system involved in congenital malformation in diabetic females = CVS >CNS
    c. MC congenital anomaly = VSD > NTD
    d. Most specific anomaly = Caudal regression syndrome
    e. MC CVS finding in babies of diabetic mother = HOCM (Hypertrophic Cardiomyopathy).This is not an anomaly but a finding
    f. Most specific cardiac anomaly seen = Transposition of great arteries
    g. Gestational diabetes mellitus is not a/w increased risk of congenital anomalies & abortions

Puerperium

1. Puerperal fever from breast engorgement is less severe and less common if lactation is suppressed
2. Involution of uterus is completed by 6 weeks
3. The weight of the uterus at 8 weeks postpartum is lOOg
4. Postpartum decidual secretion presents as lochia
5. Breast-feeding can be encouraged despite maternal acute puerperal mastitis

Malpresentation and Positions

1. The commonest cause of breech presentation is prematurity
2. Best method to deliver arms in breech is Lovset's method
3. The complication that can occur with internal podalic version for transverse lie is uterine rupture
4. The commonest cause of occipito-posterior position of fetal head during labour is android pelvis
5. In brow presentation, presenting diameter is mento vertical
6. Incidence of cord prolapse is least in Frank breech
7. In an after coming head, the occiput is perforated during delivery
8. The most common form of fetal traumatic injury incurred during breach extraction is intracranial hemorrhage
9. In a case of direct occipitoposterior position, face to pubis delivery, most commonly encountered problem is complete perineal tear
10. Blood in urine in a patient in labour is diagnostic of obstructed labour
11. Transverse lie in early labor, liquor adequate and no C/l for vaginal delivery = Do ECV
12. Transverse lie in late or active labor or with ruptured membranes = Do CS
13. MC cause of unstable lie is idiopathic > placenta previa>polyhydramnios
14. MC location of placenta in unstable lie is fundal
15. Primigravida with breech is a relative indication for CS
16. Primigravida with breech + any complication or high risk factor = prefer CS

Cardiovascular disease in pregnancy

1. Signs of heart disease in pregnancy is diastolic murmur
2. Maximum strain of parturient heart occurs during immediate postpartum
3. Normal pregnancy can be continued in Wolf-Parkinson-White syndrome
4. Most common heart disease associated with pregnancy is mitral stenosis
5. Tubectomy in a heart patient who has recently delivered is best done after 1 week
6. Patients with organic heart disease in pregnancy, most commonly die following delivery

7. Heart disease with max risk of maternal mortality is Eisenmenger syndrome.
8. MC cause of maternal mortality in heart disease is mitral stenosis
9. MC time of heart failure = immediate postpartum >intrapartum> 28-32 weeks of pregnancy
10. Best time for cardiac surgery in MS is 14-18 weeks
11. Surgery of choice is Balloon valvuloplasty
12. If valves calcified - valve replacement required - to be done ideally before conception

Contraception

1. Hydatidiform mole is not an absolute contraindication of oral contraceptive pill
2. Mechanism of action of spermicide is disrupting cell membrane and motility
3. Dysmenorrhea is not a side effect of oral contraceptives
4. Emergency contraception is contraception provided to unprotected intercourse
5. Hepatic adenoma has been associated with the use of oral contraceptives
6. Lowest dose of ethinyl estradiol used in combination contraceptive is 10 pg - Lo Loestra
7. Micronized progesterone can be given by oral and vaginal routes
8. In a young female of reproductive age, an absolute contraindication for prescribing oral contraceptive pills is impaired liver function
9. The most common complication of IUCD is bleeding
10. Most commonly removed/resected parts of loop in tubectomy include isthmus
11. The intra-abdominal pressure during laparoscopy should be set between 10-15 mmHg
12. Mifepristone and misoprostol can be used for induction of abortion for a maximum of up to 9 weeks of amenorrhea
13. IUCD having the longest life span is Cu T380A
14. The contraception of choice for a newly married healthy couple is OC pills
15. Norgestimate in OC pills has an advantage of reducing acne and hirsutism
16. Ideal contraception for lactating mother is Progestogen-only pills (POPs)

17. Mifepristone is used in fibroid uterus
18. Low-dose oral contraceptive pills contain desogestrel
19. Contraception with least failure rate is Implanon
20. Minimum effective dose of EE in OCPs = 10 pg
21. Ovulation return within 3 months of withdrawal of (OCP) drug in 90% cases
22. Most effective method of emergency contraception = CuT IUCD
    But this is not the Ideal EC pill since it requires a doctor for insertion as compared to the pill. Hence its most effective but not the ideal
23. Most commonly used emergency contraception = LNG (I pill)
24. Least failure in sterilization is with unipolar cautery
25. Best method in HIV patients = IUCD + Barrier
26. Most effective method of sterilization in female = modified Pomeroy's method

Important Topics

1. The findings of a single umbilical artery on examination of the umbilical cord after delivery is an indicator of considerably increased incidence of major malformations of the fetus
2. Complications of polyhydramnios include placental abruption, uterine dysfunction, and postpartum hemorrhage
3. Least vital capacity is seen in Trendelenburg position
4. Drug contraindicated during pregnancy is Captopril
5. Vaccine contraindicated in pregnancy is rubella
6. In Sheehan's syndrome, the most effective drug is Corticosteroid
7. Posterior urethral valve in the fetus is a cause of oligohydramnios
8. Stilbestrol administered during pregnancy can produce vaginal adenocarcinoma in teenage
9. Cerebral infarction is seen with maternal use of cocaine
10. Primary postpartum hemorrhage is most commonly caused by uterine atony
11. Excessive intake (hypervitaminosis) of Vitamin A is associated with increased risk of congenital malformations
12. During foetal life, maximum growth is caused by Insulin

13. Most common cause of maternal mortality in India is pregnancy related complications
14. Commonest cause of perinatal mortality is infection

Menstruation

1. In ovarian cycle increased levels of LH are due to increased Estrogen
2. In 40 days of menstrual cycle the ovulation occurs at 26th day
3. The ovarian cycle is initiated by FSH
4. Maximum function of corpus luteum occurs 8 days after ovulation.
5. The earliest morphological evidence of ovulation on endometrial biopsy is basal vacuolation
6. Pulsatile GnRH is used for managing anovulatory infertility
7. Maturation Index on vaginal cytology is a diagnostic method for evaluating the endocrine status of cervix
8. Vaginal cytology for hormonal changes is best taken from lateral wall
9. Cornification index or eosinophilic index indicates estrogen effects

Hormones

1. The production of cervical mucus is stimulated by estradiol
2. Ferning of cervical mucus depends on estrogen
3. Clomiphene citrate is antiestrogen
4. Clomiphene citrate is indicated in Stein - Leventhal syndrome
5. The most serious complication of clomiphene therapy for induction of ovulations is hyperstimulation syndrome
6. Danazol is used in the treatment of cyclical mastalgia
7. The probable source of Relaxin is ovary
8. Granulosa cells produces estrogen with the help of the enzyme aromatase
9. SERM used for contraception = Ormeloxifene
10. S/E of clomiphene for which it should be immediately stopped is visual symptoms
11. MC Androgen produced by ovary = Androstenedione
12. Most potent androgen = Dihydrotestosterone
13. Androgen produced only by adrenal = DHEA - sulfate

Infections in Gynae

1. Strawberry vagina is seen in Trichomonas vaginalis
2. Clue cells are seen in bacterial vaginosis
3. Non-gonococcal urethritis is caused by Chlamydia
4. During laparoscopy, the preferred site for obtaining cultures in a patient with acute PID is fallopian tubes
5. Asymptomatic carriage of gonococcal infection in female is commonly seen in endocervix
6. Gonococcal vaginitis occurs in infants
7. Chlamydia cannot be detected by wet film
8. The most sensitive method for detecting cervical chlamydia trachomatis infection is polymerase chain reaction
9. Drug of choice for Chlamydia in pregnancy is Azithromycin
10. Creamy fishy odor is caused by Gardnerella
11. Most common site for genital tuberculosis is fallopian tube
12. Most common route of transmission of endometrial tuberculosis is hematogenous
13. The most common cause of tubal block in India is Tuberculosis
14. Salpingitis/Endosalpingitis is best confirmed by Hysteroscopy and Laparoscopy
15. Cause of infection in tuberculous fallopian tube is hematogenous spread from a primary focus
16. Most common pregnancy outcome following treatment of genital tuberculosis is ectopic pregnancy
17. The LEAST chance of PID is seen with the use of condom
18. Gold standard for diagnosis of PID is diagnostic laparoscopy
19. Posterior colpotomy is done in pelvic abscess
20. Endosalpingitis is best diagnosed by Laparoscopy is to Avoid hysteroscopy
21. MC vaginitis in pregnant women - Candidiasis
22. MC cause of PID in virgin female - Tuberculosis
23. Amsel's criteria is used for bacterial vaginosis

Congenital Malformations, Amenorrhea, PCOD & Endocrinology

1. Complete failure of fusion of the Mullerian duct leads to Uterus didelphys
2. Paramesonephric duct develops into uterus
3. To diagnose uterus didelphys, procedure of choice MRI > 3D-USG
4. The most important indication for surgical repair of a bicornuate uterus is habitual abortion
5. Vaginal atresia is associated with uterine atresia
6. Ideal age for repair of vaginal agenesis is before marriage
7. Ovary develop from genital ridge
8. Transverse vaginal septum corresponds to external os
9. Rokitansky Kuster Hauser syndrome is associated with vaginal atresia
10. Bicornuate uterus is due to incomplete fusion of paramesonephric duct
11. Unicollis bicornis means two uterine cavities with one cervix
12. SRY gene is located on short arm of Y chromosome
13. Gartner's cyst can be differentiated from cystocele by the absence of impulse on coughing
14. MC cause of primary amenorrhoea is gonadal dysgenesis (Turner's syndrome)
15. MC cause of hirsutism= Idiopathic > PCOS
16. Clitoromegaly is defined if clitoris is > 10mm.
17. Modified FerrimanGallwey score > 8 means hirsutism is present
18. Percentage of PCOS patients having diabetes = 10%
19. Percentage of PCOS patients having Impaired glucose tolerance = 35%
20. DOC for hirsutism is OCPs
21. MC congenital anomaly of uterus is septate uterus
22. MC anomaly causing abortion = septate uterus
23. MC anomaly a/w infertility = septate uterus
24. MC anomaly with renal anomalies = Unicornuate uterus
25. Best reproduction outcome seen in Arcuate uterus

Puberty & Intersex

1. The sequence of development of puberty in girls is growth spurt, thelarche, Pubarche, peak height velocity& lastly menarche.
2. The first visible sign of puberty in girls is breast budding
3. Medication used in treatment of idiopathic central precocious puberty is Gn RH analogues
4. Precocious puberty associated with bony dysplasia and cafe au lait spots in skin is seen in Me Cune - Albright syndrome
5. During sexual differentiation in males primitive Gonads differentiate into testis due to the presence of SRY gene
6. Most common cause of ambiguous genitalia in a female child is congenital adrenal hyperplasia
7. Most common cause of female pseudohermaphroditism is congenital adrenal hyperplasia
8. The treatment for a case of Virilizing adrenal hyperplasia is cortisone
9. Best prenatal treatment for CAH is Dexamethasone
10. High testosterone levels is a feature of testicular feminization syndrome
11. In Testicular Feminization syndrome, Gonadectomy is indicated, after puberty (16-18 years)
12. Pure gonadal dysgenesis will be diagnosed in the presence of bilateral streak gonads
13. Normal size but non-functioning uterus is usually associated with uterine synechiae
14. Ambiguous genitalia with no palpable gonad in inguinal area and XX karyotype - most likely diagnosis is congenital adrenal hyperplasia.
15. Pulsatile release of GNRH (initially at sleep) is responsible for pubertal

Menopause And Hormones Replacement Therapy

1. Menopause is diagnosed by FSH > 40 IIJ/L
2. Ethinyl estradiol is not a natural estrogen.
3. Post-menopausal endometrial thickness is 1-3 mm

4. Norepinephrine and serotonin are the neurotransmitters which trigger hot

flushes.

5. Main indication for prescribing HRT is hot flushes
6. The cutoff point serum estradiol level for the diagnosis of ovarian failure is 20 pg/ml
7. DOC to treat decreased libido in menopausal females is androgens.

Menstrual Disorders, DUB, AUB

1. Selective serotonin reuptake inhibitors (SSRIs) is most useful for the treatment of premenstrual syndrome
2. The presentation of Asherman syndrome typically involves hypomenorrhea
3. The investigation of choice in a 55-year-old postmenopausal woman who has presented with postmenopausal bleeding is fractional curettage
4. Period of amenorrhea followed by massive bleeding is seen in premenopausal women with metropathic hemorrhagica
5. Most common cause of postmenopausal bleeding in India is carcinoma cervix
6. Halban's Disease is due to persistent corpus luteum
7. Metropathiahemorrhagica is best treated by progesterone
8. Swiss cheese pattern of endometrium is seen in Metropathiahemorrhagica
9. Most common source of vicarious menstruation is nose

Endometriosis

1. Endometriosis is commonly associated with bilateral chocolate cyst of ovary
2. Pain in endometriosis correlates with the depth of invasion
3. Best investigation to establish the diagnosis of endometriosis is laparoscopy
4. Most accepted theory of endometriosis is Sampson's theory of retrograde menstruation and implantation
5. Recurrence rate of endometriosis after medical therapy is 30-50%

Fibroids

1. Red degeneration of fibroid occurs most commonly in 2nd trimester
2. In a pregnant woman with red degeneration, management is conservative treatment
3. In leiomyoma of uterus Squamous metaplasia does not occur
4. Percentage of myomas which undergo sarcomatous transformation is 0.5%
5. The common complication of fibroid uterus in pregnancy is red degeneration
6. Sarcomatous changes is the rarest modification in a fibroid uterus
7. To start with all fibroids **ARE INTRAMURAL**
8. Calcareous degeneration occurs most commonly subserous fibroids
9. Uterine fibromyoma is associated with endometriosis, follicular cysts of ovary, endometrial hyperplasia and endometrial cancer
10. Treatment of red degeneration of fibroid during pregnancy is analgesics
11. Least common complication of fibroid is malignancy
12. Most common type of uterine polyp is mucous polyp
13. Wansteker's classification - hysteroscopic ally submucous fibroid are further divided into:
    a. Type 0-fibroid totally in cavity
    b. Type 1 - > 50% in cavity
    c. Type 2 - < 50% in cavity (i.e. >50% in myometrium)

Infertility

1. Drug not helpful in induction of ovulation is progesterone
2. Spinnbarkeit phenomenon is due to elasticity of cervical mucus
3. The commonest Indication of IVF is abnormality of fallopian tube
4. Asherman’s syndrome is due to curettage
5. Cryptomenorrhea is seen in imperforated hymen
6. The presentation of Asherman syndrome typically involves Hypomenorrhea
7. The most common cause of primary amenorrhea is ovarian dysgenesia
8. Gonococcal infection in female is commonly found in endocervix
9. In IUCD, the organism causing infection is Actinomyces

Download From: AghaLibrary.com

10. The drug of choice for bacterial vaginosis is Metronidazole
11. The most sensitive method for detecting cervical Chlamydia trachomatis infection is Polymerase chain reaction
12. Gonococcal infection spreads by Involvement of adjacent structures
13. Gonococcal infection in a female is commonly found in the endocervix
14. Normal menstrual blood loss is 80ml
15. Enclomiphene is anti-estrogenic
16. Fern test is due to the presence of NaCl under estrogenic effect
17. Anti hormonal substance used to induce ovulation is Clomiphene citrate
18. Fallopian tube dysmotility is seen in Kartagener syndrome
19. Best Investigation to assess tubal patency is Laparoscopic chromotubation
20. Post coital test (PCT) is done for cervical receptivity (detecting antisperm antibodies)
21. According to WHO criteria, the minimum normal sperm count is 20 million/ ml
22. Aspermia is the term used to describe absence of semen
23. In azoospermia, the diagnostic test which can distinguish between testicular failure and obstruction of Vas deferens is the estimation of testosterone
24. In vitro fertilization is indicated in tubal pathology
25. Aspiration of sperms from testes is done in TESA
26. In semen banks, semen is preserved at low temperature using liquid nitrogen
27. The major contribution to the human seminal fluid is from seminal vesicles
28. Max semen inseminated in IUI=0.5 ml
29. Most important semen parameter for ICSI is sperm morphology
30. MC cause of B/L cornual block on HSG is cornual spasm
31. First test to assess tubal patency is hysterosalpingography
32. Polar bodies are not preferred for PIGD as it cannot detect paternal defects
33. MC fibroid causing infertility is sub mucous fibroid

Prolapse, Uro-Gynecology

1. Most common cause of VVF in India is obstetrical trauma
2. Stress incontinence is a common symptom of prolapse of uterus
3. Most common cause of vesicovaginal fistula in developing countries is obstructed labor
4. Retention of urine in a pregnant woman with a retroverted uterus is seen at 12-16 weeks
5. Stress incontinence is best corrected by bladder neck suspension
6. Retention of urine in a pregnant woman with retroverted uterus is seen in 12-16 weeks
7. Most common site of injury to ureter is where it crosses uterine A
8. Burch colposuspension for Stress incontinence has highest success rate at the end of 5 yrs
9. Most useful investigation for VVF is Cystoscopy
10. Most important support of pelvic viscera is levator ani muscle
11. Most important ligament support of uterus is the cardinal ligament
12. Decubitus ulcer is due to venous congestion in the prolapse
13. Baden walker halfway system, reference point for classification of prolapse is the hymen
14. In POPQ classification, reference point is hymen

Oncology

1. Most common vaginal carcinoma is squamous cell carcinoma
2. In a case of vaginal carcinoma of stage III, there is involvement of the pelvis
3. Common differential diagnosis of verrucous carcinoma is condylomata accuminata
4. Brachytherapy is used in Stage Ib Ca cervix
5. Characteristic feature of carcinoma fallopian tube is watery discharge
6. Sentinel biopsy is most effective in vulval ca
7. The most common site of vulval cancer labia majora
8. Endometrial hyperplasia is seen in PCOD
9. Long-term tamoxifen therapy may cause endometrium Ca

10. Endometrial carcinoma is predisposed by diabetes mellitus, hypertension and obesity
11. The most malignant endometrial carcinoma is Clear cell carcinoma
12. Investigation of choice in a 55-years-old post-menopausal woman who has presented with postmenopausal bleeding is endometrial biopsy. Gold standard is fractional curettage (Preferably with Hysteroscopy)
13. Carcinoma endometrium with positive superficial inguinal lymph node status is classified as stage IV
14. Metropathiahemorrhagica can cause endometrial cancer
15. Therapeutic conization is indicated in microinvasive carcinoma
16. MC agent responsible for Ca cervix is HPV 16
17. HPV associated with adenocarcinoma of cervix is Type 18
18. Most common type of human papilloma virus causing Ca cervix are 16 and 18
19. Virus associated with cancer cervix is HPV
20. MC Site of Ca Cervix is transformation zone
21. Earliest symptom of carcinoma cervix is irregular vaginal bleeding
22. In microinvasive cervical cancer, most common treatment is simple hysterectomy
23. M/C site of metastasis of Ca cervix is lymph nodes
24. Most common ovarian tumor in less than 20 years is germ cell tumour
25. Dysgerminoma is the most radiosensitive ovarian tumors
26. According to WHO classification of ovarian tumours, Brenner tumor of ovary belongs to epithelial tumours
27. Ovarian tumours commonly arise from epithelium
28. Brenner's tumor resembles fibroma
29. Masculinizing tumors of the ovary arrhenoblastoma
30. The most common pure germ cell cancer of the ovary dysgerminoma
31. Pain of ovarian carcinoma is referred to medial surface of thigh
32. Meigs’ syndrome is associated with fibroma
33. The most common complication of an ovarian tumor is torsion
34. Most common ovarian cyst to undergo torsion is benign cystic teratoma
35. The pseudomyxoma peritonei occurs as a complication of the mucinous cyst adenoma (ovary)
36. Attacks of flushing and cyanosis occur in carcinoid tumors of ovary

37. Reinke's crystals are found in hilus cell tumor
38. Schiller-duval bodies are seen in endodermal sinus tumor
39. In a case of Dysgerminoma of ovary, serum lactic dehydrogenase is likely to be raised
40. CA -125 is a tumor marker for carcinoma ovary
41. Ca-125 is a sensitive marker. Its specificity increases in postmenopausal women.
42. Placental alkaline phosphatase is marker of Dysgerminoma
43. Marker for granulosa cell tumor is Inhibin
44. Bilateral germ cell tumour is dysgerminoma
45. Ovarian tumor likely to involve the opposite ovary by metastasis granulosa cell tumor
46. Most common ovarian tumour in pregnancy is dermoid cyst
47. The maturation index on vaginal cytology is a diagnostic method for evaluating the endocrine status of cervix
48. Vaginal cytology for hormonal change is best taken from Lateral wall
49. Cornification index or eosinophilic index indicates estrogenic effect
50. Hysteroscopy means visualization of uterine cavity
51. Best gas used for creating pneumoperitoneum at laparoscopy is CO_2
52. Laparoscopy is best avoided in patients with COPD
53. Laparoscopy is contraindicated in Peritonitis
54. Goniometer is used for urethrovesical angle
55. Feature of post ovulatory endometrium on ultrasound is prominent posterior enhancement
56. Luteal phase defect is best diagnosed by endometrial biopsy
57. Corpus luteum cyst occurs due to HCG
58. Sexual maturity is attained early in precocious puberty
59. Menstruation is defined as precocious if it starts before the child reaches the age of 10 years
60. Post menopausal estrogen production is due to peripheral aromatization of androstenedione
61. Hydatidiform mole is associated with Lutein cyst
62. Metastasis of choriocarcinoma most commonly goes to the lungs
63. Point of distinction between partial mole to complete mole is partial mole is triploid

64. A case of Gestational Trophoblastic Neoplasia belongs to high-risk group if disease develops after full term pregnancy
65. Chemotherapy is indicated in gestational trophoblastic disease in persistent increase in 0-HCG after evacuation
66. The treatment of the lutein cyst in H. mole is suction evacuation
67. Snow storm appearance is seen in complete molar pregnancy
68. In Leiomyoma of uterus, least likely change to occur is sarcomatous change
69. Mifepristone is useful for the treatment of fibroids
70. Methotrexate is used in management of ectopic pregnancy
71. Call Exner bodies are seen in Granulosa cell tumour
72. Increase in maternal serum AFP is seen in renal agenesis
73. The PAP smear is used largely for screening carcinoma cervix
74. Pap smear in pregnancy is routine as a part of screening
75. Carcinoma cervix extends to the lateral pelvic wall in Stage III
76. Long-term use of tamoxifen causes endometrial carcinoma
77. Most common cause of cervical wart is HPV 11
78. The best investigation to diagnose carcinoma cervix in early stages pap smear
79. Most common site of metastasis in Choriocarcinoma is the lung
80. Management of CIN III is LEEP conization
81. Cal25 is elevated in what50 % of stage 1 epithelial ovarian cancer
82. Treatment of Ca Cervix IIIB include concurrent chemoradiation
83. Cervical cancer III B treatment is intracavitary radiation + external beam radiation+ chemotherapy
84. Treatment for stage lib to III of cervical cancer is Chemotherapy + Radiotherapy
85. Most commonly Krukenberg tumor is due to carcinoma of stomach
86. Brenner's tumor is malignant
87. The ovarian tumor which is most likely to be associated with virilization is Sertoli-Leydig cell tumor
88. Largest tumour of the ovary is mucinous cystadenoma
89. MC functional cyst of ovary is Follicular cyst
90. Rupture of ovarian cyst MC seen with corpus luteal cyst
91. Hemorrhage in cyst MC seen with serous cystadenoma
92. Dash and dot appearance on USG is seen in dermoid cyst of ovary

93. MC ovarian cancer a/w endometrial cancer is endometrioid cancer
94. MC ovarian cancer a/w endometriosis is clear cell cancer
95. IVP showing hydronephrosis in cervical cancer confined to cervix is stage

96. MC variety of cancer cervix is large cell keratinizing
97. MC cause of postmenopausal bleeding - senile endometritis
98. MC cancer causing PNB - worldwide is endometrial cancer, in India is cervical cancer.
99. Ovarian tumor seen in digenetic gonads is dysgerminoma
100. Germ cell malignancy with the best prognosis is dysgerminoma

Recent & High Yield Updated LMRPs

1. Low dose progesterone doesn't totally stops ovulation.
2. Quadruple test done at 15-18 weeks.
3. Fimbriectomy is associated with Kroner.
4. Anteversion of uterus is maintained byPubocervical and round ligament.
5. Testiovo syndrome (previously called as true hermaphrodite) is characterized by46 XY with testes and ovaries and gynecomastia.
6. Female Pseudo hermaphroditism is seen in congenital adrenal hyperplasia.
7. TSH alters in a pregnant woman.
8. Rapid flexion of thigh on abdomen is the procedure done in Shoulder dystocia.
9. Dexamethasone drug is used for lung maturity.
10. ACE inhibitorsare the drug not used in HTN in pregnancy.
11. A woman was found to be HIV positive in first trimestershould start ART immediately and continue lifelong.
12. Peripartum cardiomyopathy is most commonly test seen at 12 weeks after delivery.
13. Infertility treatment is not a high risk for antenatal care.
14. Anemia is not a causes of secondary PPH.
15. NIPT is Detects fetal DNA in maternal blood.
16. ART (assisted reproductive technique) predisposes toDizygotic.

17. Pyometra uterus not seen in chronic PID.
18. Most common sequelae of chronic PID is Infertility.
19. In ART cells from zygote are taken and test done is single gene mutation.
20. 60 is the couple protection rate if NNR 1 to be achieved.
21. Superfecundation is fertilization of two or more ova in same cycle from separate act of coitus.
22. Anaesthesia of choice for pre-eclampsia patient is spinal with epidural
23. Acute PID is the cases where curettage is not done
24. At 10 -18 weeks of pregnancy USGcan be done to correctly diagnose twin pregnancy
25. The most common reason to use HRT is Hot flushes
26. The pearl index of the contraceptive if out of 20 women, 8 got pregnant in 24 months is 20
27. Mullerian Inhibiting substance gene is located in chromosomel9
28. The most accurate and safe method to diagnose viable pregnancy at 6 weeks of gestation is ultrasound visualization of fetal cardiac activity.
29. Recurrence is not the advantage of hysteroscopic over open myomectomy.
30. A female is on Mala N for contraception. After the end of the first strip, there was no withdrawal bleeding. Next step is to urgent visit for hospital and check for pregnancy.
31. A pregnant female with known cardiac disease presents to you in the first trimester with history of warfarin embryopathy, replace warfarin with heparin in First trimester should be advised now
32. In Kartagener syndrome cause of infertility isAsthenospermia
33. A 25 year old lady with submucosal fibroid was undergoing myomectomy. The surgeon was using 1.5% glycine as irrigating fluid for the cavity. During surgery the nurse informs the surgeon that there is a 500ml fluid deficit. The next step is to continue the surgery with careful monitoring of fluid status
34. While performing Burch operation there was significant bleeding and pooling of blood in the space of Retzius. The source of bleeding cannot be visualized. The next step in the management is to Lift endopelvic fascia by putting fingers in vagina.

35. A 28-week Pregnant female presents with the fetal distress on examination and the test performed (MCA Doppler study) is given. The next step in management is give steroid cover and monitor with Doppler and BPP and plan delivery.
36. Concentration is the important marker of male infertility in semen analysis.
37. A 32-week pregnant female presented with labor pains and minimal vaginal discharge, on analysis of the cervicovaginal discharge showed fibronectin. Preterm labor is the probable diagnosis.
38. Trans-vaginal sonography is to be done when in post-menopausal bleeding if endometrial thickness is 5mm
39. A 76-year old female presented with non-healing ulcer on labia majora for 6 months measuring 2*3cm with no palpable lymphadenopathy. Biopsy shows squamous cell carcinoma. Management includes radical vulvectomy with bilateral LN dissention.
40. Absolute contraindication for CuT insertion in unmotivated person
41. Blue cells in Nile Blue Test does not indicate Fetal lung maturity.
42. A 14 year girl presented with absent thelarche. On examination uterus was present. Investigation showed high FSH. Karyotype is XY . The probable diagnosis is Gonadal dysgenesis.
43. A 25-year old woman underwent induced ovulation. On USG, ovary showed 8 follicles. Serum estradiol level was pg/ml. The next step in the management of this patient is to retrieve follicles.
44. A pregnant woman with G3P2L0 presented to you with a pregnancy at period of gestation of 9 weeks. She has a history of conization one year back currently on follow up with no recurrence on PAP smear. She also has the history of preterm births at 30 and 32 weeks during her last 2 pregnancy. The next step in the management of this patient is USG to see cervical length.
45. A pregnant female presents with prolonged labor in emergency. She is taken for Cesarean section. Supine with wedge under right hip is the correct position in which the nurse should keep the patient on OT table.
46. A female come to gynae OPD for Pre conceptual counseling with history of two second trimester abortions. The next investigation you will advise is TVS

47. A pregnant female delivered a baby with normal expulsion of an intact placenta. After half hour she started bleeding per vaginally. On examination she was hypotensive and boggy mass is palpated per abdomen. USG showed retained placental tissues. The most likely diagnosis is Placenta succenturiata.
48. A lady presented with 7 weeks amenorrhea presented with slight vaginal spotting. CRL was 5mm with well-formed gestational sac with calculated GA of 5.6 weeks on TVS. Next line of management is to Wait for another 1 week and repeat TVS.
49. True about Acute fatty liver in pregnancy is occurs late in pregnancy .
50. FBS values for Overt GDM is 126 mg%.
51. Amniotic Fluid formed after 20 wks right from Fetal urine.
52. Physiological change in pregnancy is due to decreased FRC
53. Partial mole: 69XXX
54. Maximum dose of 15 methyl PGF2alfa: 2000 micrograms
55. Ullipristaldose:30 mg
56. PGF2alfa have no role in induction in 41 wks,no contractions,cervix uneffaced,os closed
57. Partial mole is not a gestational trophoblastic neoplasm
58. 3rd degree UV prolapse with cystocele with rectocele areVaginal hysterectomy with PFR.
59. Aspirin and heparin are required in Recurrent miscarriage with APLA positive.
60. OCP,s not prevent: Thromboembolic events .
61. AMH value in poor ovarian reserve:<l
62. Nuchal translucency time: (10-14 wks.)
63. Role of magnesium sulphate in reducing RDS in new born
64. Sexually active female // Frothy discharge///ph-5.4,on microscopy are Trichomonal Vaginalis
65. Gemeprost: PGE-1 analog
66. Testosterone: Leydig cells
67. Engaging diameter/ Well flexed /Vx: Suboccipitobregmatic.
68. True for HIV transmission are Transmission is direct relationshipwith maternal viral Load.
69. Virus mimicking Erythroblastosis foetalis is CMV.

70. True about Group B streptococcus infection are Intrapartumantimicrobial prophylaxis 4 hrs before delivery
71. Pruritus vulvae with atrophic vaginitis is Local Estrogen cream
72. The time of termination of pregnancy of a female with insulin dependent diabetesis should be 37
73. Single dose of drug used in emergency contraception is Levonorgestrel 1.5 mg.
74. Investigation of Choice for Vesico-Vaginal Fistula is Swab Test
75. Management for 40-Year-Old Female with CIN III or 60 Year Old Female with Simple Hyperplasia with Atypiais Hysterectomy
76. A 55yr old post-menopausal lady with simple endometrial hyperplasia with atypia. The next line of management is Hysterectomy.
77. Sentinel biopsy most important for Ca vulva
78. Long term reversible contraception methods are CuT, LNG- IUS, Implanon.
79. Quadruple test is the second trimester measurement of maternal serum alpha fetoprotein (MSAFP), unconjugated estriol, hCG and Inhibin-A. It is done between 15-20 weeks.
80. Kartagener syndrome in males, cause of infertility isAsthenospermia
81. Normal Heart Sound is Pregnancy is split ofSl
82. Young female H/o spontaneous abortion and secondary amenorrhea since then. FSH 6 lU/ml . The most probable cause of amenorrhea isUterine synechiae
83. Possible cause of choriocarcinoma after hydatidiform mole :
    A. Plateau of HCG
    B. Persistently enlarged uterus
    C. Persistent theca lutein cysts
84. Uterine massage is not a core component of Active Management of Third Stage of Labor (AMTSL).
85. Intake of Cotrimoxazole drug during last trimester causes UnconjugatedBilirubinemia in infant
86. Permissive role in Puberty is Leptin.
87. Inhibitory hormone released from hypothalamus in prolactin.

Pediatrics

Neonatology

Normal New Born

1. Not a normal finding in a newborn Central Cyanosis
2. Normal finding in a newborn Peripheral cyanosis
3. Treatment of a neonate presenting with vaginal bleeding on day *4 of* life: No specific therapy
4. Common sites for mongolian spotsLumbosacral area
5. Low birth weight baby< 2.5 kg.
6. Very low birth weight baby< 1.5 kg
7. Extremely low birth weight babycl kg

Assessment of Gestational age

1. In term infant sole creases are present over the entire sole and breast nodule of 5 to 10 mm is present
2. In assessment of gestational age of a neonate, breast bud, genitalia, and scrotal skin are seen
3. Absences of creases on sole, abundant lanugo, and empty scrotum are features of premature newborn
4. Full term small for date infant are predisposed to hypoglycemia
5. In asymmetrical IUGR brain is not effected

Resuscitation of a newborn

NEONATAL RESUSCITATION AND APGAR SCORE

1. True regarding neonatal resuscitation Mouth suctioning earlier than nasopharyngeal suctioning (M comes before N)
2. Bag and mask ventilation is contraindicated in Congenital Diaphragmatic hernia
3. Not a component of APGAR Score: Respiratory rate per minute
4. Dose of IV adrenaline in term infant during neonatal resuscitation 0.1-0.3 ml/kg of 1:10,000 solution

Neonatal Hyperbilirubinemia

NEONATAL JAUNDICE

1. The investigation of choice in a neonate with jaundice is Total and direct bilirubin
2. A cause of neonatal jaundice at birth or within 24 hours Erythroblastosis
3. Risk of kernicterus is not increased with High level of serum albumin
4. In physiological jaundice in term infants, serum bilirubin does not generally exceedl5 mg%.
5. Cause of neonatal jaundice within 24 hrs:Hemolytic diseases of newborn, Crigler-Najjar syndrome, large amount of vit. k.
6. The most important reaction by which phototherapy works is Structural isomerization
7. Complication of double volume exchange transfusion are Hypoglycaemia, Hypocalcemia, Hyperkalemia.
8. Most common cause of cholestatic jaundice in a newborn is Neonatal hepatitis
9. Conjugated hyperbilirubinemia is seen inDubin- Johnson syndrome and Rotor syndrome

Intrauterine Infections

NEONATAL SEPSIS AND INFECTION

1. STD which causes fetal abnormality isSyphilis
2. Antibodies seen in a neonate after an intrauterine infection arelgM
3. Macrocephaly, seizure with chorioretinitis in a child may be suggestive of Congenital toxoplasmosis
4. In congenital rubellaIncreased risk of congenital malformation if infection occur before 16 weeks
5. Hypoplasia of limbs & scarring is caused due toCongenital Varicella
6. Transplacental spread less common with HSV
7. Not seen in congenital rubella syndromeAortic stenosis
8. Baby is born with blisters; Best investigation is VDRL
9. Syphilis attacks the fetus usually after 4th intrauterine month
10. Triad of rubella is Deafness, cataract, CHD (PDA, PS)

Respiratory Disorders of Newborn

RESPIRATORY DISTRESS

1. Transient tachypnea of the newborn develops inTerm baby born by cesarean section
2. True regarding diaphragmatic hernia isPulmonary hypoplasia is seen
3. Transient tachypnea of newborn Onset of respiratory distress immediately after birth and rarely lasts beyond 72 hours
4. True about Hyaline Membrane Disease of newborn: Phosphatidyl Glycerol Estimation in amniotic fluid is a reliable method of prenatal diagnosis
5. Downsscore include Respiratoryrate, chest retraction, breath sounds.
6. Meconium Aspiration Syndrome more common in post term neonates, chest X rays may show air leak, steroids are not the main treatment.
7. Best management in a 32 week 1.2 kg child presenting with moderate respiratory distress with grunting (HMD)CPAP
8. RDS is associated withReticulo granular appearance; Air bronchogram low volume lungs.

i

9. A pregnant patient presented with polyhydramnios. The likely abnormality in the fetus would be Congenital diaphragmatic hernia
10. Not taken in account in terming a baby vigorous after delivery complicated by meconium stained liquor: Color
11. Dribbling after feeds, respiratory distress and froths around the mouth in a newborn Tracheo-esophageal fistula
12. Steroid increase the surfactant level, Insulin decrease the surfactant level

Growth and Development
—B Growth

ANTHROPOMETRY (GROWTH)

1. Height of children in the period between 2 to 10 years increases at the rate of 6 cm/year
2. Length is recorded for children under 2 years, height after 2 years
3. Infant weight becomes triple the birth weight at the age ofl2 months
4. Height of a child is double the birth length at the age of 4 years, height of a child at 4 years is 100 cms.
5. Average gain of height in first year is 25cm
6. In a healthy child the head and chest circumference equal each other around the age of 9-12 months
7. A normal healthy child has a height of 100 cm and weighs 16 kg. Most likely age4 years
8. The upper segment lower segment ratio at 2 year of age in a normal child is 1.51
9. Weight of newborn quadruples by 2 years
10. Anthropometric assessment which does not show much change in between 1-4 years Mid arm circumference
11. 90% of brain growth is achieved by the age of 2 years
12. The first permanent teeth appears at 6 years
13. The first permanent teeth to appear Molar
14. All milk teeth are erupted by 2.5 years
15. First teeth to erupt in infant is lower central incisor

Development

MILESTONES

1. Pincer grasp develops by the age of 9 months
2. Child changes rattle from one hand to another at5-7 months
3. Handedness develops at48 months
4. The age by which most of the normal babies know their gender is 3 years
5. A child speaks sentences at the age of 2 years
6. A child is able to build blocks of 5 cubes. Developmental age is 18 months
7. A3 year old child can copy a circle, 4 year old copies a cross, can copy a triangle at 5 years
8. A 3-month baby will have Neck control (partial head control)
9. A 3-year-old child will be able to ride a tricycle

BONE AGE AND SHORT STATURE

1. Retardation of skeletal maturity not caused byCongenital adrenal hyperplasia
2. Growth variation normal but bone development is not according to the chronological age. Likely diagnosisConstitutional delay
3. Short stature secondary to growth hormone deficiency is associated with Normal body proportion

Puberty

1. WHO defines adolescent age between 10-19 years.
2. Peak growth velocity in adolescent girls is seen just after Appearance of pubic and axillary hairs
3. Order of development of secondary sexual characteristic in male Testicular development-pubic hair/axillary hair—beard
4. Maximum growth spurt is seen in girls at the time of Menarche
5. Correct order of events at puberty in a girlThelarche-Pubarche/adrenarche-growth spurt-menarche

Behavioral Problems

BEHAVIORAL PROBLEMS

1. Thumb sucking peaks at 18- 21 months, most spontaneously drop habit by 4 years. False regarding thumb sucking isMust be treated vigorously in the first year of life
2. Most common age group affected by infantile colicO-3 months
3. False regarding breath holding spells in childrenis It must be immediately attended to prevent hypoxia and onset of seizure
4. True about autism: Starts before 2-3 years of age
5. Treatment of breath holding spells is Iron
6. Best treatment for enuresis is Bell alarm
7. False regarding childhood autism is A type of childhood neurotic disorder
8. False regarding Rett syndrome Macrocephaly

Immunization

Immunization

1. Not true about measles vaccineDiluent is not required
2. Toxic shock syndrome may occur due to Measles vaccine
3. IPV is a killed vaccine, OPV is a live vaccine
4. Vaccine associated paralytic poliomyelitis (VAPP) associated withPolio virus type 2
5. Seizures are usually due to component of DPT is Pertussis
6. Dose of hepatitis B vaccine in a normal child 10 pg
7. Oral Ty 21a vaccine is given on Alternate days (1,3,5 days)
8. Vaccine with best efficacy Measles
9. Vaccine contraindicated in a child with history of convulsions is DPT
10. DPT is contraindicated in Evolving neurological illness, but can be administered in children with cerebral palsy
11. Excessive crying is seen after DPT vaccine
12. A conjugated vaccine: Hemophilus influenza B vaccine
13. Typhoid conjugate vaccine is usually administered in children at the age of

2 years

14. Hypotonic hyporesponsive episode occur with DPT Vaccine
15. Varicella vaccine is Live attenuated
16. Vaccine not to be frozen: Hepatitis B vaccine
17. IAP recommends:Two doses of varicella vaccine

Nutrition and Nutritional Disorders

Nutrition

PROTEIN ENERGY MALNUTRITION

1. Kwashiorkor is not associated with Fatty infiltration of the pancreas
2. Caloric supplementation required for a severely malnourished child is (per kg per day) in rehabilitation phase 175-200 kcal /day
3. Not a characteristic feature of kwashiorkor: Alertness
4. Nutrition in community is not assessed by Hb < 11.5 gm % in 3rd trimester pregnancy
5. Most important marker for both acute and chronic malnutrition Weight for age
6. Best indicator for nutritional status for a child is Rate of increase of height and weight
7. Acute malnutrition is manifested by Weight for height
8. Best indicator of long term nutritional status Height for age
9. According to IAP: Grade I malnutrition 71-80 % (Weight for age), Grade II 61-70%, Grade III: 51-60, Grade IV: < 50%
10. False about Gomez classification Based on height retardation (it is based on weight for age)
11. Kwashiorkor is diagnosed in growth retarded children Edema and mental changes
12. Not seen in marasmus: Hepatomegaly Anorexia
13. Not seen in kwashiorkordncreased albumin
14. True regarding kwashiorkor:fatty liver, edema, bitot spot, Flaky paint appearance
15. MUAC is an age independent index to diagnose undernutrition

16. Body change seen in PEM:BMR and synthesis of protein reduces, total body water increases.

Breast Feeding

BREAST MILK, COW MILK AND NUTRITION

1. Exclusive breastfeeding should be done till at least 6 months
2. An exclusively breastfed child is not prone toEvening colic
3. In an infant with galactosemia, to be avoided Milk
4. The protective effect of breast milk is known to be associated with IgA antibodies
5. The important fatty acid present in breast milk which is important for growth is Docosahexaenoic acid
6. Percentage of lactose in human milk is 7 gm
7. Compared with cow's milk, mother's milk has more Lactose
8. Breast milk storage in a refrigerator up to 24 hrs
9. Breast milk storage at room temperature up to 8 hrs

Vitamin Deficiency Disorders

VITAMIN DEFICIENCY DISORDERS

1. Inheritance of vitamin D resistance rickets is X-link dominant
2. Inheritance of vitamin D dependent rickets is Autosomal recessive
3. True regarding nutritional rickets isDecreased calcification of growing bone
4. Basic pathology in rickets Defect in mineralization
5. Windswept deformity is seen in Rickets
6. Pseudoparalysis is seen in deficiency of Vitamin C
7. If vitamin A is given pregnancy in the first 6 weeks, it can lead to Craniofacial malformation in the fetus
8. Pellagra is due to deficiency of Nicotinamide
9. Thiamine deficiency causes Beriberi disease

10. A newborn exclusively fed with goat's milk will develop (compared to being fed with breast milk)Megaloblastic Anemia
11. Deficiency of vitamin C in infant is best estimated by Buffy coat estimation
12. Antiinfective vitamin is Vitamin A
13. Daily dose of vitamin A in a 6-12 months old child is 300 microgram
14. RDA of vitamin C in children is 40 mg/day
15. Vitamin deficiency which causes ataxia isVitamin E
16. Vitamin D is routinely supplemented in neonates in a dose of 400 IU daily till 1 year of age

Trace Elements

MINERAL DEFICIENCY (TRACE ELEMENTS)

1. Child with alopecia, psoriatic dermatitis in the genitals and mouth, and hypogonadism is suffering from Zinc deficiency
2. Selenium deficiency is seen in Keshan disease
3. Diarrhea in a child of 12 months, dose of zinc is 20 mg /day for 14 days
4. Deficiency of element can lead to syndrome of growth failure, anemia and hypogonadism Zinc

Common Pediatric Infections

Viral Infections

COMMON CHILDHOOD VIRAL INFECTIONS

1. Incubation period in Measles is 7-10 days
2. Most common complication of chickenpox:Secondary bacterial infection
3. In children most common complication of measles is ASOM
4. Fever stops and rash begins is diagnostic of Roseola infantum
5. The clinical sign in measles which appears last is Rash
6. Not true about Erythema infectiosum: Very high grade fever
7. Not true about Chickenpox (Varicella Zoster): Crust/scabs are infective
8. Common complication of mumps in children is Aseptic meningitis
9. Not true regarding measles: Prodromal stage is not infectious

10. Post-measles bronchopneumonia is treated with Antibiotics and oxygen, most common organism causing pneumonia in post measles state is Staphylococcus aureus
11. Most common complication of mumps is Meningoencephalitis
12. Forchheimer spots are seen in Rubella

Bacterial Infections

A. PERTUSSIS

1. Complication of pertussis: pneumonia , sub conjunctival hemorrhage , convulsions. Cerebellar ataxia is not a complication.
2. Method for diagnosing whooping cough Nasopharyngeal swab
3. Incubation period of pertussis is 7-10 days
4. Antibodies to one of the following infection is not transmitted to child Pertussis
5. The antibiotic of choice of pertussis is Erythromycin.

B. DIPHTHERIA

1. 'Bull neck' in diphtheria is due to Cervical lymphadenopathy
2. Myocarditis occurs in 2nd week,Diphtheric polyneuropathy occurs in 4th week
3. The most common ophthalmic affection of diphtheria is Isolated ocular palsies
4. Commonest complication is respiratory failure due to obstruction of airways by the membrane.

C. TYPHOID

1. True regarding typhoid in children: Mild splenomegaly is usual
2. Rose spots are seen inTyphoid
3. Cefixime is the drug of choice for uncomplicated enteric fever

HIV

1. Not a method for the diagnosis of HIV infection in a 2 month old child
   HIVis ELISA
2. True about lymphocytic interstitial pneumonitis (LIP) isMay be associated with hepatosplenomegaly, Clubbing is seen in advanced diseases
3. Test not used in children below 18 months to diagnose a case of HIVis IgG antibody test
4. ART given to prevent maternal to child HIV transmission is Nevirapine
5. Most common in childhood AIDS: Recurrent chest infection with typical organisms
6. Most common cause of HIV infection in infant is Perinatal transmission (Vertical transmission)
7. Not effective in preventing mother to child transmission of HIV: Vaginal cleansing before delivery
8. Percentage risk of HIV infection in child of a HIV +ve mother is 20-30%.
9. Not a feature of HIV infection in childhood Kaposi sarcoma
10. HIV in children, characteristic finding is Recurrent chest infection
11. Not true regarding HIV transmission to fetus>50% risk of transmission to fetus

Tuberculosis

1. Tuberculosis can present with prolonged fever and non-remitting cough of more than 2 weeks duration; fatigue and weight loss can be co-associated
2. Many children (almost up to 50%) with tuberculosis may be asymptomatic in early stages of the disease
3. The age between 5-10 years is associated with < 2% risk of TB infection progressing to disease (Safe school years)
4. Children with TB usually have pauci bacillary disease
5. Pulmonary tuberculosis involves 60-80% of total tuberculosis cases
6. MC extrapulmonary tuberculosis in children - tubercular lymphadenitis
7. CNS tuberculosis is the most serious form of extra-pulmonary tuberculosis
8. The standard tuberculin test performed for tuberculosis is the Mantoux

test

9. For Mantoux test in children, important to raise a wheal of about 6 mm after the injection (intra-dermal)
10. Mantoux test is read 48-72 hours after the injection
11. Mantoux's test is positive if the induration is 10 mm or more (using a 1TU PPD RT23)
12. Ziehl-Neelsen stain can reveal AFB only if sample contains >10,000 bacilli per mL
13. Dosage of INH in children 5-10 mg/kg/day; rifampicin 10 mg/kg/day; pyrazinamide 30-35 mg/kg/day; ethambutol 20 mg/kg/day; and streptomycin 15-20 mg/kg/day

Electrolyte Disturbance

Sod s« m

POTASSIUM

1. A cause of hyperkalemia: RTA type IV
2. Hyperkalemia without ECG changes; not used in the treatment:Soda Bicarbonate
3. Pseudo hyperkalemia is seen inLeukemia
4. A cause of hypokalemia: Vitamin B12 therapy

SODIUM

1. Not seen in SIADH: Volume depletion
2. Osmotic demyelination syndrome occurs in treatment of SIADH (rapid correction of hyponatremia)
3. Hyponatremia occurs most commonly with Small cell lung carcinoma cancer.
4. Feature of SIADH: Convulsion
5. True about SIADH: vaptans used, serum sodium 125mg/dl can be seen, water loading test done to diagnose.
6. Pseudohyponatremia occurs in Hyperlipidemia
7. Drug used in treatment of cerebral salt wasting syndrome isFludrocortisone

Acid - Base Disturbance

1. Metabolic alkalosis is seen in Mineralocorticoid excess.
2. Normal blood ph is 7.4
3. Diagnostic features of metabolic acidosis is low bicarbonate
4. Diagnostic features of metabolic alkalosis is high bicarbonate
5. Diagnostic features of respiratory alkalosis is low CO_2
6. Diagnostic features of respiratory acidosis is high CO_2

Cardiovascular System

GENERAL CARDIOLOGY

1. Slow rising pulse is seen in AS
2. Pulsus alternans occurs in CHF
3. Pulses bigeminus is seen with Digoxin therapy
4. Dicrotic pulse is seen in Dilated cardiomyopathy
5. Pulsus paradoxus not seen in IPPV
6. Water hammer pulse is seen in Aortic regurgitation
7. Pulsus bisferiens is best felt in Radial artery

Jugular Venous Pulse (JVP)

1. 'C' wave in JVP is due to Tricuspid valve bulging into right atrium
2. In the JVP, 'A' waves are absent in Atrial fibrillation
3. Typical finding in cardiac tamponade Absent 'Y' descent
4. "A" wave in JVP is absent in Hyperkalemia

Heart Sounds

1. Loud SI in mitral stenosis is caused by Prolonged flow through mitral valve
2. Wide split S2 occurs in ASD
3. True about fourth heart sound (S4) Heard during ventricular filling phase
4. True regarding opening snap: It is a high-pitched diastolic sound

Heart Murmur

1. An early systolic murmur not caused by Papillary muscle dysfunction
2. Ejection systolic murmur AS
3. Late systolic murmur MVP
4. Early diastolic murmur AR
5. Late diastolic murmur Atrial myxoma
6. False in relation to Carey Coombs Murmur Associated with AR
7. Continuous murmur not heard in Mitral stenosis with mitral regurgitation
8. Murmur which increases with Valsalva isHypertrophic cardiomyopathy

Acute Rheumatic fever

RHEUMATIC FEVER AND RHD

1. False regarding rheumatic heart disease in India :Aortic valve is most commonly involved (Most commonly involved valve is Mitral valve)
2. Not true about rheumatic fever Communicable disease
3. Not a major criteria for Rheumatic heart disease: Raised ASLO titers
4. True about Rheumatic carditis :Pancarditis
5. False about Carey Coombs' murmur: Can be associated with AR
6. True about Rheumatic fever: Chorea is aggravated during pregnancy
7. Earliest valvular lesion in a case of acute rheumatic fever is Mitral regurgitation (MR)
8. Steroids are given in rheumatic fever when there is Carditis
9. In a patient of rheumatic carditis steroids are given for 12 weeks
10. Not a major criterion of Jones in Rheumatic fever: Elevated ESR
11. Carey Coombs' murmur is heard in Acute rheumatic carditis (MR)
12. Arthritis in rheumatic fever characteristically shows rapid response to salicylates

Fetal Circulation

FETAL CIRCULATION

1. Functional closure of ductus arteriosus occursWithin 24 hrs of birth
2. Oxygenated blood to the fetus is carried by Umbilical vein
3. Anatomical closure of ductus arteriosus occurs atlOthdayafterbirth
4. The umbilical vein later formsLigamentum teres
5. The ductus venosus later formsLigamentumvenosum

Congenital Heart Disease

CONGENITAL HEART DISEASES

1. True about ASDSystolic murmur due to rapid flow of blood due to rapid flow of blood across pulmonary valve.
2. True about coarctation of the aorta : Most common site is distal to the origin of the left subclavian artery
3. Not true about tricuspid atresia : Right axis deviation (It is characterized by left axis deviation on ECG and left ventricle hypertrophy)
4. True regarding patent ductus arteriosus: May cause a machinery murmur due to its patency
5. Coarctation of aorta is common in: Turner syndrome
6. Left axis deviation with left ventricular hypertrophy not seen inTOF (right ventricular hypertrophy and RAD seen)
7. Rib notching is seen inCoarctation of aorta
8. Cyanosis with plethora is not seen in TOF
9. True regarding TOF Spells associated with hypoxia and cyanosis
10. Congenital heart disease, which causes death in the first week of life isHypoplastic left ventricle syndrome
11. Emergency treatment of TGVBalloon atrial : Septostomy
12. Pott's shunt is Connection between descending aorta to left pulmonary artery
13. Condition which worsens with prolonged infusion of prostaglandin E:

Obstructed TAPVC

14. Ductus-dependent flow is not required in Persistent truncus arteriosus
15. Most commonly associated cardiac anomaly with coarctation of aorta: Bicuspid aortic valve
16. Pentalogy of Fallot TOF + ASD
17. Neonate with PDA will not have CO_2 wash out (as apnea occurs in them which causes CO2 retention)
18. Not an essential component of TOF : Valvular pulmonic stenosis
19. Infective endocarditis is least common with Atrial Septal Defect
20. Ebstein's anomaly is seen with intake of Lithium
21. NADA's criteria are used for Assessment of child for presence of heart disease
22. Plethoric lung field is seen in VSD
23. Commonest congenital heart disease is VSD
24. Commonest cyanotic heart disease manifesting as congestive cardiac failure during first week of life is :Hypoplastic left heart syndrome
25. Digeorge Syndrome associated with TOF, TGA, truncus arteriosus
26. Commonest Type of TAPVC : Supra cardiac TAPVC
27. Egg on side appearance on CXR TGA
28. Coeur-en- Sabot appearance on chest X ray : TOF
29. Snowman appearance on Chest X ray: TAPVC
30. WPW syndrome associated with CHD Ebstein's Anomaly

Congestive Cardiac Failure

HEART FAILURE

1. In X-ray ''batwing appearance'' or (butterfly pulmonary opacities) seen in Cardiogenic pulmonary edema
2. In an infant congestive cardiac failure is diagnosed byLiverenlargement
3. Commonest cause of heart failure in infancy is Congenital heart disease
4. Not a characteristic of right sided heart failure :Pulmonary edema
5. The treatment of choice for a case of congestive failure with hypertension is ACE inhibitors

Hypertension - Management

HYPERTENSION

1. Secondary hypertension in children is most commonly caused by Renal disease
2. Most common cause of systemic hypertension in children isAcuteglomerulonephritis
3. Sustained severe hypertension in children is most commonly suggestive of Renal parenchymatous disease

Kawasaki Disease

KAWASAKI DISEASE

1. In Kawasaki disease, coronary artery aneurysms seen in 25% of patients
2. It is the most common cause of acquired heart disease in developed countries

Respiratory System

GENERAL EXAMINATION FINDINGS RESPIRATORY DISORDERS

1. Not a cause of hemoptysis : LTB (Hemoptysis may be seen I tuberculosis)
2. Not a cause of clubbing: Pneumonia (Clubbing is seen in bronchiectasis)
3. Not a cause of wheezing LTB (LTB predominantly associated with stridor) (Wheezing is present in asthma)
4. Not a cause of bronchial breathing: LTB (Bronchial breathing is seen in Pneumonia, consolidation)
5. Mediastinal position in centre in: pneumonia, bronchiectasis, emphysema.
6. Tactile vocal Fremitus decreased inPleural effusion, pneumothorax, emphysema but not in cavity's.

Diseases of Upper Respiratory Tract

A. LARYNGOMALACIA

1. Most common cause of stridor in infant and young children Laryngomalacia

B. CROUP AND EPIGLOTTITIS

1. Etiological agent most often associated with epiglottitis in children S. pneumonia
2. True about upper airways of neonate Epiglottis is big & omega shaped
3. Steeple sign on X Ray is suggestive of LTB
4. Cherry red epiglottis - Epiglottitis
5. Not used in treatment of Croup: Antibiotics (Dexamethasone and Epinephrine nebulization is used)

C. COMMON COLD and LTB

1. MC agent of common cold is Rhinoviruses
2. MC agent of LTB is Parainfluenza virus

Bronchiolitis Obliterans

BRONCHIOLITIS AND BRONCHIOLITIS OBLITERANS

1. Most common etiological agent for acute bronchiolitis in infancy is Respiratory syncytial virus
2. Treatment of choice in bronchiolitis in immunodeficient children, or associated with congenital heart disease and chronic lung disease Ribavirin
3. Aerosolized ribavirin is used in the treatment of bronchiolitis with RSV
4. Pulmonary Function test in Bronchiolitis obliterans shows Obstructive Pattern

Pneumonia

PNEUMONIA

1. The commonest cause of bacterial pneumonia in children is Streptococcus pneumoniae
2. Giant cell (Hecht's) pneumonia is due toMeasles
3. Pneumatocele is caused byStaphylococcus
4. Pneumothorax could be a complication of Staphylococcal aureus
5. The commonest organism causing empyema in a child under 2 years is Staphylococcus
6. The drug of choice in Mycoplasma pneumonia in Erythromycin
7. Lung abscess in children caused by Pneumococcus, staphylococcus, Klebsiella.
8. In an infant with aspiration pneumonitis, the most common lung segment to be involved is Right apical
9. Most important cause of nosocomial pneumonia :Gram negative Enterobacteria
10. Tubular breathing (Bronchial breathing) is heard in Consolidation
11. Not a sign of lobar pneumonia : Reduced vocal fremitus
12. Clinical pulmonary infection score is not based on ESR
13. Clinical Pulmonary Infection Score for Ventilator-Associated Pneumonia(Temperature, blood leukocytes, oxygenation, pulmonary radiography, tracheal secretions, culture of tracheal aspirate)
14. Cavitatory lesions in lungs are seen in Staph, aureus infection
15. Chocolate color sputum is seen in Klebsiella infection
16. Hemolytic anemia is seen in Mycoplasma pneumonitis
17. Not true for the treatment of Pneumocystis carinii :Fluoroquinolones (DOC is Cotrimaxole)
18. Not seen in the viral pneumonia: Predominance of alveolar exudates
19. Commonest sign of aspiration pneumonitis: Tachypnea
20. Atypical pneumonia are sometimes also referred to as "walking pneumonias"

Bronchial Asthma

ASTHMA

1. feature of childhood asthma:H/O atopic dermatitis , improves with age, absence of wheezing after exercise.
2. Characteristic sign of asthma: Wheezing
3. Not seen in asthma :Clubbing
4. Most common mode of treatment of a 1-year-old child with asthma islnhaled short acting beta 2 agonist
5. In a child with exercise-induced asthma: Treatment with beta 2 agonist
6. Treatment of choice for bronchial asthma in a one year old child is Inhaled beta 2 agonists
7. Not used in acute attack of asthma in a 4 year old child: Sedatives
8. Bronchial asthma is best diagnosed byDemonstration of reversible airway obstruction
9. Not true about asthma : Small airways are not involved
10. The most predictive and dangerous side effect of propranolol that necessitates its avoidance in known patients of COPD is induction of Acute asthmatic attack
11. Not a important symptom of asthma: Expectoration (cough predominantly dry)
12. A drug is to be delivered by a nebulizer. The size of a droplet for its humidification is< 5p.
13. Indication of the most severe attack of bronchial asthma: Bradycardia, unable to speak in sentences
14. Not used for treatment of a patient with acute bronchial asthma: Montelukast
15. Not to be given in a case of acute severe asthma: Sedatives

Bronchiectasis

BRONCHIECTASIS

1. False regarding bronchiectasis: Restrictive pattern on spirometry
2. Investigation of choice in bronchiectasis: HRCT chest
3. Not true about Kartagener's syndrome: Mental retardation (Features of

Kartagener's syndrome is: Situs inversus, chronic sinusitis and bronchiectasis)

4. Bronchiectasis is most common in Left lower lobe
5. complication of bronchiectasis: lung abscess, amyloidosis, empyema.

Cystic Fibrosis

CYSTIC FIBROSIS

1. Infants with cystic fibrosis (CF) are likely to develop Meconium ileus
2. Not true about cystic fibrosis (CF): Abnormality in CFTR which leads to defective calcium transport
3. Most common organism associated with cystic fibrosisPseudomonas aeruginosa (non-mucoid)
4. A feature of cystic fibrosis Lung-.Normal at birth
5. Mucoviscidosis is most commonly related to Fibrocystic diseases of pancreas

Pulmonary Alveolar Proteinosis

PULMONARY ALVEOLAR PROTEINIOSIS

1. X-ray picture of pulmonary alveolar proteinosis has been described as Ground glass appearance

Hematology

Hemoglobin

1. Fetal hemoglobin equals adult hemoglobin at 2 months
2. Adult hemoglobin switch over occurs at 30 wks gestation
3. At 4 weeks of gestation, predominant hemoglobin is Gower Hb
4. Predominant hemoglobin at 12 month of life is HbA

Anemia

1. Most appropriate drug used for chelation therapy in beta thalassemia major is Oral deferiprone
2. Microcytic hypochromic anemia is not seen inFanconi Anemia ,
3. Not a feature of thalassemia major Decreased serum iron
4. Most common cause of aplastic anemia is Idiopathic
5. Autohemolysis test is positive in Sickle cell disease
6. A 5 year-old child has anemia of long duration, investigation to be done is Peripheral smear
7. Types of microcytic hypochromic anemia are Thalassemia , Iron deficiency anemia
8. Elevated serum ferritin, serum iron and percent transferrin saturation are most consistent with the diagnosis of Hemochromatosis
9. Spherocytes are seen in Autoimmune hemolysis
10. Fragmented RBCs are seen in Hemolytic Uremic Syndrome
11. Howell-Jolly bodies are seen in Post splenectomy state
12. Hb level at birth is20 gm%
13. Not a feature of anemia: Diastolicmurmur

Iron deficiency anemia (IDA)

1. Iron absorption not increased in Alkaline pH of stomach
2. Not a cause of iron deficiency anemia: Chronic renal failure
3. Diagnostic of iron deficiency anemia: Increased TIBC, decreased serum ferritin, increased Red cell distribution width
4. The earliest sign of iron deficiency anemia: Decrease in serum ferritin level
5. True about iron deficiency anemia: Bone marrow iron is decreased earlier than serum iron
6. Most sensitive and specific test for diagnosis of iron deficiency is Serum ferritin levels
7. Not seen in Iron deficiency anemia :Hypersegmented neutrophils
8. RDW increase in Iron deficiency Anemia

Macrocytic Anemia

1. Macrocytic anemia not seen in Copper deficiency
2. Megaloblastic anemia in blind loop syndrome is due to Bacterial

overgrowth

3. Type of anemia caused by lleocaecale TB: Megaloblastic
4. Deficiency of the 'intrinsic factor of Castle' causesPernicious anemia
5. True about blood finding in pernicious anemia: MCH high & MCHC normal
6. Electrolyte imbalance which can occur in the treatment of pernicious anemia is Hypokalemia
7. Megaloblastic anemia due to folic acid deficiency is commonly due to Inadequate dietary intake
8. Folate deficiency occurs inCeliacdisease
9. Megaloblastic anemia should be treated with both folic acid and vitamin B1? because Folic acid alone causes improvement of hematologic symptoms but worsening of neurological symptoms
10. Vitamin deficiency which leads to lactic acidosis isThiamine

Aplastic Anemia

1. example of conditions causing aplastic anemia: PNH, non A, Hepatitis(non-A non-B non-C), pregnancy, chloramphenicol, HIV-I
2. Pancytopenia with cellular marrow is seen in PNH acquired aplastic anaemia, thalassemia.
3. Pancytopenia with cellular marrow is not seen in G6PD Deficiency
4. Not true about aplastic anemia : Splenomegaly
5. Wrong statement regarding Fanconi anaemia: Autosome Dominant

Anaemia of Chronic Diseases

1. Not true regarding anemia of chronic diseases: Decreased Ferritin
2. Seen in chronic inflammatory anemia is : Serum iron 4- S. ferritin T and transferrin saturation
3. Not true about anemia of chronic diseases: HB level is usually in the range of 4 to 6 gram%
4. Transferrin saturation is Serum iron / TIBC X 100

Sideroblastic Anemias

1. Sideroblasticanemia is seen in Hypothyroidism
2. Sideroblasticanemia is cause by INH
3. Not present in Sideroblastic anemia isDecreased transferrin saturation

4. Treatment of sideroblastic anemia is Pyridoxine
5. True about Pearson syndrome :Congenitalsideroblastic anemia

HEMOLYTIC ANEMIA

1. Not a feature of hemolytic anemia : Bilirubin in urine
2. Not a feature of hemolytic anemia : Thrombocytopenia
3. Not a cause intravascular hemolysis: Thalassemia
4. Reticulocytosis is not seen in Thalassemia (LQ. 205)
5. Warm autoimmune hemolytic anemia not seen in Mycoplasma pneumonia
6. Cold hemolysis is associated with Donath Landsteiner antibody
7. Autoimmune hemolytic anemia is seen in CLL
8. Autoimmune hemolytic anemia is associated with malignancy ofB cell lineage.
9. Coombs' +ve hemolytic anemia is not seen in Alcoholic cirrhosis
10. Coombs positive hemolytic anemia associated with SLE
11. Low serum haptoglobin in hemolysis masked by Burns
12. Not a cause of inherited hemolysis PNH
13. Spur cell anemia is seen in Alcoholic liver disease

Hereditary Spherocytosis

1. Not a cause of hereditary spherocytosis: Glycophorin C
2. Not a feature of hereditary spherocytosis: TMCV
3. Osmotic fragility is increased in Hereditary spherocytosis
4. Decreased osmotic fragility is seen in Thalassemia
5. Aplastic anemia in hereditary spherocytosis precipitated by Parvo virus
6. Splenectomy is useful in Hereditary spherocytosis

PNH

1. A stem cell disorder affecting all the three cell line platelets, RBCs and leucocytes is Paroxysmal nocturnal hemoglobinemia
2. Not seen in PNH: Decreased LDH
3. HAM test is based uponAcidicmedium
4. Not true about PNH: Hypocellular marrow
5. Not true regarding PNH : Increased leukocyte alkaline phosphatase
6. Not associated with PNH: Massive splenomegaly

7. Gold standard to diagnose a case of PNH Flow cytometry
8. Most common cause of death in PNH is Venous thrombosis
9. Treatment of PNH isEculizumab

Sickle Cell Anemia

1. Primary defect which leads to sickle cell anemia is Replacement of glutamate by valine in B-chain of HbA
2. Sickle cell trait patient do not have manifestations as that of Sickle cell disease because HbS is less than 50% & HbA has low affinity for HbS
3. Not seen in a chronic case of Sickle cell anemia: Splenomegaly
4. Commonest acute presentation of sickle cell anemia is Bone pain
5. Not true about sickle cell disease: Patient presents early in life before 6 months of age
6. Not seen on hemoglobin electrophoresis in sickle cell anemia : HbF
7. Crew haircut appearance in X-rays skull and Gandy gamma bodies are seen in Sickle cell anemia
8. Not true for sickle cell anemia: Leukopenia
9. Sickle cell trait is protective against Plasmodium
10. Affected children have increased susceptibility to encapsulated organisms and Salmonella.

Thalassemia

1. In Beta thalassemia, there is Decrease in beta chain, increase in alpha chain
2. The most common mutations in Beta thalassemia involves lntron-1
3. Not true about (3 thalassemia trait: Patient requires blood transfusion
4. True about a-thalassemia trait: Microcytosis
5. HbA2 levels are not increased inBeta Thalassemia
6. HbH is characterized by Deletion of Three alpha chain genes
7. Cause of alpha thalassemia:Deletion of alpha genes
8. Diagnosis of beta thalassemia is best established by Hb electrophoresis
9. NESTROFT test used as screening test in Beta thalassemia
10. Hair on end appearance in X-rays skull is seen in Thalassemia
11. Iron overload occur inmelodysplasticsyndrome not occur in polycythemia vera.
12. True about thalassemia: Ineffective erythropoiesis and hemolysis

G6PD Deficiency

1. Hemolysis in G6PD is not caused by Pyrimethamine and Estrogen

Bone marrow transplantation (BMT)

1. Earliest infection to occur in bone marrow transplant (BMT): Herpes simplex
2. After BMT interstitial pneumonitis occurs at Seven week

Porphyria

1. Hepatitis C is associated withPorphyriaCutanea tarda
2. Hepatoma is associated withPorphyriaCutanea tarda

Bleeding Disorders

1. Converging point of both pathways in coagulation is at Stuart factor X
2. Can present with isolated prolongation of prothrombin time: Factor VII deficiency
3. Platelet function may be assessed by Platelet Adhesion Assays
4. A patient on aspirin will haveProlonged BT
5. Feature of hemorrhagic disease of new born is Prolonged prothrombin time
6. Most likely to be increased in Vit. K deficiency PT
7. False regarding childhood ITP isDecreased bone marrow megakaryocytes
8. Not a cause of neonatal thrombocytopenia : Glanzmann thrombasthenia
9. Inheritance of Von Wile brand disease is AD

Platelet Disorders

1. A finding in functional defect in platelets: Normal platelet counts and prolonged Bleeding time
2. Wiskott Aldrich syndrome is characterized by thrombocytopenia, eczema, immunodeficiency.
3. The presence of small sized platelets on the peripheral smear is characteristic ofWiskott Aldrich syndrome.Other characteristic features are eczema and thrombocytopenia
4. Not true regarding Bernard Soulier syndrome :Ristocetin aggregation is normal

5. Thrombocytopenia is not seen in H.S. purpura
6. Does not cause megakaryocytic thrombocytopenia : Aplastic anemia
7. Cause of ITP is Antibody to platelets
8. Idiopathic thrombocytopenic purpura is not associated with Splenomegaly
9. Not a feature about Idiopathic Thrombocytopenia: Spontaneous remission is common in Chronic ITP
10. Laboratory determinants abnormally prolonged in ITP : Bleeding time
11. Platelet transfusion is not indicated in Immunogenic Thrombocytopenia
12. Wiskott Aldrich Syndrome does not include Fever
13. True about ITP : BT increase and CT normal
14. Giant platelets are feature of Bernard Soulier syndrome

HUS & TTP

1. Not a cause of fragmented RBC in peripheral blood: HemophiliaA
2. differential diagnosis of micro-angiopathic anemia :TTP, microscopicpolyangitis, antiphospholipidsyndrome.
3. seen in thrombotic thrombocytopenic purpura: Fever, hemolysis, low platelet. Hypertension not seen.
4. Not true about Hemolytic Uremic syndrome: Positive coomb's test

Hemophilia

1. Not true about Hemophilia A: PT and BT increases.
2. Not true about Von Willebrand's disease : Increased platelet aggregation in response to Ristocetin
3. Best assay for deficiency of von Willebrand factor is BT + APTT + vWF ristocetin factor assay
4. The commonest mode of inheritance of Von Willebrand's disease Autosomal dominant
5. Feature which can be used to differentiate hemophilia A from von Willebrand disease is Bleeding time
6. In a case of hemophilia spontaneous bleeding occur when factor VIII level is below 1%

*

Disseminated intravascular Coagulation (DIC)

1. DIC is commonly seen in M3 AML
2. The most sensitive test for DIC is Serum levels of fibrin degradation products (FDP)
3. Finding seen in DIC : Increased FDP, prolonged PT, reduced Platelets
4. Disseminated intravascular coagulation (DIC) differs from thrombotic thrombocytopenic purpura. In this reference the DIC is most likely characterized by Decreased coagulation factor levels
5. Test normal in DIC : Clot retraction time

Hypercoagulable States

1. Not a hypercoagulable state : Factor V Leiden deficiency
2. Hypercoagulability due to defective factor V gene is called Leiden mutation
3. Most common inherited thrombotic disorder is Factor V Leiden mutation
4. Thrombotic event is not seen in Heparin induced thrombocytopenia
5. A female with recurrent abortions, pain in calves, It is most likely due to deficiency of Protein C

Blood Transfusion

1. Cryoprecipitate does not contain Factor IX
2. MC blood transfusion reaction isFebrile nonhemolytic transfusion reaction

3. True about Blood transfusions : Antigen 'D' determines Rh positivity
4. Infection not transmitted by blood transfusion : Dengue

Malignancies

Leukemias

1. Not a good prognostic factor for ALL t (9, 22) (8,14)
2. Leukemia in which chloroma is seen isAML
3. Leukemoid reaction is seen in Acute infection
4. ALL is associated with Fanconi anemia
5. Most common type of ALL is LI

6. Not a poor prognostic factor for a case of ALL : Age between 1 to 10 years
7. AML strongly associated with Down syndrome M7
8. Parameter not used in considering complete remission: Hb
9. Juvenile CML occur most commonly in< 4 years
10. Most of the ALLs have B-cell origin
11. Commonest site of extramedullary relapse of ALL: CNS

Wilms Tumor

1. 80% of patients with Wilms' tumor presents under 5 years of age, peak age is 2-3 years
2. Wilms' Tumor is most commonly associated withChromosome 11
3. Most common clinical feature of Wilms' tumor is Asymptomatic abdominal mass
4. Not associated with Wilms' tumor: Polycystic kidney
5. Wilms' tumor commonly metastasis toLung
6. The most important determinant of prognosis in Wilms' tumor: Histology

Neuroblastoma

1. Is the most common intra- abdominal and extracranial solid tumor in children
2. The most common presentation of neuroblastoma in children is Lytic lesion in the skull with suture diathesis
3. False regarding neuroblastoma : Massive splenomegaly
4. One-year-old child presenting with abdominal mass and calcification on X-rays is suggestive ofNeuroblastoma
5. Neuroblastoma in children is not characterized by Cafe au lait spots
6. Not used in the prognostication of neuroblastoma : VMA
7. The most common malignant neoplasm of infancy is Neuroblastoma
8. A 1-year-old child presented with a swelling in the left flank with episodes of flushing, diarrhea, sweating and bone pain. The diagnosis is Neuroblastoma
9. A malignant tumor of childhood that metastasizes to bones most often is Neuroblastoma
10. Not true about neuroblastoma : Lung metastasis is common
11. 'Good[1] outcome in neuroblastoma associated with Diploidy

12. Two paraneoplastic syndromes associated: opsoclonus- myoclonus and VIP secretion by the tumor

Retinoblastoma

1. Retinoblastoma is bilateral in 30 % of cases
2. Most common inheritable tumor in childhood: Retinoblastoma
3. Retinoblastoma gene is located on Chromosome 13
4. Inheritance of retinoblastoma is Autosomal dominant
5. Most common secondary malignancy associated with retinoblastoma: Osteosarcoma

Histiocytosis X

1. Most common site of childhood rhabdomyosarcoma is Head and neck
2. Histiocytosis X is not seen in Torres syndrome
3. A child presented in the OPD with multiple permeating lesions involving all the bones of the body. Most probable diagnosis Histiocytosis X
4. Drug used for the treatment of refractory histiocytosis :Cladribine
5. Not true about Langerhans 'Histiocytosis: Testis is commonly involved

Gastrointestinal System

Some Important GIT Symptoms in children

1. Not a cause of macroglossia: Pompe's Disease

Diseases of GIT

HYPERTROPHIC PYLORIC STENOSIS

1. Robust male baby with recurrent vomiting immediately after feeds at 2 months of age; diagnosis is Congenital HPS
2. 3 month infant with abdominal palpable mass & non bilious vomiting: Hypertrophic pyloric stenosis
3. Not a characteristic feature of infantile pyloric stenosis: Vomiting at birth
4. Most common biochemical abnormality in congenital hypertrophic pyloric stenosis : Hypokalemic metabolic alkalosis

DUODENAL ATRESIA

1. Most common cause of acute intestinal obstruction in neonates is Duodenal atresia

INTUSSUSCEPTION

1. Commonest cause of intestinal obstruction in children is : Intussusception
2. Infant with blood in stools and mass in abdomen, diagnosis is Intussusception

HIRSCHSPRUNG DISEASE

1. Failure to pass meconium within 48 hrs of birth in a newborn with no obvious external abnormality should lead to suspicion ofCongenitalaganglionosis
2. Hirschsprung's disease is most commonly associated with Down syndrome
3. Aganglionic segment in Hirschsprung's disease is encountered in the following part of colon Distal to dilated segment
4. A male infant presented with distension of abdomen shortly after birth with passing of less meconium. Subsequently a full-thickness biopsy of the rectum was performed. The rectal biopsy is likely to show Lack of ganglion cells
5. Hirschsprung disease is confirmed by Rectal biopsy

Diarrhea

1. The most common bacterial cause for diarrhea in children in India is Enterotoxigenic E. coli (ETEC)
2. The most common cause of diarrhea in children is Rotavirus
3. Secondary lactose intolerance is seen most commonly withRotavirus diarrhea
4. The mechanism of diarrhea in giardiasis is prevention of absorption of fat by Mechanical coating of the walls of intestine.
5. In ORS the function of glucose is to Increase Na+ absorption by cotransport
6. Intractable diarrhea in children is caused by cystic fibrosis, secreting tumour, milk allergy, not by giardiasis.

7. Profuse watery diarrhea in an immunocompromised child is due toGiardia
8. Persistent diarrhea is defined as diarrhea more than 14 days
9. False regarding osmotic diarrhea No effect of fasting
10. True regarding chronic diarrhea Diarrhea more than 28 days
11. Osmolarity of WHO ORS is 245 mOsm/L
12. False regarding secretary diarrhea: Stops with fasting
13. Dose of Zinc in a child > 6 months with acute watery diarrhea: 20 mg OD for 14 days

Malabsorption Syndrome

1. In children, increased fecal fat excretion and increased fecal nitrogen is seen in Pancreatic insufficiency
2. First clinical manifestation of abetalipoproteinemia is Steatorrhea
3. Best intestinal absorption test: Quantitative stool fat estimation
4. Lactose intolerance in a suspected patient is diagnosed by giving an oral load and measuring concentrations of H2
5. One of the intestinal enzymes that is generally deficient in children following an attack of severe infectious enteritis is Lactase
6. Characteristic feature of lactase deficiency is Acidity of stools
7. Gluten-sensitive enteropathy is most strongly associated with HLA-DQ2
8. Need not be avoided in patients with celiac disease : Maize
9. Not a histological feature of celiac disease : Increase in thickness of the mucosa
10. Most specific finding in pediatric age with nutritional/ malabsorption stateAbetalipoproteinemia

Diseases of Liver & Biliary tree

1. The most common cause of portal hypertension in children is Extrahepatic compression
2. Portal hypertension in children in India is commonly due toExtrahepatic portal venous obstruction
3. A 12 year old boy presents with hematemesis, melena and mild splenomegaly. There is no obvious jaundice or ascites.The most likely diagnosis is EHPVO
4. Most common cause of severe hematemesis in a child is Portal

hypertension

5. Not seen in Indian childhood cirrhosis: Fatty change
6. In a child with acute liver failure, the most important prognostic factor for death is Gram -ve sepsis
7. A person vaccinated with hepatitis B will present with the following markers in the blood: Anti-HBS

NEONATAL CHOLESTATSIS

1. A neonate with jaundice passes clay white stools. Liver biopsy shows giant cells. The diagnosis is Neonatal hepatitis with extraciliary atresia

WILSON'S DISEASE AND REYE'S SYNDROME

1. A 12 year old girl with tremors and emotional lability has a golden brown dislocation of Descemet's membrane. The most likely diagnosis is Wilson disease
2. False regarding Reye's syndrome is Deep jaundice is present
3. False regarding Reye's syndrome Bilirubin of more than 3 gm%
4. Not a recognized feature of Wilson's disease: Increased ceruloplasmin

Renal System

Basic Nephrology

1. Hematuria is defined as >5 RBC/HPF in urine
2. DMSA is done for Renal parenchyma abnormalities
3. Dysmorphic RBCs in urine indicate Glomerular hematuria
4. Diagnostic of glomerular injury> 20% dysmorphic RBCs in urine
5. Bence-Jones protein mostly derived from Gamma chains
6. Creatinine clearance measures GFR
7. True statement about orthostatic proteinuria Is benign
8. In a child, non-functioning kidney is best diagnosed by DTPA renogram

Glomerulopathies

1. A 6-year-old has dysmorphic RBCs with gross hematuria for 2 years. C3 levels are normal. Most likely diagnosis is IgA nephropathy
2. The diagnosis in a case of nephritis, hematuria, and anti-GBM antibody in

the kidney is Goodpasture syndrome

3. True about poststreptococcal glomerulonephritis: Common during the summer season
4. Most common renal lesion in children isLipoid nephrosis
5. Not associated with low C_3levels: Goodpasture's Disease
6. Not true about IgA Nephropathy or Berger Nephropathy: Serum C3 levels are reduced
7. Not true about Post-streptococcal glomerulonephritis (PSGN) Hematuria 1-2 days after poststreptococcal pharyngitis

NEPHROTIC SYNDROME

1. Steroids are most useful in Minimal charige disease (nephrotic syndrome)
2. The essential feature in nephrotic syndrome isProteinuria
3. Usually not seen in a child with nephrotic syndrome: Uremia
4. treatment of steroid-resistant nephrotic syndrome are levamisole,cyclophosphamide, cyclosporine, not Methotrexate
5. Finnish type of nephrotic syndrome is associated withNephrine.
6. Gene involved in idiopathic SRNS : NPHS 2
7. Not decreased in nephrotic syndrome: Serum fibrinogen
8. Seen in nephrotic syndrome: Low serum calcium
9. Characteristic feature of nephrotic syndrome in children: Albumin in urine
10. Treatment to consider for steroid-dependent NS -Cyclophosphamide
11. Treatment to consider for steroid-resistant NS - Cyclosporine

Urinary Tract Infection

1. The treatment of choice for primary grade V vesicoureteral reflux involving both kidneys in a 6-month old boy is Antibiotic prophylaxis
2. Most common cause for UTI in children less than 5 years is E. coli
3. Important bacterial cause of recurrent UTIs - Pseudomonas
4. Most appropriate method for obtaining a urine specimen for culture in an 8-month old girl: Suprapubic aspiration

Renal Failure

ACUTE AND CHRONIC RENAL FAILURE

1. A patient presented with ARF with complete anuria, but a normal ultrasound. Next investigation is DTPA renogram
2. Hypokalemia in an infant is not due to ARF
3. Renal causes of acute renal failure in children include: Hemolytic uremic syndrome
4. The most common cause of Post-Operative ARF: Decreased renal perfusion
5. As per Rifle criteria, for acute kidney injury urine production <0.5 ml/kg for 12 hours indicates Injury
6. Fractional excretion of sodium <1 is seen inPrerenal azotemia
7. Prerenal and renal azotemia is differentiated on the basis of Sodium fraction excretion
8. Signs and symptoms of CKD appear when GFR goes down below 50%
9. The best initial test to know about CKD is GFR
10. In tubular necrosis, ratio of urine to plasma creatinine is< 20
11. Not seen in oliguric phase of Acute Tubular necrosis: Hypernatremia
12. An unlikely cause of acute tubular necrosis is Rupture of aortic aneurysm

Disorders of Renal Tubular Transport

1. False about Fanconi's syndrome/Proximal RTA/Type II RTA Is: acquired by glue-sniffing
2. Not a feature of renal tubular acidosis type I Fanconi syndrome
3. Type I RTA is not associated with? urinary citrate
4. Type II RT A is not associated with Decreased urinary citrate
5. Hyperkalemia occurs in Type IV RTA
6. Fanconi syndrome occurs in Type II RTA
7. Not a feature of Baxter's syndrome: Hypertension
8. Hypocalciuria occurs in Gitelman syndrome
9. Hyperkalemia occurs in Gordon syndrome

Hemolytic uremic syndrome

1. Not true about Hemolytic uremic syndrome (HUS): Coombs positive Hemolytic anemia
2. Shigella dysentery associated hemolytic uremic syndrome : Leucocytosis, neurological abnormalities, thrombotic angiopathyseen. Hepaticfailure not seen
3. True about HUS (Hemolytic Uremic Syndrome) : Recurrence is rare
4. Most common cause of hemolytic uremic syndrome :E.coli
5. Incorrect about hemolytic uremic syndrome : Always fatal
6. A child presented with diarrhea followed by development of rashes and petechiae. Most likely diagnosis is Shigella

Cystic Disease of Kidney

1. Most common cause of abdominal mass in neonates :Multicystic dysplastic kidneys
2. Most common renal cystic disease in infants : Unilateral renal dysplasia
3. Not true about infantile polycystic kidney disease : Autosomal dominant

Neurology

Congenital anomalies of the central nervous system

1. False about sacral meningomyelocele: Spasticity is a feature of the lower limbs
2. Not a neural tube defect: Holoprosencephaly
3. Neural tube defects occur due to failure of closure of neural tube at3-4 weeks of gestation
4. The most specific marker of neural tube defects is Acetylcholinesterase
5. False regarding myelomeningocele in children is Absent hydrocephalus
6. Recurrence risk in 2^{nd} pregnancy in meningomyelocele is 3-4%
7. Porencephaly refers to Vascular lesion due to degenerative vessel disease and head injury
8. Periconceptional folic acid supplementation with 4 mg folate supplementation 1 month before conception and through first trimester is recommended

MACROCEPHALY AND HYDROCEPHALUS

1. Most common cause of obstructive hydrocephalus in children is Congenital aqueductal stenosis
2. Macrocephaly is seen in Canavan's diseases

Seizures in childhood

1. Not used for absence seizures : Phenytoin
2. Most common type of seizures in neonates are Subtle
3. Not a feature of absence seizure: Postictal confusion
4. Initial drug of choice in status epilepticus in children : Diazepam
5. Treatment of choice in infantile spasm : ACTH
6. Not a characteristic feature of petit mal seizures :Onset after the age of 14 years
7. Feature of petit mal epilepsy in EEG is Spike and dome
8. False regarding febrile convulsions: Aspirin during spikes of fever
9. Convulsions in a child with dehydration and vomiting can be due to Decreased serum sodium
10. Drug of choice in temporal lobe epilepsy is Carbamazepine
11. Percentage of children with recurrence in febrile seizures 25-50%
12. Percentage risk of children with simple febrile seizures developing epilepsy is 1-2%

Neurocutaneous Syndromes

1. A child presented with impaired intelligence, infantile spasms and hypopigmented patches on the back. The most likely diagnosis is Tuberous sclerosis
2. Most common tumor associated with neurofibromatosis in a child Juvenile myelomonocytic leukemia
3. Most common tumor associated with type I neurofibromatosis Optic nerve glioma
4. A triad of seizure, mental retardation and sebaceous adenoma is seen in Tuberous sclerosis
5. Least important feature of Neurofibromatosis Lisch nodules
6. Neurofibromatosis type-ll is associated with Chromosome-22
7. CNS tumor seen in Von Hippel-Lindau syndrome is Hemangioblastoma
8. Not a feature of Sturge Weber syndrome : Empty sella

Brain Tumors in Children

1. An intracranial tumor with good prognosis in children isCerebellar astrocytoma
2. Not a posterior cranial fossa tumour: Oligodendroglioma
3. Craniospinal irradiation is useful in Medulloblastoma
4. In children suprasellar calcification suggestsCraniopharyngioma
5. Craniopharyngioma is most common located in Suprasellar region
6. True about brain tumors in children : Usually infratentorial
7. Not correct about cerebellar astrocytoma: More common in females than males
8. The most common intracranial tumor in children is Glioma
9. Most common posterior fossa tumor in children is Astrocytoma

Meningitis

1. The CSF findings in TB meningitis include CSF low sugar + high protein and lymphocytosis
2. The most common causative agent of meningitis in the age group 6 month - 3 years is S. pneumonia
3. Not a complication of tubercular meningitis: Parkinsonism
4. The most common agent associated with neonatal bacterial meningitis is Streptococcus agalactiae
5. Not a cause of meningitis in children 2 months to 12 years of age: Listeria monocytogenes
6. In India most common cause of intracerebral calcification in children is Tuberculoma
7. In meningitis subdural effusion is most commonly due thermophilus
8. Most common cause of meningitis in neonates in India Escherichia coli
9. Most common complication following meningococcal meningitis is Waterhouse-Fredrickson syndrome
10. Neonatal sepsis and meningitis is most commonly caused by Group B Streptococcus
11. Not a recognized sign and symptom of raised ICT in a 9-month-old infant: Papilledema
12. Common cause of viral meningoencephalitis in children is Enteroviruses
13. Pediatric age group - recurrent CSF leaks - organism which can cause

meningitisis Streptococcuspneumoniae

Muscular Disorders

1. False statement about Ataxia -telangiectasia :Decreasedalfa-fetoproteinlevels
2. False about Myotonicdystrophy: Autosomalrecessive
3. Not true about congenitalmyopathy: Z-bandmyopathy
4. Usually not associated with proximal muscleweakness: Myotonicdystrophy
5. Duchenne Muscular Dystrophy is a disease ofSarcolemmalproteins
6. Duchnne's muscular dystrophy X - linkedrecessive, Serum levels of creatine kinase are greatly elevated (> 10 times upper limit)
7. False about Duchenne muscular dystrophy: NCV decreased
8. Infantilespinal muscular atrophy is a group of disorderswhichaffect Motor neurons
9. True about Acuteflaccidparalysis (AFP) It is acuteonset (< 4 weeks) flaccid paralysis in children< 15 years of age.
10. Mostcommon cause of death in case of acutepoliomyelitis isRespiratoryfailure
11. Not true about poliovirusinfection: Paralysis in > 70 % of cases
12. Acuteflaccidparalysis is reported in a childaged 0-15 years
13. True about polio: IM injections and increased muscular activity can lead to increasedparalysis
14. True about GBS : NCV is decreased

Neurodegenerative Disorders

1. Preventable cause of mental retardation Hypothyroidism
2. A child is set to have moderate mental retardation when his IQ is 36-50
3. IQ between 50-70 should indicate Mild mental retardation
4. Mental retardation is not seen in Hypopituitarism
5. MC genetic cause of mental Retardation Fragile X syndrome

CEREBRAL PALSY

1. Type of cerebral palsy which is commonly associated with scoliosis and other orthopedic problemsis Spastic quadriplegia

2. Most common sequelae due to periventricular leukomalacia: Spastic diplegia
3. Most common type of cerebral palsy isSpastic
4. Cerebral palsy is defined as A non-progressive neuromuscular disorder of cerebral origin
5. Not found in cerebral palsy: Flaccid paralysis

Genetic Disorders

Genetic disorders

1. Neurogenic muscle weakness, ataxia, and retinitis pigmentosa (NARP) disease has Mitochondrial inheritance
2. Fragile X syndrome is not characterized by Large nose
3. Not autosomal dominant inheritance: Fabry's disease
4. The chances of having an unaffected baby when both parents have achondroplasia is 25%
5. Differential expression of same gene depending on parent of origin is referred to as Genomic imprinting
6. The process underlying differences in expression of a gene, according to which parent has transmitted, is called Genomic imprinting
7. Unilateral disomi seen in Angelman syndrome

Genomic Imprinting

1. Most common cardiac lesion in Down's syndrome is Atrioventricular Septal Defect
2. In Down syndrome the shape of the head isBrachycephalic
3. Brushfield spots in Iris is a feature of Down syndrome
4. Most common chromosomal anomaly isTrisomy 21
5. Not a characteristic feature of Down's syndrome: Prominent occiput
6. Infant born to mothers of advanced age has greater risk of Down's syndrome
7. Nuchal fold thickness is increased in Down syndrome
8. Transient myeloproliferative disorder of the newborn is seen in association with Down syndrome

9. Down syndrome patient is posted for surgery, the necessary pre-op investigation to be done isEchocardiography
10. In Down's syndrome, false is: Increased PAPP-A
11. The Triple test for Down syndrome does not include USG
12. Not feature of Down syndrome: Hypertonicity

NOONAN SYNDROME

1. Not true about Noonan syndrome: Testosterone level is alyvays normal
2. A child presents with anti-mongoloid slant, pulmonary stenosis, short stature and undescended testis. The most likely diagnosis is Noonan syndrome .. • "

EDWARDS SYNDROME

1. Rocker bottom feet is a feature of Trisomy 18
2. Not true about Edward syndrome: Hypotonia
3. Scalp defect is a feature of Patau Syndrome

TURNER SYNDROME

1. Webbing of neck, increased carrying angle, low posterior hair line and short metacarpal are characteristics of Turner's syndrome
2. Not true about Turner's syndrome: Frequently associated with marked mental retardation
3. Not associated with Turner's syndrome: PDA
4. Most common cardiac anomaly in Turner's syndrome is Bicuspid aortic valve

KLINEFELTER SYNDROME

1. True of Klinefelter syndrome: Subnormal intelligence
2. Not true about Klinefelter's syndrome: Reduced Gonadotrophins

PRADER WILLI SYNDROME

1. Maternal chromosome 15 disomi associated withPrader Willi Syndrome
2. Hormone raised in Prader- Willi syndromeGhrelin

Endocrinology

Pituitary Disorders

1. 'Weak giants' are produced by Pituitary adenomas
2. False in Congenital Hypopituitarism: Baby small at birth
3. Short stature secondary to growth hormone deficiency is associated with Normal body proportion
4. Bone age in GH deficiency is Delayed compared to chronological age
5. Deficiency of growth hormone leads to Delayed fusion of epiphysis
6. Does not cause pituitary apoplexy: Hyperthyroidism
7. Drug should be given first in case of Sheehan's syndromeis Cortisone
8. Does not cause hyperprolactinemia: Bromocriptine
9. Investigation of choice of hyper prolactinoma: Prolactin estimation
10. Most common type of pituitary adenoma: Prolactinoma
11. Heal pad thickness is increased in Acromegaly
12. Confirmatory investigation for acromegaly is Glucose induced GH suppression
13. Not a feature of Laurence-Moon-Biedl syndrome: Diabetes insipidus

Obesity

1. Obesity is associated with insulin resistance and pancreatic beta-cell dysfunction
2. Obese children have high risk of cardiovascular diseases, increased cholesterol levels and hypertension
3. Endocrine disorders associated with weight gain are hypothyroidism and Cushing syndrome
4. Insulinoma can also be associated with obesity
5. Childhood obesity can be one of the manifestations of syndromes such as Laurence-Moon-Biedl syndrome, Prader-WilliSyndrome,Carpenter Syndrome, Cohen syndrome

Thyroid Disorders

1. Not a cause of obesity: Hyperthyroidism
2. Endocrine disorder associated with epiphyseal dysgenesis: Hypothyroidism
3. Most common cause of congenital hypothyroidism is Thyroid dysgenesis

4. Not a feature of hypothyroidism: Short metacarpals in hands
5. Manifestations of endemic cretinism include Strabismus and spastic diplegia
6. True regarding cretinism: Short limbs compared to trunk
7. Blood specimen for neonatal thyroid screening is obtained from Cord blood
8. Not a feature of neonatal hyperthyroidism: Goiter is rare
9. The most common presentation of endemic goiter is Euthyroid
10. Hung up reflexes are seen in Hypothyroid
11. Most common cause of goitrous autoimmune thyroiditis is Hashimoto's thyroiditis
12. Not true about Hashimoto's thyroiditis: Orphan Annie eye nuclei
13. 'Hurthle cells' are seen in Hashimoto's Thyroiditis
14. False about De Quervain's Thyroiditis: Increased RAIU
15. Can be associated with hypothyroidism: Hemochromatosis
16. Drug which can lead to hypothyroidismis Lithium

Adrenal Disorders

1. Used in treatment of idiopathic congenital adrenal hyperplasia in infants: Hydrocortisone
2. Treatment in prenatal Congenital adrenal hyperplasia is Hydrocortisone
3. Most common cause of ambiguous genitalia in children is21-hydroxylase deficiency
4. True about Congenital adrenal hyperplasia (CAH) Postnatal virilization
5. In children, Cushing syndrome is best screened by Steroid assay (24 hr urinary cortisol assay)
6. True about high dose dexamethasone suppression test: Tells about the etiology of Cushing syndrome
7. The most common cause of Cushing's syndrome is Iatrogenic steroids
8. Not a clinical feature of Cushing's syndrome: Menorrhagia
9. Feature not seen in Cushing's syndrome is Hypoglycemia
10. Not a feature of Cushing's disease Episodic hypertension
11. Cushing's disease is associated with Increased ACTH and increased cortisol.
12. Earliest manifestation of Cushing's syndrome: Loss of diurnal variation of cortisol secretion
13. Not a feature of Addison's disease: Hypertension

14. Addison's disease is not associated with Low renin levels
15. Addison's disease is not characterized by Hyperglycemia
16. Addison's disease is not characterized by Hypocalcemia
17. In Addison's disease, most diagnostic test is ACTH stimulation test

Parathyroid disorders

1. Most common cause of hyperparathyroidism is Adenoma
2. Associated with secondary hyperparathyroidism: Chronic renal failure
3. MC presentation of hyperparathyroidism is Asymptomatic hypercalcemia
4. Not a marker for hyperparathyroidism: Decrease in serum calcitonin.
5. Tufting of the terminal phalanges is seen in Hyperparathyroidism
6. Cyst in the bones are seen in Hyperparathyroidism
7. Brown tumor seen in Hyperparathyroidism

MISCELLANEOUS

1. Not associated with hypercalcemia Celiac disease
2. Hypercalcemia is not a feature of Tumor lysis syndrome

Metabolic Diseases

Approach to Metabolic Disorders

1. Treatment of multiple carboxylase deficiency: Biotin
2. Enzyme deficient in phenylketonuria: Phenylalanine hydroxylase
3. In phenylketonuria, the treatment of choice is Limit intake of substrate for the enzyme
4. A child has microcephaly, Blue eyes, Fair skin, and Mental retardation, Ferric chloride test is positive, Likelydiagnosis: Phenylketonuria
5. In phenylketonuria, FeCL3 test with urine givesGreen color
6. In maple syrup urine disease, FeCL3 test with urine givesBlue color
7. Darkening of urine on standing is associated with Alkaptonuria
8. A child of phenyl ketonuria mother may develop Microcephaly, mental retardation, congenital heart disease
9. Mousy odor urine is seen in Maple syrup urine

Disorders related to galactosemia and fructose metabolism

1. True regarding galactosemia: Mental retardation
2. A child with increased conjugated bilirubin develops seizures and cataract the probable diagnosis is Galactosemia
3. Hereditary fructose intolerance occurs due to deficiency of enzyme Aldolase B
4. Classical galactosemia occurs due to deficiency of enzyme Galactose 1 PO_4uridyl transferase
5. Cataract in Galactosemia occurs due to accumulation ofGalactitol.

Glycogen storage Disease

1. Child with recurrent hypoglycemic attacks and hepatomegaly is likely to have Von Gierke'sdisease
2. Coarse facies, hepatosplenomegaly and tall QRS on ECG are characteristic feature of Glycogen storage disease type II
3. Deficient enzyme in Von Gierke's disease is Glucose 6 phosphatase
4. ECG in Pompe's diseases shows High voltage QRS
5. Not a feature of Von Gierke's disease: Metabolic alkalosis
6. Glycogen storage disease which doesn't affect muscles isType 1

Lysosomal storage Disorders

1. In Gaucher's disease there is accumulation inside the cell ofCerebrosides
2. Deficiency of enzyme in Tay-Sachsdisease:Hexosaminidase
3. Enzyme replacement therapy available for Gaucher's disease
4. All lysosomal storage disorders are AR exceptFabry's disease
5. Enzyme deficient in Fabry's disease is a galactosidase
6. Flask shaped deformity of femur seen in Gaucher disease
7. Zebra bodies are features ofNiemann Pick disease

Mucopolysaccharidosis

1. Only males are affected inHunter syndrome.
2. Corneal clouding is absent inSanfilippodisease

3. MR is absent inMorquio disease
4. Dysostosis multiplex is a feature of MPS
5. Inheritance of Hunter disease is XR
6. Not a feature of Abetalipoproteinemia: AD Inheritance
7. False regarding Lesch-nyhan Syndrome: AR
8. Self-mutilation is feature do Lesch-nyhan syndrome.

Recent & High Yield Updated LMRPs

1. Boot shaped heart in Fallot tetrology is due to right ventricular hypertrophy and absence of pulmonary arterial segment.
2. Bi dextrous grasp: 4 months.
3. MC cause of liver transplant in children is biliary atresia.
4. Metabolic abnormalities in necrotizing enterocolitis are hyponatremia, acidosis and thrombocytopenia.
5. Severe jaundice in Crigler-Najjar type 1,
6. Rashes on Buttock are seen in HSP.
7. Inspiratory stridor is due to supraglottic obstruction.
8. PDA closure stimulus increased 02.
9. Congenital rubella syndrome is associated with PDA, pulmonary stenosis, deafness, cataracts and septal defects.
10. Low chloride level seen in cystic fibrosis.
11. Scissoring gait: Spastic CP.
12. Pre ductal 02 saturation in PDA is seen in right upper limb.
13. Turner syndrome with webbed neck is 3 times more likely to develop CVS defects than those without webbed neck.
14. Adrenal cortex of fetus maximally releases DHEAS.
15. Corneal clouding always present in Hurler, absent in Hunter, other features like peculiar facial features, enlarged head, hepatosplenomegaly, protuberant abdomen, breathing difficulty with obstructive sleep apnea and cardiac valve thickening remain same.
16. Vaccine monitoring tool to indicate cumulative heat exposure is vaccine vial monitors or VVM.
17. Red flag in motor development of three-year-old child cannot be holdinga spoon.

18. Young girl presented with frequent dropping of post ictal state, EEG shows b/l 4-6 htz poly spike wave is juvenile myoclonic epilepsy.
19. Infants of diabeticmother's present with frequent hypoglycemic seizures, this baby may also have Hypocalcemia.
20. Child treated for bacterial meningitis requires isolation till 24 hrs of completion of Antibiotics therapy.
21. The anterior fontanelle is generally the last to close between 18-24 months.
22. Lesch-Nyhan syndrome (LNS), also known as juvenile gout, is a rare inherited disorder caused by a deficiency of the enzyme hypoxanthine-guanine phosphoribosyltransferase (HGPRT), produced by mutations in the HPRT gene located on the X chromosome.
23. Japanese Encephalitis Vaccine is not included in indradhanush mission
24. Most common cause for neonatal blindness is Neisseria gonorrhoeae.
25. Child with H/O ingestion of button batteries, on x-ray seen in stomach and duodenum:Wait and watch.
26. Abdominal mass swelling of pyloric sphincter best felt by when baby is being fed milk.
27. Time gap b/w 2 live vaccines should be 4 weeks.
28. True hermaphroditism karyotype is 46 XX, ovotestis.
29. Estimation of fetoplacental circulation seen at 20-22 days.

Anesthesia

Historical Milestones

1. First local anaesthetic used is cocaine.
2. Intubationlvan Magill.
3. World anaesthesia day 16th October.
4. Balanced anesthesiadohn Lundy&Ralph M. Waters.
5. First muscle relaxant D-tubo curare.

Preoperative Assessment, Premedication & Monitoring

Preoperative Assessment

1. Mala-D should be stopped 4 weeks before hysterectomy.
2. Smoking should preferably be stopped8 weeks before surgery.
3. Aspirin should not be stopped now a day.
4. Clopidogrel to be stopped7 days before surgery.
5. Urgent reversal of warfarin therapy can be done by administration of fresh frozen plasma.

Premedication

1. Atropine decreases salivation and cause bronchodilatation.
2. Dose of atropine per kg body weight is 0.01 mg.
3. Flushing of face is encountered in children following premedication occurs with Atropine.

4. Dose of glycopyrrolate for premedication on per kg body weight is 0.005 mg.
5. The amnesia produced by midazolam is Antegrade Amnesia.
6. Drug acts through alpha subunit of GABA receptor Benzodiazepine.

Temperature Monitoring

1. Core body temperature It is one degree higher than rectal temperature.
2. Brain temperature is most accurately measured through Tympanic membrane.
3. Hypothermia may be defined as core body temperature less than 35°C.
4. For each degree fall in temperature below 37°C cerebral blood flow decrease by 7%.
5. A 10°C decrease in temperature causes decrease in cerebral metabolic rate by 70%.
6. Optimal operation theatre temperature should be 21°C.
7. Neuromuscular monitoring during maintenance of anaesthesia is Train of four.
8. Intraoperative myocardial infarction is best diagnosed by Trans esophageal echocardiography.
9. During blood pressure monitoring deflation rate of cuff should be 3-5 mmHg/sec.
10. Blood pressure during anaesthesiais monitored commonly by Radial artery.
11. Pulse oximeter measures Oxygen saturation of arterial blood.
12. Somatosensory evoked potential will be very useful during Aneurysm clipping of thoracic aorta.
13. Vein of choice for central venous pressure monitoring is Right internal jugular.
14. Most commonly used muscle for neuromuscular monitoring is Adductor pollicis.
15. During anaesthesia, Brainstem evoked response is least affected.
16. Depth of anaesthesia is measured by Bispectral index.
17. Monitoring of concentration of exhaled CO2- Capnography.
18. Torr can be used as measuring unit in place of mmHg for the measurement of Gaseous pressure.
19. Noninvasive cardiac output monitoring is by Thoracic Bioimpedance.

20. Best lead to detect ischemia during anaesthesia monitoring Lead V5.
21. CO_2 is primarily transported in the arterial blood asBicarbonate.
22. In a patient with mild hypertension which is not effecting his functional activity will be classified asASA II.
23. Test to demonstrate the presence of collateral circulation of hand is Allen's test.
24. Full soaked sponge indicates blood loss of 100 ml.
25. Sudden decrease in end tidal CO_2 under GA suggests Accidental extubation.

General Anaesthesia

1. Percentage of thiopentone used in induction 25%.
2. pH ofThiopentone is alkaline (pH=10.5).
3. Thiopentone does not cause Analgesia.
4. Thiopentone crosses the placenta very quickly.
5. Pentothal sodium should be injected into veins over the outer aspect of forearm'.
6. Accidental intra-arterial injection of thiopentone causes Vasospasm.
7. Hyperkalemic periodic paralysis is not a contraindication of thiopentone.
8. In epilepsy patents Thiopentone can be given safely.
9. Thiopentone can be used safely in Porphyria cutanea tarda.
10. Short half- life of thiopentone is due to Redistribution.
11. Intravenous anaesthetic of choice for electroconvulsive therapy Methohexitone.

Propofol

1. Propofol intravenous injection causes pain.
2. Propofol is nota Water based preparation.
3. Propofol vial once opened should be used within 6 hours.
4. Agent of choice for day care surgery isPropofol.

Etomidate

1. Etomidate has High incidence of nausea and vomiting.
2. Cardio stable anaesthetic Etomidate.
3. Intravenous Anaesthetic agent safe in heart disease Etomidate.

Ketamine

1. Intravenous dose of ketamine is 2 mg/kg.
2. Anaesthetic agent which can be given by both intravenous and intramuscular routes Ketamine.
3. Ketamine has a very High analgesic effect.
4. Muscle relaxation is not a property of ketamine.
5. Intravenous agent of choice for uncontrolled asthmatics is Ketamine.
6. Ketamine Increased intracranial tension.
7. Ketamine specifically avoided in patients with head trauma.
8. Intravenous agent has two steroids in structureAlthesin.
9. The incidence of hallucinations after ketamine40%.
10. Most common type of hallucinations after ketamine Auditory.
11. Agent of choice for decreasing hallucinations after ketamine isMidazolam.
12. Ketamine most appropriate choice for Hypothyroidism.
13. Increased cerebral 02 consumption is cause by Ketamine.

Benzodiazepines

1. Inverse agonist of benzodiazepine receptor is Beta-carboline.
2. Not an effect of benzodiazepines Analgesia.
3. In neuroleptanalgesiadroperidol and fentanyl are in ratio of 50: 1.
4. Muscle relaxation will be seen with Midazolam.
5. Post anaesthetic delirium is treated by Diazepam.
6. Decrease gastric emptying time Diazepam.
7. The specific antagonist for benzodiazepines is Flumazenil.
8. Reversal of which benzodiazepine is most, difficult isLorazepam.
9. Amnesia Not fully reversed with flumazenil.
10. The chances of resedation after flumazenil antagonism are minimum withMidazolam.

Dexmedetomidine

1. Dexmedetomidine is used as an adjuvant

Opioids

1. Narcotic of choice for outpatientanaesthesia is Remifentanil.
2. The mu (p) opioid receptor is responsible for bronco constriction.
3. Opioids in spinal cord acts on Dorsal horn cells.
4. Most common cause of death in morphine poisoningRespiratory depression.
5. Morphine Increases intracranial tension.
6. Muscle relaxation Not a property of opioids.
7. Morphine is relatively contraindicated in Biliary colic.
8. Sufentanil opioid has maximum plasma protein binding capacity.
9. Fentanyl is used to produce epidural analgesia.
10. Late medullary depression following epidural anaesthesia may be caused by Morphine.
11. Dose of morphine for epidural analgesia is3-5 mg.
12. In morphine epidural anaesthesia, analgesic effect last for 6-12 hours.
13. Opioid which can cause convulsions is Pethidine.
14. Pethidine should not give with MAO inhibitors.
15. Meperidine less spasmogenic action than morphine.
16. Bradycardia is not seen with Pentazocine.
17. Sufentanil is potent opiod.
18. Opioid of choice for inhibiting stress response to laryngoscopy and intubation is Sufentanil.
19. Shortest acting intravenous analgesic Remifentanil.
20. Analgesic 100 times potent than morphine is Fentanyl.
21. Buprenorphine has ceiling effect
22. Minimum respiratory depression is caused by Pentazocine.
23. Naloxone does not completely reverse the actions of Buprenorphine.

Inhalational Anesthesia

1. Stage of surgical anaesthesia is Stage III plane 3.
2. The stage of surgical anaesthesia is best indicated by Regular respiration.
3. Nystagmoid eye movement are seen in stage of anaesthesia is Stage II.
4. Dissolved oxygen and total oxygen content in the plasma of the patient will be, and when he is breathing 100% oxygen (i.e., FIO2 = 1.0) at normal atmospheric pressure (1 atm)1.7 ml/dl and 21.2 ml/dl.

5. Lacrimation during anaesthesia indicates Light anaesthesia.
6. Stages of anaesthesia were described by Guedel.
7. Stages of anaesthesia were established with Ether.
8. First reflex to goEyelash.

Minimum alveolar concentration (Mac)

1. Blood gas partition coefficient of anaesthetic agent te'ls about Time lag of induction of anaesthesia.
2. Potency of anaesthetic agent can be estimated by Minimal alveolar concentration.
3. Minimum oxygen concentration used in anaesthetic mixture to maintain oxygenation is25%.
4. Blood gas partition coefficientSevoflurane>desflurane.
5. Second gas effect is classically seen with Halothane and nitrous oxide.
6. Inhalational agents are fluorinated to Make them non inflammable.

N2O (Nitrous Oxide)

1. Nitrous, oxide Fast induction.
2. Non inflammable agent is Nitrous oxide.
3. Highest minimum alveolar concentrationNitrous oxide.
4. Least potent inhalationalanaesthetic isNitrous oxide.
5. Diffusion hypoxia is caused byN2O.
6. Diffusion hypoxia is seen during Post-operative period.
7. Inhalational agent not metabolized by human body Nitrous oxide.
8. Subacute degeneration of spinal cord is seen with Nitrous oxide.
9. Nitrous oxide is more soluble than nitrogen.
10. Anaesthetic agent contraindicated in volvulus of gut Nitrous oxide.
11. Bone marrow depression is caused by prolonged administration of Nitrous oxide.
12. Nitrous oxide is not Safe in middle ear surgery.

Halothane

1. Side effect of halothane countered by atropine is Bradycardia.
2. The anaesthetic agent that is Cl in the presence of jaundice Halothane.

3. Malignant hyperthermia is caused by Halothane.
4. Halothane is not recommended for obstetric anaesthesia.
5. Thymol is preservative used for Halothane.
6. Halothane: Beta blocker action.
7. True about halothane is Colorless liquid stored in amber colour bottles
8. Anaesthetic agent that predisposes maximum to arrhythmias is Halothane.
9. Tissue blood solubility coefficient of halothane is greatest in human Fat.
10. Anaesthetic agent maximally absorbed by PVC endotracheal tube Halothane.
11. Halothane is a poor analgesic.
12. Shivering is observed in early part of post- operative period due to Halothane.
13. Most acceptable theory for halothane hepatitis Immunologic.
14. Minimum interval between two halothane exposure should be3 months.
15. Increase in intracranial tension is maximum with Halothane.
16. The anaesthetic agent which dissolves in rubberis Halothane.
17. Smooth induction can be given byHalothane.
18. Halothane inhibits hypoxic pulmonary vasoconstriction in a dose related fashion.
19. Halothane is hepatotoxic.
20. For surgery of pheochromocytoma, Halothane should not be used.
21. Halothane decreased portal flow most.

Isoflurane

1. Agent of choice for cardiac patient is Isoflurane.
2. Maximum vasodilatation is caused by Isoflurane.
3. Least alteration of cardiovascular status is seen with Isoflurane.
4. Isoflurane increases intracranial tension.

Enfiurane

1. Spike and wave pattern in EEG is shown by Enfiurane.
2. Maximum decrease in cardiac output is caused[1] by Enfiurane.

Desflurane

1. The fastest acting inhalational agent is Desflurane.
2. Desflurane minimally metabolized.
3. In Desflurane rapid induction of anaesthesia occurs.
4. Desflurane: Inhaled anaesthetic of choice for shock.
5. Induction is not smooth with desflurane.
6. Desflurane is structural analogue of isoflurane
7. The anaesthetic agent of choice in renal failure Desflurane.

Sevoflurane

1. Maximum bronchodilatation in non- asthmatics is produced bySevoflurane.
2. Induction agent of choice in childrenSevoflurane.
3. Sevoflurane degradation to compound A is increased by Use of beryline instead soda lime.
4. Sevoflurane is more cardio depressant than Isoflurane.

Methoxyflurane

1. Slowest induction and recovery is with Methoxyflurane.
2. Methoxyflurane cannot be used in patients suffering from the renal disease, Nephrotoxicity is caused by Methoxyflurane.
3. Methoxyflurane has boiling point more than water.
4. Methoxyflurane is maximally metabolized.

Ether

1. Highly inflammable Ether.
2. Ether is not used in modern surgical practice because it is Highly explosive.
3. Ether does not inhibit the ciliary activity.
4. Ether is the complete anaesthetic agent.
5. Maximum emesis causing anaesthetic is Diethyl ether.

Complications of General Anaesthesia

1. Preventable complication during inhalational anaesthesia Aspiration.
2. Complication of inhalational anaesthesia in post- operative period is Hypotension.

3. Foreign body in supine position causes part of the lung to be most commonly effected: Apical part of right lower lobe.
4. Critical gastric pressure for aspiration is 20 cmH_2O.
5. Tracheal tug is seen in Respiratory obstruction.
6. During endotracheal intubation in children, the pressure in the cuff should not be raised above 30cmH_2O.
7. Ultrashort acting beta blocker most commonly used in anaesthesia is Esmolol.(selective beta blocker).
8. Laminar flow is mainly dependent on Viscosity.
9. Most common type of hypoxia seen during anaesthesia isHypoxic hypoxia
10. Breuer Lockhart reflex is Reflex bronchospasm due to parasympathetic stress at different site.
11. Most common pulmonary complication in postoperative period is Pulmonary atelectasis.
12. Most common nerve injured during anaesthesia Ulnar.
13. Most common complication in post-operative period is Nausea and vomiting.
14. Nitrous oxide does not cause malignant hyperthermia.
15. In malignant hyperthermia the increased heat production is due to Increased muscle metabolism by excess of calcium ions.
16. Malignant hyperthermia is abnormality of calcium channel.
17. Postoperative restlessness is not seen in Narcotic analgesia.
18. Sodium nitroprusside may result in Cyanide toxicity.
19. Postoperative shivering may increase metabolic rate by factor of4.
20. Most rapid method to reduce raised intracranial tension Hyperventilation.
21. To reduce raised intracranial tension can be detrimental in head injury by Mannitol.
22. In a patient with air embolism Transesophageal echo (TEE) is the most sensitive investigation.
23. The most common rhythm disturbance during early post-operative period is Tachycardia.
24. The most common cause of morbidity and mortality in patient undergoing major vascular surgery is Cardiac complications.
25. Most common cause of metabolic acidosis in anaesthesia is Hypotension.
26. The neurons may get irreversibly damaged if exposed to significant hypoxia for5 min

Muscle Relaxant

Neuromuscular-blocking drugs

1. First to be blocked by muscle relaxants and First to recover after muscle relaxantsis Laryngeal muscles.
2. Site of action of muscle relaxants isMyoneural junction.
3. Mechanism of action of d-tubo curare is Non -depolarizing.
4. Train of four' is characteristically used in concern with Non-depolarizing neuromuscular blockers.
5. Drug used for reversal of tubo curare -induced neuromuscular block is Neostigmine.
6. During anaesthesia with muscle relaxants the vocal cord isinMid position.

Suxamethonium (Succinylchoiine)

1. Suxamethonium is A short acting muscle relaxant.
2. Succinylchoiine is short acting due to Rapid hydrolysis.
3. Fasciculations with succinylchoiine are first seen over Eyelids.
4. Pseudocholinesterase is synthesized by Liver.
5. Succinylchoiine is used in anaesthesia for Intubation.
6. Succinylcholine(suxamethonium) Should be given very rapidly.
7. Systemic effect of succinylchoiine: Hyperkalemia, increased intracranial tension, masseter spasm.
8. Suxamethonium causes postanesthetic muscular aches.
9. A boy undergoes eye surgery under day care anesthesia with succinyl choline and propofol and after 8 hours he starts walking and develops muscle pain. Occur with Succinyl choline.

Non - Depolarizing Agents

1. Muscle relaxant which can cause convulsionsis Atracurium.
2. Anaesthesia of choice is renal failure cisatracurium.
3. Laudanosine is metabolite ofAtracurium.

4. Histamine release is one of the common features with administration ofAtracurium.
5. Maximum histamine release occurs withd-Tubo curare.
6. A young male on atracurium on ventilator for 3 days develops epilepsy. Cause of epilepsy is Laundosine.
7. Hoffman degradation is shown byAtracurium.
8. Non-depolarizer of choice for newbornAtracurium.

Cisatracurium

1. Cis atracurium is preferred over atracurium due to advantage of No histamine release

Mivacurium

1. Mivacurium Onset of action is late.
2. Mivacurium causes Hypotension.
3. Drug used for reversal of tubo curare -induced neuromuscular block is Neostigmine.
4. Dose of neostigmine per kg body weight is 0.0.8 mg.
5. Atropine/glycopyrrolate is given along with neostigmine to prevent muscarinic side effects.
6. Myasthenia gravis sensitivity to curare is increased and scoline is decreased.
7. Most sensitive for patients of myasthenia gravis isGallamine.
8. Non depolarizer of choice for myastheniais Mivacurium.
9. Magnesium and muscle relaxants interaction is Hypermagnesemia potentiates both depolarizers and non-Depolarizers.

Cylinder & Anesthesia Machine

02 & N2O cylinder

1. Pressure of nitrous oxide cylinder is760 psi.
2. Colour of nitrous oxide cylinder is Blue.
3. 'Tare weight' is the term used in anaesthetic A apparatus forGas cylinders.

Low pressure system

1. The Heidbrink meter in Boyle's machine Indicates flow of gases.
2. Pressure reducing valve of Boyle's machine reduces the pressure to60 psi
3. Pin index for nitrous oxide is3, 5.
4. Boyle's machine is Continuous flow.
5. Emergency oxygen flush delivers more than 35 liters/minute.
6. Pin index for oxygen 2,5.
7. Rotameter measures quantity (flow) of gases.
8. In Boyle's ether vaporizer the U tube is made of copper, the function of which is Anticatalyst.
9. Colour of halothane vaporizer is Red.

Breathing System

1. Mapleson circuit are Semiclosed.
2. Magill attachment is aMapleson A system.
3. Magill circuit airflow is Equal to minute volume.
4. Fresh airflow rate in Magill circuit should be 10 liters.
5. Bain circuit is modification of Mapleson Type D.
6. Jackson Rees is modification of Type E.
7. Rate of flow of fresh gases through Ayre' s T piece in 1-year-old spontaneously breathing child is6-7 liters/min.
8. No valves are used to decrease the resistance of airways in children.
9. Jackson Rees is not a coaxial circuit.
10. The most appropriate circuit for ventilating a spontaneously breathing, infant during anaesthesia isJackson Rees modification of Ayre's T piece.
11. Lack system is modification of type A.

Closed Circuit

1. Soda lime is not used in anaesthesia with Trilene.
2. Sodium hydroxide in soda lime acts as A catalyst.
3. Barylime Less efficient than soda lime.
4. Soda lime used in India (Dura sorb) when fresh is Pink.
5. 100 g of soda lime can absorb liters of carbon dioxideis 25 titres.
6. The optimal size of soda lime is 4-8 mesh.
7. The constitution of soda lime is Ca $(OH)_2$-80%, NaOH -4%.
8. Desiccatedsoda lime can produce carbon monoxide with Desflurane.

Download From: AghaLibrary.com

Instruments

1. Resuscitation bag for neonate should not exceed 250 ml.
2. Volume of adult AMBU bag 1,200 ml.
3. Artificial nose is Heat and moisture exchanger.
4. Most commonly used laryngoscope is Macintosh.
5. Type of laryngoscope blade most suitable for newborn isStraight.

E.T. intubation

1. Hypotension is Not seen during laryngoscopy.
2. Normal Thyro mental distance is 6.5 cm.
3. Mallampati score is used in to assess difficulty in intubation in oral cavity.
4. Laryngoscopy requires Flexion at cervical spine.
5. Commonest post- operative complication of intubation is Sore throat.
6. Blind nasal intubation is indicated in TM ankylosis.
7. Endotracheal tube insertion level is 4 cm above carina.
8. Both oral and nasal intubation is Contraindicated in Laryngeal edema.
9. Armored enforced endotracheal tube is used forNeurosurgical anaesthesia.
10. Surest sign of confirmation of intubationCapnography.
11. Gold standard surgical procedure for prevention of aspiration is Tracheostomy.
12. The narrowest part of trachea in a newborn is at the level ofSub glottis.
13. The adult trachea has diameter of 1.2-1.6 cm.
14. Length of an adult trachea is 10-11 cm.
15. Carina in adult is at the level of T4.
16. In a neonate both bronchi are angled from the vertical at55°.
17. Semon's law indicates that in partial paralysis of bilateral recurrent laryngeal nerve Abductors go before adductors.
18. In complete bilateral paralysis of recurrent laryngeal nerve there is Complete loss of speech with stridor and dyspnea.
19. In an adult right bronchus is angled from vertical at 25°.
20. Subglottis is the narrowest part in children up to the age of6 years.

21. During endotracheal intubation in children the pressure in the cuff should not make it air tight and allow some leakage of air when the pressure is raised above 30 cmH_20.
22. Oral intubation is preferred in children over nasal because There are increased chances of bleeding from adenoids.
23. The cuff of tracheostomy tube should be Low pressure, high volume.
24. During intubation of newborn to insert endotracheal tube the blade of laryngoscope isUncuffed tube with straight blade.
25. The pressure required to inflate the cuff of an endotracheal tube is 15-25 mmHg.
26. The purpose of cuff in endotracheal tube is toProvide airtight seal in trachea.
27. Reasonable tube size required for 3-year child will be number 4.5 mm.
28. 7 number endotracheal tube means its internal diameter will be7 mm.
29. Bronchoscope is best sterilized with Cidex (2%, Glutaraldehyde).
30. Method of choice for sterilization of endotracheal tube is ETO gas.
31. The temperature of ethylene oxide sterilization during warm cycle is 49-63°C.

Laryngeal mask airway

1. Contraindication to laryngeal mask airway is Increased risk of gastric regurgitation.
2. Laryngeal mask airway (LMA) is used for Maintenance of airway.
3. Brain mask is Laryngeal mask airway.

Miscellaneous Topics

1. Oxygen delivery is regulated by Venti mask
2. Accurate concentration of delivered oxygen is only possible with Venti mask
3. Maximum oxygen that can be delivered with nasal cannula is 44%

Local Anesthesia & Central Neuraxial Blockade

Local Anesthetics

1. Na Bicarbonate given as an adjunct to local anesthetics because 4- onset time and increase the duration.
2. Shortest duration local anaesthetic is Chloroprocaine.
3. Methemoglobinemia caused by- Prilocaine.
4. Fastest route of absorption of local anaesthetic in nerve blocks is Intercostalblock.
5. EMLA cream containsXylocaine + prilocaine.
6. In digital block Adrenaline is contraindicated.
7. Local anaestheticwhich is sympathomimeticis Cocaine.
8. First local anaesthetic used was Cocaine.
9. Local anaesthetic agent which has antimuscarinic action on heart muscle receptors is Cocaine.
10. LA causing vasoconstriction is Cocaine.

Lignocaine / Lidocaine

1. Local anaesthetic is more safe in surface and infiltrating anaesthesia Lignocaine.
2. Cardiac or central nervous system toxicity may result when standard lidocaine doses are administrated to patient with circulatory failure. This is due to Lidocaine concentration are initially higher in relatively well perfused tissues such as brain and heart.
3. Maximum safe dose of Lignocaine with adrenaline 7 mg / kg.
4. Concentration of lignocaine used for Bier's block 0.5%.
5. Max permissible concentration of lignocaine when given as topical application with adrenalineis 10%.

Bupivacaine

1. Maximum safe dose of bupivacaine2 mg/kg.
2. Longest acting local anaesthetic is Dibucaine.
3. Bupivacaine does not Produces methemoglobinemia.
4. The drug of choice in bupivacaine induced VTis Bretylium

Ropivacaine

Ropivacaine is pharmacologically similar toBupivacaine

Regional Anesthesia

1. Total spinal nerves are31.
2. Dura extends up toS2.
3. In infant's spinal cord extends up to L3.
4. Adult level of spinal cord is achieved by the age of2 years.
5. Spinal anaesthesia is usually given at L3 - L4.
6. Spinal anaesthesia is preferred in lower abdominal surgeries because it Shrinks intestines so that other viscera are seen.
7. Patient factor does not affect the height of spinal block isSex.
8. The duration of effect of spinal anaesthesia depends onType of drug used
9. Last to recover in spinal anaesthesiais Preganglionic sympathetic.
10. Most common complication of spinal anaesthesiais Hypotension.
11. Post spinal headache is due to CSF leak from dura.
12. Post spinal headache has occipital and nuchal components.
13. Post spinal headache can be prevented by Use of thinner needle.
14. Average time for persistence of post spinal headache 7-10 days.
15. Most common causative agent for meningitis after spinal subarachnoid block isStreptococusviridians.
16. Lumbar puncture is dangerous in Intracranial tumours.
17. spinal anaesthesia is not a contraindication Myasthenia gravis.
18. Minidose aspirin Not a contraindication for spinal anaesthesia.
19. Tuohy’s needle is used for Epidural block.
20. Concerning Barbotage Fluid (CSF) is alternately withdrawn and reinjected under pressure.
21. Caudal block is a kind of Epidural block.
22. Site of action of opioids after epiduralisSubstantia gelatinosa of dorsal horn cells.
23. Treatment of broken epidural catheteris Leave in situ.
24. Most preferred anaesthesia technique for total hip replacement isCombined spinal epidural.

25. Central neuraxial anesthesia is not contra indicated inPlatelet count <80.000, patients on oral anticoagulant or iv heparin.
26. Epidural space has negative pressure in80%.
27. Lignocaine can be accumulated in foetus in very significant amount if given to pregnant mother.
28. Vasopressor of choice for spinal hypotension in pregnancyphenylephrine.

Nerve blocks

1. Highest incidence of pneumothorax occurs when branchial plexus is blocked by Supraclavicular.
2. For brachial plexus block needie is inserted Lateral to subclavian artery.
3. Nerve spared with axillary approach Musculocutaneous.

Blocks of head & neck

1. Chassaignac's tubercle is landmark for Stellate ganglion block.

Intravenous Regional Anaesthesia (Bier's block)

1. Tourniquet cannot be released before 30 minutes after Bier's block

Perioperative Fluid Replacement

1. False statement about colloids is not Isotonic solutions.
2. Composition of Ringer lactateSodiuml31 mEq/L, chloridellO mEq/L, calcium3 mEq/L, potassium 4.0 mEq/L, lactate 28 mEq/L.
3. In Haemaccel, degraded gelatin used is3.5%.
4. Fluid which can increase the chances of bleedingisDextran
5. Fluid improving microcirculation is Hydroxy ethyl starch.
6. Best fluid for hypovolemic shockis Ringer lactate.
7. Colloids are initially avoided in Burns & ARDS.
8. Hypovolemic shock occurs when intravascular volume is decreased by 15-25%.
9. Commonest complication of IV infusion in a comatose child is Hypothermia.
10. Fluid of choice for maintenance during intraoperative period RL.

Blood Transfusion

1. Blood replacement (transfusion) is necessary only when the loss is more than 20%, of estimated blood volume.
2. Acid citrate dextrose blood can be kept for 21 days.
3. Mismatch blood transfusion during surgery is manifested by Tachycardia.
4. Blood transfusion set's pore size is 170 microns.
5. The complication of massive blood transfusion is Hyponatremia.
6. Maximum possibility of hepatitis and AIDS are with which blood product isCryoprecipitate.
7. Most common hepatitis after blood transfusion Hepatitis C.
8. The incidence of AIDS with transfusion 1:1,00000 .
9. Blood should not salvaged (saved) for autologous transfusion if it contains' Malignant cancer.
10. Blood product which should be stored at room temperature Platelets.
11. ABO compatibility is least important in Fresh frozen plasma.
12. 1 unit of platelets increase platelet count by 10,000.
13. Cryoprecipitate does not contain Factor IX .
14. Mismatched blood transfusion during anaesthesia leads to Hypotension and increased bleeding from the wound site.
15. Blood transfusion borne endotoxemia and septicemia is usually due to Pseudomonas.
16. 1 unit of fresh blood increases Hb by0.8 g% (almost 1 g%).
17. Fluosol DA is an Agent to increase oxygen delivery to tissue.

Anesthesia with Medical Diseases

Cardio vascular diseases

1. The induction agent of the choice for cyanotic heart disease by Ketamine.
2. The most appropriate inhalational anaesthetic agent of choice with minimal hemodynamic alteration for induction of anaesthesia is Patent ductus arteriosus (PDA) with congestive cardiac failure. Isoflurane.
3. Elective surgery in a patient of Ml should be done after6 weeks.

ICU Management

Endotracheal tube care in ICU

1. First change in tracheostomy tube should not be done before 5 days.
2. Maximum permissible time for which an endotracheal tube can be kept 14 days.
3. Importance of CVP measurement is to assess the need forTitration of infusion rate.
4. Pulmonary capillary wedge pressure denotes pressure of Left atrium.
5. Minimum pressure in left atrium for development of pulmonary edema 30 mmHg.
6. Oxygen analyzers measure oxygen concentration of Inspired gases.
7. Best clinical guide for cardiac output is Urine output.
8. The blood gas analysis in hyperventilation shows Reduced pCO2.
9. Nitric oxide is used in the management of ARDS.
10. CVP monitoring: Tip of catheter should not lie in right atrium.
11. Intubation is indicated if respiration is Paradoxical.
12. Paul Bert effect due to oxygen toxicity manifest as Convulsions.
13. Ventilators nowadays in common use are Volume preset, time cycle
14. In volume cycled ventilator the inspiratory flow rate is set at 60-100 L/mi
15. Most common cause of ARDS in India is Sepsis
16. There is no benefit of oxygen therapy inHistotoxic hypoxia
17. The most common pathogens responsible for nosocomial pneumonia in the ICU are Gram negative organism
18. Not to be done in the management of COPD patient Flow rate of 8-10 liters during oxygen therapy
19. Normal anion gap 12 mmol/l

Miscellaneous Topics

1. Most commonly injured nerve during anesthesiais Ulnar nerve>brachial plexus.
2. Route of administration of patient controlled analgesia islntravenous
3. Visual analogue scale is most commonly used to measure Pain intensity.
4. The intra-abdominal pressure (TAP) during laparoscopy should be set between 10-15 mmHg.
5. In pregnancy lung volume does not changes Minute ventilation.
6. A pregnant woman should be best nursed in Supine with wedge below right hip.
7. Best time to perform elective surgery in pregnant patientis post-partum.
8. Usually cyanosis appears when partial pressure of oxygen falls below 50 mmHg.
9. Cyanosis appears if reduced hemoglobin level is more than5 g%.
10. Earliest indication of hypoxia is Change in pulse rate.
11. Alderate scale score is for Post anaesthesia recovery.
12. Carbon dioxide production per minute is200 ml.
13. Oxygen content of arterial blood per dl is 20 ml.
14. High airway resistance is seen in Main bronchus.
15. The physiological dead space is decreased byNeck flexion.
16. Blood goes to brain in a normal healthy conscious individual 1/6 cardiac output.
17. Total lung compliance is Less than chest wall compliance.
18. Lung volume is same in male and female's Tidal volume.
19. Body plethysmography is required to measure Functional residual capacity (FRC).
20. The normal value of P50 on the oxyhemoglobin dissociation curve in an adult is 3.6 kPa.
21. Ventilation perfusion ratio is0.8.
22. Total Cerebral Metabolic failure occurs at cerebral blood flow of 10 mL/lOOmg/min.
23. The most potent cerebral vasodilator is Hypercarbia.

Miscellaneous Topics

1. Most commonly injured nerve during anesthesiais Ulnar nerve>brachial plexus.
2. Route of administration of patient controlled analgesia islntravenous
3. Visual analogue scale is most commonly used to measure Pain intensity.
4. The intra-abdominal pressure (TAP) during laparoscopy should be set between 10-15 mmHg.
5. In pregnancy lung volume does not changes Minute ventilation.
6. A pregnant woman should be best nursed in Supine with wedge below right hip.
7. Best time to perform elective surgery in pregnant patientis post-partum.
8. Usually cyanosis appears when partial pressure of oxygen falls below 50 mmHg.
9. Cyanosis appears if reduced hemoglobin level is more than5 g%.
10. Earliest indication of hypoxia is Change in pulse rate.
11. Alderate scale score is for Post anaesthesia recovery.
12. Carbon dioxide production per minute is200 ml.
13. Oxygen content of arterial blood per dl is 20 ml.
14. High airway resistance is seen in Main bronchus.
15. The physiological dead space is decreased byNeck flexion.
16. Blood goes to brain in a normal healthy conscious individual 1/6 cardiac output.
17. Total lung compliance is Less than chest wall compliance.
18. Lung volume is same in male and female's Tidal volume.
19. Body plethysmography is required to measure Functional residual capacity (FRC).
20. The normal value of P50 on the oxyhemoglobin dissociation curve in an adult is 3.6 kPa.
21. Ventilation perfusion ratio is0.8.
22. Total Cerebral Metabolic failure occurs at cerebral blood flow of 10 mL/lOOmg/min.
23. The most potent cerebral vasodilator is Hypercarbia.

Miscellaneous Topics

1. Most commonly injured nerve during anesthesiais Ulnar nerve>brachial plexus.
2. Route of administration of patient controlled analgesia islntravenous
3. Visual analogue scale is most commonly used to measure Pain intensity.
4. The intra-abdominal pressure (TAP) during laparoscopy should be set between 10-15 mmHg.
5. In pregnancy lung volume does not changes Minute ventilation.
6. A pregnant woman should be best nursed in Supine with wedge below right hip.
7. Best time to perform elective surgery in pregnant patientis post-partum.
8. Usually cyanosis appears when partial pressure of oxygen falls below 50 mmHg.
9. Cyanosis appears if reduced hemoglobin level is more than5 *g%.*
10. Earliest indication of hypoxia is Change in pulse rate.
11. Alderate scale score is for Post anaesthesia recovery.
12. Carbon dioxide production per minute is200 ml.
13. Oxygen content of arterial blood per dl is 20 ml.
14. High airway resistance is seen in Main bronchus.
15. The physiological dead space is decreased byNeck flexion.

15. Blood goes to brain in a normal healthy conscious individual 1/6 cardiac output.

17. Total lung compliance is Less than chest wall compliance.
18. Lung volume is same in male and female's Tidal volume.
19. Body plethysmography is required to measure Functional residual capacity (FRC).
20. The normal value of P50 on the oxyhemoglobin dissociation curve in an adult is 3.6 kPa.
21. Ventilation perfusion ratio is0.8.
22. Total Cerebral Metabolic failure occurs at cerebral blood flow of 10 mL/lOOmg/min.
23. The most potent cerebral vasodilator is Hypercarbia.

Recent Advances

1. Sternum should be depressed by 2 inches in adults while doing cardiac massage.
2. Successful cardiac massage can produce30% of normal cardiac output.
3. Recent and advanced method for assessing successful cardiac output End tidal CO2.
4. Drug of choice for PSVTis Adenosine.
5. Most common cause of electromechanical dissociation isHypovolemia.
6. Not a complication of total parenteral nutrition isRespiratory alkalosis.
7. Vein of choice for parenteral routeis Subclavian.
8. After contrast media injection in radiology department a patient develops severe hypotension, bronchospasm and cyanosis, Treatment m Adrenaline.
9. Sodium bicarbonate is not given to be done in cardiac arrest caused by ventricular fibrillation.
10. First step in CPR (cardio pulmonary resuscitation) should beCardiac massage.
11. IN CPR drug of choice is Adrenaline.
12. Concentration of adrenaline in CPR is 1:10000 .
13. Drugs not recommended for in tracheal administration during cardiopulmonary resuscitationis Sodium bicarbonate.
14. During cardiac resuscitation Disseminated intravascular coagulation does not occur.
15. During cardiopulmonary resuscitation, cardiac massage is givenLower third of sternum.

Recerit & High Yield Updated LMRPs

1. Cardio stable:AnaestheticEtomidate.
2. Ketamine used as anaesthetic in Cyanotic Heart Disease (Rt. to Lt. Shunt).
3. The reflex reverts back after a spinal anaesthesiaisBulbocavernosus reflex.
4. In a Trauma patient grey color of cannula will resident use to obtain maximum flow rate.
5. Best position to insert Ryle's tubeissitting with neck flexion.
6. MaHampati grading for airway assessment is grade 4 only hard palate seen.
7. Murphy's eye is seen in Endotracheal tube.
8. Modified MaHampati grading is used in assessment of difficult airway.
9. Most effective circuit in spontaneous anaesthesia in adult is Mapleson A.
10. Mechanism of action of Curanium drugs as muscle relaxant Act competitively on Ach receptors blocking post-synaptically.
11. Nerve to be used for monitoring anaesthesia is ulnar nerve.
12. A3 yrs old child with heart rate 140/minundergo squint surgery, after anaesthesia heart rate becomes 40/min, next appropriate stepis inj. Atropine.
13. Trilene is degraded by chemical degradation.

Orthopedics

General Consideration

Scoring Systems Used in Trauma

1. Total score for Glasgow scale is 15.
2. GCS, Systolic blood pressure, Respiratory Rate are included in Revised Trauma score.

Management of Polytrauma Patients/ Life Threatening Conditions

1. 1000-1500 ml is the average amount of blood loss after fracture shaft of femur.
2. Fractured ribs unite spontaneously and rarely require surgical intervention to hasten union.
3. Internal orthopedic hardware is not an Absolute contraindications for taking an MRI scan
4. The causes of nonunion include Distraction and separation of fracture fragments, Interposition of soft tissues and excessive movement at the fracture site
5. Stove in Chest. Is known as Injury producing multiple rib fractures on both sides of the sternum, producing a flail anterior segment.
6. The goals of proper fracture reduction are to provide patient comfort and analgesia, allowing restoration of length of the extremity, correction of angular deformity and rotation and providing a foundation for bone healing and union.
7. Contra indications for exsanguination before application of a tourniquet

preoperatively are:- Deep vein thrombosis, presence of infection and tumor

Open Fractures and their Management

1. About diaphyseal fractures; The use of intramedullary rods allows early weight bearing and minimal immobilization, Results for the use of intramedullary rods are better for fractures of the femoral shaft than the tibia.
2. Metals used for making the orthopedic implants are 316L steel, Titanium, aluminum vanadium alloys, Pure titanium alloys.
3. The basic principle of plating is that Plate should be applied to the tension side of the bone.
4. Reaming of the marrow space prior to intramedullary nailing can cause Thermal damage, Marrow embolization, Decrease in the torsional strength of the bones.
5. About open fractures Intravenous antibiotics should be administered as soon as possible, they should be regarded as an emergency, Systematic wound debridement and irrigation should be performed.

Articular Fractures

1. Most often open reduction of fracture is required in Unsatisfactory reduction.

Operative Intervention

1. Ender's nail is a type of flexible intramedullary nail.

Open Reduction & Internal Fixation (ORIF)

1. Contra indication for donation of bone for purpose of bone banking (Allografting bone) includes Fungal infection, Collagen vascular disease and Metabolic bone disease.
2. Hydroxyapatite and Tricalcium phosphate is a synthetic substitutes for cancellous bone.
3. Indications for bone grafting are ; to fill cavities resulting from excision of tumors or cysts, to bridge major defects or to establish the continuity of long bones and to obtain union in a pseudoarthrosis.

4. Sources for autogenous bone grafts are Tibia, Fibula and Ilium.
5. Disadvantages of using tibia as a source of structural graft; Normal limb is jeopardized, Convalescence is prolonged and the tibia needs to be protected for 6-12 months to prevent fractures.
6. Ideal site for harvesting bone graft is Iliac crest.

Skin & Skeletal Tractions

1. A plaster of paris cast which includes a limb and a part of the trunk is called Spica
2. The objectives of traction are to achieve Reduction of fracture and their maintenance, Immobilization of a painful inflamed joint and correction of soft tissue contracture
3. The maximum amount of traction weight that can be applied with skin traction is 6.7 kg
4. Contraindication for skin traction includes Laceration of the skin in the area to which the traction is to he applied, Impairment of circulation and Dermatitis
5. Velpeau sling and swyerswath bandage is used for Shoulder dislocation.

Plaster of Paris Application & Complication

1. Plaster of paris is chemically Hemihydrate calcium sulphate
2. Wedging of a plaster cast is done following application of cast to correct the Angulation
3. If following application of plaster of parisjafter manipulation of a fracture both bones leg) patient develops numbness of toes and discoloration with inability to move toes actively, best course of action is to Immediate split the plaster
4. Earliest clinical sign of Volkmann's ischemic contracture is Pain on passive extension of fingers
5. A positive Volkmann's sign in a full blown case of Volkmann's ischemic contracture indicates Constant length phenomenon of the flexor tendons
6. In the course of POP slab immobilization a properly made POP slab is applied over the limb to be immobilized and the slab is bound lightly in position by a WET open mesh bandage. This encircling bandage should not be dry because Dry bandage after application shrinks causing

compression.

7. The electric plaster cutting saw is Oscillating type
8. Compartment syndromes following orthopedic injuries are most commonly associated with fracture of supracondylar humerus and tibial shaft.
9. If dye is injected in one of the extremities, followed by pain and swelling of upper limb, Paraesthesia of fingers, stretch pain and normal peripheral pulses, the management is usually Fasciotomy.

Complications in Orthopedics

1. The source of the fat emboli is probably the Bone marrow
2. Prophylactic measures for prevention of DVT and pulmonary embolism includes; Use of elastic stockings or graduated compression stockings, early mobilization and encouragement of exercises and administration of low molecular weight heparin.

Tendons and Soft tissue Injury

1. The contraindications to primary repair of a flexor tendon injury include Contaminated wound and Inexperienced surgeon, Compromised general condition of the patient prohibiting prolonged anesthetic.
2. The most important structural component of connective tissue is collagen. Type 1 collagen is the most abundant in the human body and type 2 collagen is found in articular cartilage. The basement membrane collagens type 4 and 5, do not form regular fibers
3. Concerning soft tissue repair; the first stage involves a formation of granulation tissue, the initial pattern of collagen fibers and the degrees of waviness is random and therefore not as functional as the normal structure, Early immobilization, regulated physical stimuli, and good vascular supply are beneficial to healing
4. Palmaris longus most common source of tendon grafts
5. The various types of suturing techniques for tendon repair includes Tajima, Bunnell, Kessler.
6. Pulvertaft weave is a technique of Tendon repair.
7. In reconstruction of limb, Bone fixation is done first.

Injuries of Upper Limb

Shoulder Anatomy

1. Bankart's lesion is avulsion of glenoid labrum.
2. Muscle crossing through the shoulder joint is long head of Biceps.

Dislocation of Shoulder

1. Posterior dislocation of shoulder is usually seen in Electric shock and convulsion.
2. Techniques for reduction of a dislocation shoulder are Kocher's maneuver, Surgical reduction and Hippocrates' maneuver.
3. The Hill Sachs' lesion is Depression in the posterolateral aspect of the head of the humerus.
4. In posterior dislocation of glenohumeral joint, instability is tested by Jerk test.
5. In an uncomplicated dislocation of the glenohumeral joint, the humeral head usually dislocates Anteriorly.
6. Dugas' sign, Hamilton's ruler test and Callaway's Test are clinical signs for Anterior dislocation of shoulder.
7. In posterior dislocation of shoulder Reverse Hill Sachs' Lesion is seen on Anteromedial aspect of humeral head.
8. Anterior dislocation of shoulder is most commonly complicated by Axillary nerve injury.

Fracture Around Shoulder & Arm

1. Four part Proximal humerus fracture has maximum chances of avascular necrosis
2. Most common nerve involvement in fracture surgical neck humerus is Axillary nerve
3. Abduction and lateral rotation is affected if the greater tubercle of the humerus is fractured
4. Neer classification refers to fractures of proximal humerus.
5. Methods of treatment of fresh fracture of the clavicle includes Strapping

cuff and collar application, Figure of 8 brace application, Open reduction and K wire fixation.

Fracture Shaft Humerus & Distal Humerus

1. Hanging cast is used in fracture Humerus
2. Nerve commonly involved in fracture distal shaft of the Humerus is Radial Nerve.
3. Hanging cast are usually used to treat fractures lower third of humerus. The weight of the limb in the cast is supposed to provide necessary traction to keep the fracture aligned. The cast is kept on for a period of 6- 8 weeks
4. A side swipe injury is usually involves the Elbow
5. Displaced fracture of olecranon is best treated by Tension band wiring (TBW).
6. Bauman's angle is used in Humerus
7. Most common cause of Tardy Ulnar Nerve palsy is fracture lateral condyle of the humerus

Forearm Fracture

1. Essex Lopresti lesion in upper limb Injury to the interosseous membrane.
2. Axis of upper limb passes through Capitellum.

Colles' Fracture

1. Colles fracture is best managed by closed means.
2. Dislocation of the inferior radioulnar joint and fracture head of radius is seen in Essex Lopresti dislocation
3. Fractures involving the dorsal articular margin of the distal radius and associated with subluxation or dislocation of the carpus dorsally are referred to as Dorsal Barton's fracture
4. Common displacements after Colles' fracture include Dorsal displacement, Radial shortening, Impaction
5. Dinner fork deformity is seen in Colles fracture
6. The commonest complication of Colies' fracture is Malunion
7. Chauffeur's fracture is Fracture of the radial styloid process.

8. Extensor pollicis longus (EPL) is ruptured frequently after fracture of the lower end of radius.
9. Smith's fracture is fracture of the distal radius with volar displacement of the distal fragment.
10. Colies' fracture the most common fracture of elderly
11. The complications of a malunited Colies' fracture are reflex sympathetic dystrophy, carpal tunnel syndrome and carpal instability
12. Extensor pollicis longus tendon gets involved in Colies' fracture
13. Garden spade deformity is seen in Smith's fracture
14. Above-elbow cast with forearm in supination is the management of smith's fracture
15. # At lower end of radius are Smith's fracture, Cole's fracture and Barton's fracture
16. Barton's fracture is Intra-articular fracture distal end radius with carpal bone subluxation

Fracture Around Carpals

1. Comminuted intra intra-articular fracture of base of first metacarpal is known as Rolando's fracture
2. Game Keeper's thumb is Tear in the ulnar collateral ligament of the thumb at metacarpo-phalangeal joint.
3. The knuckle joints flexed 90 degrees and the finger joints extended is a position of safety for immobilization of the hand following injuries to the hand
4. Mallet finger occurs due to tear of the Terminal extensors
5. A Bennett's fracture is difficult to maintain in a reduced position mainly because of the pull of the Abductor pollicis longus
6. Avulsion of extensor tendon at the base of the distal phalanx is known as mallet finger
7. Bennett's fracture is fracture dislocation of base of 1st metacarpal
8. During fixation of bennett's fracture, Abductor pollicis longus hinders it

Metacarpal Injury

1. The blood supply of the scaphoid is through the Distal to proximal pole
2. The features of scaphoid cast are; The hand is kept in the tumbler holding position, The cast extends up to the metacarpal heads, In case of the thumb the cast extends up to the interphalangeal joint
3. Carpal tunnel syndrome is a late complication of old unreduced dislocations of lunate.
4. Indication for triscaphe arthrodesis are Scapholunate dislocation, Scaphotrapezial arthrosis and as part of operation for Silastic lunate replacement in stage III Kienbock's disease
5. Eponymous fractures; Colles' fracture involves the distal radius, Monteggia's fracture involves the proximal ulna & anterior dislocation of the head of the radius, Pott's fracture is a general term applied to fractures around the ankle.
6. Most common site of scaphoid fracture is through the waist
7. In children fracture scaphoid is though rare but usually involves Distal pole
8. The commonly injured carpal bone next to scaphoid is Triquetrum
9. The most common nerve involvement is dislocation of lunate is Median nerve

Zones of Hand

1. The muscle involved commonly in Volkmann's ischemic contracture is Flexor digitorum profundus.
2. Allen test is a clinical test used to determine The adequacy of the radial or ulnar artery
3. Flexion of the proximal interphalangeal joint with the adjacent digits held in extension is seen for Isolated flexor digitorum superficialis tendon.
4. Zone II carries the poorest prognosis following injury and repair.
5. That area between the distal palmar crease and the middle of middle phalangeal is known as no man's land

Injuries of Lower Limb

PELVIC FRACTURE

1. Avulsion fracture of the anterior inferior iliac spine is because of the violent contraction of the Straight head of the Rectus femoris muscle.
2. The imaginary semicircular line joining medial cortex of the femoral neck to lower border of the superior pubic ramus is called (On X-Ray) Shenton's line
3. Membranous part of urethra is most commonly injured following pelvic fracture.
4. Crescent fracture is Dislocation of SI joint with fracture of iliac blade
5. Langenbeck Kocher approach is best for posterior column fractures.
6. Jumper's fracture is seen in pelvis
7. Late complication of fracture acetabulum is Osteoarthritis of the hip joint.

EXAMINATION OF HIP

1. The Thomas test is used to reveal fixed Flexion deformity at the hip joint.
2. The abduction contracture at the hip joint is evaluated clinically by the Ober's test.
3. Nelaton's line is drawn with the hip in 90o flexion a line joining the anterior superior iliac spine (ASIS) and the ischial tuberosity passes through the greater trochanter tip.
4. Trendelenburg gait is due to paralysis of Gluteus mediums muscle
5. Gluteus maximus is known as pelvic deltoid of Henry.

DISLOCATIONS OF HIP

1. In Anterior dislocation of the hip there is true lengthening of the concerned lower limb.
2. Complications of hip dislocation are Sciatic nerve injury, Osteoarthritis and Myositis ossificans.

FRACTURE AROUND HIP

1. Stellate fractures are seen in all bones except Femur
2. Southern approach is best used for the surgical treatment of Fracture neck of the femur.
3. Pulmonary Embolism can be the cause if a patient after hip replacement develops severe chest pain and CVS collapse.
4. Metal articulation should be avoided in Young female.
5. Increase in Pauwels angle indicate more chances of displacement
6. commonest complication of trans-cervical fracture of femur is Avascular necrosis.
7. The most common site of fracture neck of femur that causes avascular necrosis is sub-capital.
8. In fracture neck femur, the causes of non-union include injury to blood supply and shearing stress.
9. The commonest hip injury in the elderly patient is usually Extracapsular fracture.
10. Prosthetic replacement of femoral head is indicated for Subcapital fracture neck femur
11. Malunion is the commonest complication of extracapsular fracture of neck of femur.

Treatment Plan of Fracture Neck Femur

1. Treatment of choice for a fracture neck of femur (intracapsular) in a 65 year old male patient who shows arthritic changes of the acetabulum in a radiogram of his Hip is Total Hip Replacement.
2. Following are treatment modalities for Fracture neck of femur are Moore's pin fixation, Hemiarthroplasty and Cancellous screw fixation
3. The treatment of fracture neck of femur in adult is usually Closed reductions and internal fixation
4. Meyer's procedure is done for Fracture neck of the femur
5. A Thompson prosthesis is used for the prosthetic replacement of the Head of the femur.

Fracture Intertrochanteric Femur

1. Most common complication following intertrochanteric fracture femur is Mal-union.
2. Trochanteric fracture of femur is best treated by Dynamic hip screw (DHS) and proximal femoral nail (PFN).

Fracture Subtrochanteric/Shaft of Femur

1. Comminuted fracture of the distal pole of the patella is best treated by excision of the fragments and reattachment of the ligament to the proximal fragment
2. Rotation of a flexed knee causes more damage to the semilunar cartilage (meniscus) in the knee.
3. Ideal treatment for transverse fracture (displaced) of the patella is Tension band wiring (TBW).
4. The most important view to visualization of the patellofemoral joint is the Axial/skyline view
5. Tube (Cylindrical) cast is applied for injuries of Knee joint
6. The site best suited for needle aspiration of the knee joint is Laterally at the level of the superior pole of patella
7. Infra-patellar branch of the saphenous nerve is commonly damaged during an antero-medial approach to the knee
8. The classical example of muscular violence is fracture of patella

Fracture Tibia

1. Delayed union of the tibia in the presence of an intact fibula is an indication for Fibular segmental excision
2. Ilizarov fixator is best for fracture lower l/3rd of tibia, later presented with discharging sinuses and shortening.
3. In F=fracture of the head of fibula, the following nerves are involved; Common peroneal nerve, Superficial peroneal Nerve and Anterior Tibial Nerve
4. The Ilizarov device aids in management of tibial fractures because of its ability to Stabilize acute fractures, Correct angular deformities in cases of malunion, transport bone by distraction callotasis and noninvasively

provide fixation for juxta-articular fractures, such as the tibial plateau and Pylon

5. 20 degree is acceptable angulation after reducing the fracture tibia
6. Treatment of choice for non-united fracture of lower l/4th tibia with multiple discharging sinuses & various puckered scar with 4 cm shortening of leg is Ilizarov fixator

Ankle & Foot Injuries

1. Pott's fracture is Bimalleolar ankle fracture
2. Tendo calcaneum (Tendo Achilles) is the strongest tendon in the body and also the thickest. It is formed by the tendons of gastrocnemius and soleus, it twists through 90° before inserting.
3. Anterior Talo-fibular ligament (ATFL) is the most commonly injured ligament in ankle joint sprains.
4. Inversion injury of the ankle joint causes fracture base of the 5th metatarsal, fracture of the sustentaculum tali and fracture tip of the lateral malleolus ,
5. Sudeck's Osteodystrophy is usual after a fracture of the extremities. Complaints would be continuous burning pain, X-ray shows a characteristic patchy rarefaction of bone.
6. Peroneus brevis tendon is the distracting force in a Jones fracture (fracture base of fifth metatarsal)
7. The most frequent forces acting on the foot that causes ankle fractures is External rotation.
8. Thompson squeeze test is performed for the clinical diagnosis of a ruptures Tendo-Achilles
9. A pilon fracture of tibia is Intra-articular fracture of distal tibia.
10. The stability of the ankle joint is maintained by deltoid ligament, lateral ligament and shape of the superior talar articular surface
11. Talus is the tarsal bone that is most prone to vascular compromise

Fracture Talus

1. Avascular necrosis is a complication of fracture of talus
2. Most common complication of fracture talus is Osteoarthritis of subtalar joint
3. Hawkins sign seen in AVN of the talus.

Fracture Calcaneum

1. Reduce Bohler's angle is seen in fracture of Calcaneum

Trauma (Pediatrics)

Fracture and Dislocation in Children

1. Bone commonly fractured bone in children is Clavicle.
2. The most commonly dislocated joint in the child's hand is the Metacarpophalangeal joint
3. The first center of primary ossification appears at the end of 2 months in intrauterine life
4. In children best remodeling is seen in fracture with angulation in metaphysis
5. Green stick fracture is incomplete fracture

Epiphyseal Injury

1. The most severe epiphyseal growth disturbance is likely to result from Crushing injury compressing the growth plate
2. Avulsion fracture of distal tibial physis anterolaterally occurring in adolescents is called Tillaux fracture.
3. The lower radius curve forward carrying with it the carpus and hand, but leaving the lower ulna sticking out as a lump on the back of the wrist is known as Madelung's deformity
4. Thurston Holland sign is seen in Type - II epiphyseal injury
5. Type VI Rang's injury includes Perichondrial ring injury

Fracture Lateral Condyle Humerus

1. "Cubitus-valgus" deformity is complication of # Lateral condyle of humerus
2. Tardy ulnar nerve palsy is seen in non-union of lateral condyle humerus fracture.

FRACTURE MEDIAL EPICONDYLE

1. Gun-stock deformity is seen in Cubitus varus
2. Partial avulsion of medial epicondyle in children is called Little leaguer's elbow

Fracture Supracondylar Humerus(Malgaigne's Fracture)

1. Baumann's angle is seen in supracondylar humerus fractures
2. Complications of supracondylar fracture humerus in children include Malunion, Brachial artery injury, compartment syndrome and Myositis ossificans
3. Gunstock's deformity is seen following Supracondylar fracture humerus
4. Dunlop's traction is a type of traction used for correcting Supracondylar fracture elbow
5. A modified French osteotomy is used to correct Cubitus varus deformity
6. Nerve most commonly involved in supracondylar fracture is Anterior interosseous nerve
7. In extension type of supracondylar fracture, the usual displacement is Posteromedial
8. In Volkmann's contracture, Brachial artery is involved

Myositis Ossificans (M.O) / Heterotropic Ossification

1. Myositis ossificans is more common in children, generally follows extensive massaging, most common around the elbow joint involving brachialis muscle.
2. Zonal phenomenon is considered pathognomonic for myositis ossificans
3. Heterotopic ossification occurs in Soft tissue
4. In myositis ossificans mature bone is seen at periphery
5. Treatment of myositis ossificans includes Splinting of the elbow, Gentle active movements, indomethacin
6. Myositis ossificans is progressive, usually involve children. Respiratory problems and Ankylosis is seen.

Pulled Elbow/ Nurse Maid's Elbow

1. Nursemaid's elbow is Radial head subluxation (Pulled elbow)
2. A child is spinned around by holding his hand by his father. While doing this the child started crying and does not allow his father to touch his elbow. The diagnosis is Pulled elbow.

Fracture Olecranon

1. The most common modality of treatment used for olecranon fracture (displaced) isTBW

Management of Fracture Both Bones Forearm

1. A green stick fracture is one in which there is a fracture of a single cortex
2. Galeazzi fracture is fracture of the lower one third of the radius with dislocation of inferior (distal) radio-ulnar joint. It is managed surgically

Spinal Injuries

Introduction

1. The commonest site of fracture in senile osteoporosis is the Vertebra
2. Indications for surgical intervention in a case of spinal trauma include: an unstable injury of the vertebral column Partial neurological deficit with CT or MRI proven compromise of the spinal canal, Partial improvement of the neurological deficit while on conservative management, For the purpose of nursing care.
3. When a person falls from height and lands on his feet the chances of spinal injury are very high, the area in the vertebral column most likely to sustain an injury is the Dorso-lumbar junction
4. Wedge compression is a stable fracture
5. Burst fracture of spine is a type of Compression injury
6. Aortic aneurysm surgery complication causing paraplegia involves artery of Adamkiewicz
7. Most common site for trauma of spine is cervical
8. Motorcyclist's fracture is hinge fracture of base of skull

Whiplash Injury

1. Lateral swimmer's view is helpful for lower cervical spine
2. Whiplash injury is Spinal cord injury without vertebral fracture.
3. "Whiplash" injury is caused due to Acute hyperextension of the spine

Jefferson's Fracture And Hangman Fracture

1. Hangman's fracture is the fracture of 2nd cervical vertebra.

Lower Cervical Spine Injury

1. Tear drop fracture of lower cervical spine implies Flexion compression failure of body.
2. Burst fracture of s spine is a compression fracture.
3. Most common type of injury to spinal cord is Flexion-rotation injury.

Thoracolumbar Spine Injury

1. Pure dislocation (without associated fracture) does not occur in the Lumbar spine because the facets of the lumbar vertebrae are stout and vertically placed
2. Chance fracture involves disruption of ligaments of anterior, middle and posterior columns
3. Instability results from significant bone and/or soft tissue injury in two columns is true about the "three-column concept" of spinal fracture stability

Evaluation & Management

1. Skull traction is applied by using Crutchfield tongs. They are applied to fit into the Parietal bone
2. Complication of skull traction is Brain stem fracture
3. Minerva jacket is used for injury of the cervical spine
4. Boston brace works on the principle of a three point action of a bending force.
5. 30 mg/kg stat is the dose of methyl prednisolone is to be given in spinal injury.

Sports Medicine

1. Anterior drawer and Lachman tests are done to diagnose tears in Anterior cruciate ligament (ACL).
2. McMurray's test is used for the evaluation of Meniscal injuries
3. Central trans patellar tendon portal is called the Swedish portal for arthroscopy of the knee
4. The advantages of arthroscopic procedures include reduced postoperative morbidity, Less intense inflammatory response and Reduced hospital cost
5. Postero-lateral Corner Injury can be assessed by dial test.
6. Pellegrini-Stieda disease usually involves the tibial collateral ligament at the knee
7. Physiological locking involves Internal rotation of femur over stabilized tibia
8. Factors which predispose to recurrent lateral dislocation of patella include; generalized ligament laxity, underdevelopment of the lateral femoral condyle and flattening of the intercondylar groove, maldevelopment of the patella which may be too high or too small.
9. The joint most likely to undergo arthroscopy is Knee
10. In 'bounce home' test of knee 'end feels' are interference 'end feels' Firm, Spongi block, Bony
11. Medial meniscus of knee joint is injured more often than the lateral meniscus because the medial meniscus is relatively Less mobile
12. Injury to the medial meniscus is rather impossible when the knee joint does not Flex
13. Tears in the inner zone meniscal tears, meniscectomy ill be a more suitable option than meniscal repair
14. Commonest dangerous complication of posterior dislocation of knee is Popliteal artery injury
15. Mechanism of injury in lateral condylar fracture of proximal tibia is valgus strain of knee with axial loading

Meniscal Injury

1. The Squat test is a clinical test used for the diagnosis of Menisci tear
2. Menisci are fibrocartilaginous crescents present on the articular surface of the tibia. The tendon of the popliteus separate the lateral meniscus from the fibular collateral ligament. Injuries to menisci are commonly produced by the twisting strains in a slightly flexed knee.
3. The complication following meniscectomy includes post-operative hemarthrosis, chronic synovitis and synovial fistulae
4. Physiological locking involves internal rotation of femur over stabilized tibia
5. A meniscal tear rarely heals because of its poor vascularity

Ankle Ligament Injury

1. Most common cause of insertional tendinitis of Tendo Achilles is Chronic overuse
2. Posterior cruciate ligament prevents posterior dislocation of tibia

Advanced Orthopedics

1. The "Q angle" is the angle between the line of the patellar ligament and the line of pull of the quadriceps
2. Blumensaat's line is used to radiologically diagnose an anatomical condition called patella alta. It is drawn through the roof of the intercondylar notch of femur.
3. Bowler's thumb is rupture of the ulnar collateral ligament at the first metacarpo-phalangeal joint
4. Cricketer while catching a ball gets hit on thumb, damage should you look for specifically Ulnar collateral ligament
5. LP: LT ratio (LP being length of patella and LT being the length of the tendon) less than 1.00 indicates Patella alta

Nerve Injuries

Nerve Injury

1. Wallerian degeneration is the process of degeneration distal to a point of injury to a nerve.
2. Radial nerve has the best prognosis
3. Tinel sign is used for to assess the recovery of the nerve

Brachial Plexus Injury

1. The root value of the long thoracic nerve is the C 5,6,7
2. Upper trunk injury will lead to difficulty in abduction of shoulder and flexion at elbow
3. Intradermal histamine test is used as a diagnostic modalities to distinguish between pre and postganglionic brachial plexus injuries
4. Sural nerve serve as donors for nerve grafting procedures

Erb' Palsy/Klumpke's Paralysis

1. Abduction at shoulder is lost in Erb's palsy.
2. Klumpke's paralysis is due to injury to C8, T1

Axillary Nerve (C5 C6)

1. The nerve involved in anterior dislocation of the shoulder is Axillary nerve

Median Nerve

1. Major causalgia develops after injury to a major mixed nerve, most commonly the Median nerve
2. APE thumb deformity is seen following injury to Median nerve
3. A "true claw-hand" of severe type results from a combined lesion of median and ulnar nerves at the elbow
4. Pointing index is because of Median nerve injury
5. Features of anterior interosseous nerve (AIN) syndrome include Inability to perform OK-sign (approximate thumb and tip of index finger). AIN is entrapped under pronator teres, flexor digitorum profundus, flexor carpi radialis. Conservative treatment generally, surgery rarely.

6. Loss of sensation in lateral 3andl/2 finger, test done are Phalen test, Tinel sign, Tourniquet test
7. Compression of a nerve within the carpal tunnel products inability to oppose the thumb

Ulnar Nerve Injury

1. Froment's test is done for Ulnar nerve injury and Froment's sign is characteristically seen in Ulnar nerve injury.
2. Claw hand is caused by lesion of Ulnar nerve
3. A patient presents with loss of sensation of ring and litter finger with wasting of hypothenar muscles, suspect Ulnar nerve injury before division into deep and superficial branches.
4. Neuropraxia of Ulnar nerve can be managed by Knuckle bender Splint.

Radial Nerve Injury

1. Total interruption of the radial nerve at midarm produces specific findings on physical examination. The most complete description of the neurologic deficit includes Paralysis of the brachioradialis, extensor carpi radialis longus and brevis, extensor carpi ulnaris, thumb extensors, and metacarpophalangeal (MCP) joint extensors, and loss of cutaneous sensibility at the dorsal aspect of the thumb and index fingers.
2. Damage to the radial nerve in the spinal groove spares the Long head of triceps
3. The following are affected in low radial nerve palsy; Extensor carpi radialis brevis, Finger extensors and sensations on dorsum of hand.
4. Radial Nerve Injury causes Inability to Extend Wrist and Fingers
5. Injury to radial nerve in lower part of spiral groove leaves extensions at elbow joint intact
6. Extensor carpi radialis longus is spared in low radial nerve injury.
7. Most common cause of neurological deficit in upper limb is Erb's palsy

Common Peroneal Nerve Injury

1. Most common site to injure common peroneal in injury is Neck of Fibula

Nerve Entrapment Syndromes

1. Meralgia paresthetica is due to the involvement of the Lateral cutaneous nerve of thigh
2. Features of Morton's metatarsalgia include: initial complaint is sharp pain in the fore foot, tenderness is usually localized to the inter-digital space(the third space being the commonest). Treatment usually involves padding.
3. Clinical feature of carpal tunnel syndrome are more common in the night, Tinel's sign is positive. It is a type of compressive neuropathy
4. Complication of surgical release of the carpal tunnel syndrome are :Cutting of the palmar sensory branch of the median nerve, Cutting of the median nerve while separating the ligament and injury to superficial palmar arterial arch
5. Causes of persistent pain in previously operated cases of carpal tunnel syndrome are Hyperplasia of the teno-synovioma, almost complete reformation of the transverse carpal ligament, scarring and constriction
6. Carpal tunnel syndrome is a compressive neuropathy of the Median nerve
7. Cervical RIB is likely to produce Paraesthesia in upper limb
8. Tarsal tunnel syndrome is Compression neuropathy of the posterior tibial nerve
9. Trendelenburg test is positive due to injury to Superior gluteal nerve.
10. Most sensitive test for carpal tunnel syndrome is Phalen's test
11. Most common cause of tarsal tunnel syndrome is Rheumatoid arthritis

Metabolic Bone Diseases

Basic Physiology

1. Functions of the PTH hormone includes maintenance of blood calcium levels by resorption of bone, Lowers serum phosphorous levels by inhibiting tubular resorption of phosphate and Stimulates osteoclasis.
2. The levels of alkaline phosphatase occur in greatest concentrations in Intestinal mucosa, Bone, Kidney
3. Pin head stippling is a characteristic feature of (on skull X-ray) Hyperparathyroidism

4. The various microscopic zones of the growth plate are Zone of resting cartilage, Zone of proliferating chondrocytes, Zone of maturing chondrocytes
5. Nutrition of a articular cartilage is derived from (in adults) Synovial fluid
6. Physiologically the functions of calcium are Blood coagulation, Neuromuscular excitability and Muscular contraction
7. Long bones in adults derive their blood supply from Epiphyseal and metaphyseal blood vessels, Nutrient arteries and Periosteal vessels
8. Alkaline phosphatase in Heterotrophic ossification is the most important investigation you would do for management
9. Brown tumour seen in Hyperparathyroidism
10. Chvostek's sign is positive in Hypoparathyroidism

Rickets &Osteomalacia

1. Radiological features of rickets are Delayed appearance of the epiphysis, Widening of the epiphyseal plate and Flaring of the metaphyseal cortices outward (trumpeting)
2. Causes of genu valgum are Rickets, osteomalacia, Charcot's disease and Post traumatic
3. The causes of dwarfism are Achondroplasia, Cretinism and Multiple epiphyseal dysplasias
4. Decreased mineralization of epiphyseal plate in a growing child is seen in Rickets
5. Rickets in infant can present as Craniotabes, Widened fontanel and Rachitic rosary
6. S. alkaline phosphatase is a persistent biochemical marker of rickets
7. Windswept deformity is seen in Rickets
8. Milkman's fracture is type of Pseudofracture
9. Looser's zones are seen in Osteomalacia
10. Increased alkaline phosphate in seen rickets, osteomalacia, hypophosphatemia, primary hyperthyroidism.
11. Osteomalacia may present with pseudo-fractures.

SCURVY (VIT -C DEFICIENCY)

1. Radiological features of scurvy are White line of Frankel, Pelkan spur and Wimberger's line
2. The disease that results in deficient hydroxylation of the pro-alpha chains of collagen is known as Scurvy
3. Bone in scurvy affected by Less formation of osteoid matrix.

Paget's Disease/ Osteitis Deformans

1. Pathological fracture in Paget's disease is seen in Vascular soft phase
2. Sequelae of Paget's disease of bone includes Bowing of the tibia, Osteoporosis circumscripta and Neurologic impairment
3. Pelvis is commonest site for Paget's disease
4. Relentless pain in a patient with Paget's disease indicates Malignant degeneration, Pathological fracture or Secondary osteoarthritis
5. Saber Shin' is a clinical feature of Paget's disease
6. Paget's disease of bone may present with neurological complications or a pathological fracture, increase in serum alkaline phosphatase and malignant change occurs in 1% of patients
7. Osteoclast is a primary defect in Paget's disease
8. Treatment of choice for Paget's disease of the bone is calcitonin
9. Picture frame vertebra is seen in Paget's disease
10. Osteosarcoma can be a complication of Paget's disease.

Osteoporosis

1. Singh's index is a grading for Osteoporosis
2. Radiological feature of osteomalacia are Diffuse rarefaction of bones, Presence of loser's zones and Protrusio acetabuli.
3. Teriparatide, Calcitonin and Bisphosphonate are used in osteoporosis for decreasing bone resorption and increasing bone formation.
4. Risk factors for osteoporosis are Early menopause, Oophorectomy or Hysterectomy and Cigarette smoking
5. Drugs that causes osteoporosis on long term usage are Steroids, Dilantin sodium and Warfarin.
6. Osteoporosis may be characterized by decreased bone density, wasting of muscles, loser's zone seen

7. Causes of osteoporosis include Thyrotoxicosis, Chronic heparin therapy and Old age
8. Most common site of involvement in osteoporosis is vertebrae (spine
9. Treatment of postmenopausal osteoporosis is Estrogen
10. Alendronate, Etidronate and Strontium decreases bone resorption in osteoporosis

Fluorosis

1. In fluorosis, Chief complaints are pain in the back joints associated with stiffness of spine and paresthesias in the limbs. In advanced stages patient has spastic paraparesis, X-ray of spine reveals increased density and calcification of posterior longitudinal ligaments
2. CT scan is best for diagnosing posterior Longitudinal ligament calcification.

Osteogenesis Imperfecta= Lobstein Vrolik's- Brittle Bone Disease

1. Osteogenesis imperfecta is associated with a defect in the synthesis of Type I collagen
2. Pyknodysostosis is also associated with presence of Blue sclerae other than osteogenesis imperfect
3. So field has described procedures for Osteogenesis imperfect

Osteopetrosis=Marble Bone Disease=Albert Schonberg Disease

1. In Osteopetrosis bone become dense and brittle. Anemia, Optic atrophy and deafness are other features.
2. Erlen Meyer Flask appearance on X-ray is a feature of Gaucher's disease
3. Features of Osteopetrosis are Pancytopenia, Cranial nerve compression and Osteomyelitis of mandible.

Pediatric Orthopedics

Limb Deficiencies

1. Pollicization is Reconstruction of thumb
2. Phocomelia is best described as Defect in development of long bones

Download From: AghaLibrary.com

MISCELLANEOUS

1. The femoral head-acetabular relationship after the head has fully ossified is expressed (on X-ray) by CE angle of Wiberg
2. The sagging rope sign on AP view of hip is a sclerotic line running across the femoral neck. It is a radiological relic of former Perthes' disease.
3. The causes of a painful limb are Slipped femoral epiphysis, TB of the hip and Perthes disease
4. Soutter's release is done for release of contracture at Hip
5. The causes of coxa vara are Malunion of trochanteric fracture, Congenital, Rickets and osteomalacia.
6. Fairbanks' triangle is seen in Infantile coxa vara
7. Chiari osteotomy involves medial displacement of the acetabulum
8. Autosomal dominant Inheritance pattern is not a feature of metaphyseal dysplasia i.e. Pyle's disease

g -fh_e features of Ollier's disease are; The fingers or toes contain multiple enchondromata, An affected limb is short and Common deformities include valgus or varus at the knee

10. Accessory calcaneum is the commonest accessory bone of the foot
11. Egger's method is performed for correction of combined flexion deformities of the hip and knee in cerebral plays
12. Steindler's procedure is done for correction of Pes cavus
13. Cleft foot also called partial adactyly is an anomaly in which a single cleft extends proximally into the foot
14. Congenital flat foot is also called rigid flat foot or congenital vertical talus. The calcaneum is in equinus and the talus points almost vertically downwards. The middle of the sole is the most important part of the foot (rocker bottom foot)

Legg Calve - Perthe's Disease / Osteochondritis npfnrman^uvenilis / Coxa Plana

1. "Head at risk signs" (radiological) that correlate positively with poor results in the outcome of Perthes' disease Lateral subluxation of the

femoral head, Speckled calcification lateral to the capital epiphysis, Gage sign-a radiolucent 'V' shaped defect in the lateral epiphysis and adjacent metaphysis.

2. Perthes' disease usually presents before 10 years of age
3. Perthes' disease is osteochondritis of femoral epiphysis
4. Radiological sign in case of Perthes' disease is lateral subluxation femur head
5. Perthes' disease is treated by supervised containment of femoral head in acetabulum

Slipped Capital Femoral Epiphysis / Epiphysiolysis

1. The complications of slipped capital femoral Epiphysis (SCFE) after surgery are Avascular necrosis, Chondrolysis and Femoral fractures
2. Trethowan's sign is used in the radiological diagnosis of Slipped capital femoral epiphysis
3. In Slipped Capital Femoral Epiphysis (SCFE) the epiphysis slips medially and posteriorly

Developmental Dysplasia of Hip (DDH)

1. Slocum test is useful in diagnosis of congenital dislocation of the hip
2. Congenital muscular Torticollis (CMT) is caused by fibromatosis within the Sternocleidomastoid muscle

Pediatric Knee And Foot Problem

1. Triple arthrodesis is arthrodesis of sub-talar joint, talo-navicular joint and calcanea cuboid joint

Pediatric Knee And Foot Problem

1. Causes of genu varum are Blount's disease, Rickets and Malunited fractures
2. Blount's disease is Genu varum

CTEV-Congenital Talipes Equinovarus

1. Aetiology of congenital talipes equinovarus (CTEV) are Idiopathic, Secondary to myelomeningocele and Arthrogryposis.

2. Features of a CTEV shoe that is a modification of a normal shoe are Straight inner border, Outer shoe rise, No heel
3. The various angles used for evaluation of clubfoot are Talocalcaneal angles on AP view of the foot, Talocalcaneal angle on the lateral view of the foot, Talo-first metatarsal angle
4. Dwyer osteotomy is done for relapsed clubfoot, it is done on the Calcaneum
5. In clubfoot, the posterior contractures include that of Tendo Achilles, Posterior talofibular ligament and Posterior capsule
6. Cincinnati incision is generally used for correction of club foot. This is a Transverse circumferential incision.
7. In triple arthrodesis of the ankle, the joints are fused are Sub talar joint, Talonavicular joint and Calcaneo cuboid joint.

PAEDIATRIC SPINAL PROBLEM

1. The Milwaukee brace is used for correction of Scoliosis
2. Halo body orthosis has best control at the cervical spine.
3. Reissner's turn buckle cast is applied for correction of Scoliosis
4. The Cobb method is used for Measurement of curves in scoliosis of spine
5. Risser’s sign; The iliac apophyses starts ossifying shortly after puberty ossification extends medially, Once the crests are completely ossified it is a sign of skeletal maturity, Ossification of crests coincides with fusion of the vertebral ring apophyses
6. Denis gave 3 Columns to Define Stability of Spine
7. Sprengel's shoulder represents failure of descent of the scapula from the cervical spine. The scapula is small and abnormally high often associated vertebral or rib anomalies.
8. Klippel-Feil triad includes; Low post. Hairline, Restricted neck movements and Cervical vertebrae fusion.

Bone Dysplasia

1. Apert’s syndrome is a type of craniofacial dysplasia
2. Regarding multiple epiphyseal dysplasia Misdiagnosis as Legg-Calve-Perthes disease is common.
3. Dwarfism is the clinical features differentiates a predominantly meta-

physeal or diaphyseal dysplasia and dysplasia with epiphyseal involvement

4. Bone dysplasia is invariably seen due to developmental defect

Cleidocranial Dysostosis

1. Features of achondroplasia are Brachycephaly, Exaggerated lumbar lordosis and Trident hand
2. Spondyloepiphyseal dysplasia is associated with Atlantoaxial instability, Scoliosis and Coxa vara
3. Absent lateral l/3rd of clavicle is seen in Cleidocranial dysostosis

Osteochondritis / Osteochondrosis

1. Commonest site for osteochondritis dissecans in the elbow is Capitulum
2. Apophysitis of the tibial tubercle is known as Osgood-Schlatter's disease

Bone Tumor

General Classification of Tumors

1. The accepted treatment options for osteoid osteoma are Block excision of the nidus, Shaving of reactive bone till the nidus is encountered and then curetting the nidus, Introduction of a k wire into the nidus after CT localization and then introduction of a Biopsy punch over the wire.
2. Ivory exostoses (compact osteoma) is seen in adolescents or young adults, Usually seen on the outer surface of the skull and on the subcutaneous surface of tibia, If it occurs on the inner table of the skull It may cause focal epilepsy

Enchondroma

1. Ominous symptom in enchondroma signaling malignant change as is Pain in the absence of fracture
2. The most common site for an exostoses is around the knee joint.
3. Ollier’s disease is a rare condition which features many cartilaginous tumors appear in both the large and small tubular bones and in flat bones. Deformities resulting from the tumors include shortening caused by lack of epiphyseal growth.

Non Ossifying Fibroma/Fibrous Cortical Defect

1. Tamoxifen is supposed to reduce the size of Desmoplastic fibroma
2. Non ossifying fibroma is a development defect in which a nest of fibrous tissue appears in bone and persists. Commonest sites are metaphysis or long bones, If the defect is large may require curettage and bone grafting
3. Radiological appearance classically described as 'Ground Glass' appearance in Fibrous Dysplasia
4. Shepherd Crook deformity is a feature Fibrous dysplasia

Simple/ Solitary/ Unicameral-Bone Cyst

1. A Unicameral bones cyst presents most often as fracture through the cyst
2. An elevated level of prostaglandin PGE2 in the fluid aspirated is seen in Unicameral bone cyst
3. A unicameral bone cyst has been called active when the cyst abuts on the physis without any intervening normal bone
4. Solitary bone cyst is most common in the Upper end of humerus

Hemangioma

1. 'Corduroy' appearance on X-ray is a characteristic feature of (on X-ray for the spine) Hemangioma

Giant Cell Tumor (Osteoclastoma)

1. Osteoblastoma tends to occur in the spine and the flat bones
2. Mild pressure of the swelling of GCT is supposed to produce a characteristic egg shell crackling & is noted in the later stage of GCT
3. Cryosurgery is generally used to prevent local recurrence, the chemical used commonly for treatment of GCT is liquid Nitrogen
4. The accepted methods of treatment of a GCT are Curettage and bone grafting, Curettage and acrylic cementation, Curettage and cryosurgery, EN bloc resection and replacement with allografts.
5. Giant cell tumor is commonest in the Young adults after fusion of growth plate
6. Soap bubble appearance on X-Ray is the classical presentation of Osteoclastoma (Giant cell tumor)

7. A variant of giant cell tumor is Non Ossifying fibroma

Histiocytosis x (Langerhans Cell Histiocytosis)

1. Eosinophilic granuloma most commonly affects the bones of skull
2. Histiocytosis X comprises of a group of diseases characterized by the proliferation of histiocytes in the bone, three of the below mentioned are clinical entities of histiocytosis X are Eosinophilic granuloma, Hand Schuller Christian disease and Uttered Siwe disease

Osteosarcoma

1. Histological features of osteosarcoma are Malignant cartilage, Large stromal cells resembling osteoblasts with malignant characteristics like anisocytosis, nuclear pyknosis, pleomorphism, Direct formation of tumor osteoid and bone by the malignant connective tissue
2. Osteosarcomas occur most commonly at Lower end of femur
3. X-ray findings of osteosarcoma are Hazy osteolytic areas may alternate with unusually dense osteoblastic areas, the endosteal margin is poorly defined, Codman's triangle is the reactive new bone which forms at the angle of periosteal elevation.
4. Osteosarcoma is radio-resistant
5. Osteosarcoma is a pulsating bone tumor

Ewing's Sarcoma

1. Treatment of choice in Ewing's tumor is Chemotherapy and radiotherapy
2. Onion peel appearance is often associated with Ewing's sarcoma
3. A patient with Ewing sarcoma having radio & chemo therapy with fever Indicates poor prognosis

Chordoma

1. Chordoma arises from Sacrum, Vertebrae and Clavicle

Bone Metastasis

1. Osteosclerotic lesions are seen in Prostate carcinoma.
2. Intra-arterial perfusion of drugs such as doxorubicin and cisplatin have

been found useful in reducing the size of osteosarcomas, facilitate limb sparing resection and assist in the choice of post-operative protocol

Multiple Myeloma

1. The complications of multiple myeloma are pathological # anylrdosisd impaired immune function
2. Hypercalcemia is associated with Multiple myeloma

Soft Tissue Tumors

1. Generally radiotherapy should not be used for treating benign conditions. Only possible exception being Extensive pigmented villonodular synovitis
2. The features of Von Recklinghausen's Disease are Transmission is autosomal dominant, Patients develop numerous skin nodules and cafe au lait patches ,Treatment is needed only if pain or paresthesia become troublesome or if a tumor become very large
3. Pigmented villo nodular synovitis (PVNS) presents as a long standing boggy swelling of a joint most commonly Hip
4. Synovial sarcoma seen in > 50 yrs, Occurs at extra-articular sites more often, seen in sites such as knee and foot..
5. Hyperthermic perfusion in combination with radiotherapy and chemotherapy bas been used for Soft tissue sarcomas of the extremities

Diagnosis Of Bone Tumor

1. Chondroblastoma arises from the epiphysis

Staging of Tumors (Enneking's)

1. In Enneking's terminology wide local excision refers to Removal of the tumor together with a wide margin of Normal tissue
2. Active benign tumor (Enneking) are Intracapsular, Well defined margins, Treated by extended curettage
3. Staging of bone tumors is done by Enneking

Importance of Investigations

1. Biopsy incision for an extremity lesion should be Longitudinal, Violate only one compartment, Definitive procedure must remove the biopsy site
2. Following are local physical modalities that have been used to extend the effectiveness of intra-lesional curettage; Cryosurgery using liquid nitrogen, Acrylic cementation and application of phenol
3. Radio scintigraphy is the most sensitive imaging technique to detect silent metastases in bone
4. Ewing's sarcoma shows maximal response to radiotherapy.
5. Generally imaging studies should be performed before biopsy

Amputations

1. Mangled extremity severity score includes Ischaemic shock, Cardiogenic, Energy of wound

Level of Amputation

1. The Known complication of Boyd's amputation Posterior migration of the heel pad
2. The most common complication following Chopart's amputation Severe equinovarus deformity
3. The ideal length of bone for a below knee stump is 12.5 cm to 17.5 cm
4. The best site for performing a conventional above knee amputation is 9 to 10 cm proximal to the knee
5. Ideal length for a above elbow amputation is at least 3.8 cm proximal to the elbow
6. The Structures removed in a forequarter amputation are Scapula, Humerus and Lateral border of the clavicle
7. Amputation of the foot does not involve sectioning of the calcaneum in Lisfranc’s amputation
8. Syme's amputation is an amputation at Ankle joint
9. Post radical neck dissection syndrome includes Shoulder drooping , Restricted range of movement of shoulder joint and Shoulder pain
10. Knee disarticulation has the advantages over above-knee amputation of Longer lever arm.

Mid foot Amputations

1. The advantages of the Jaipur foot over the conventional such foot are that it is suitable for bare foot walking, Allows movement at fore foot and midfoot.
2. True about SACH Lower limb prosthesis is Central wooden keel, Shoes REQUIRED

Miscellaneous questions

1. Terminal overgrowth of bones (in amputed stumps) is a frequent complication of amputations in children bones most commonly overgrow is Humerus
2. Krukenberg's operation is a type of operation which splits the radius and ulna to provide crocodile type jaws with sensation
3. **Amputations in children.** Disarticulation is preferable to mid shaft amputation. Painful phantom sensations are unusual in Children. Malignant tumors account for more than half of the amputations performed for non-traumatic causes
4. Tension myodesis is contraindicated in amputations done for Ischemia
5. The most common cause of pain in an amputation stump especially those resulting from traumatic injuries is a neuroma located near the end of the stump
6. Phantom limb Follows amputation
7. Treatment of neuroma after amputation TENS
8. The features of Gorham's diseases (Disappearing Bones) are Progressive disappearance of bone associated with multiple hemangiomatosis or multiple lymphangiectasis, Usually the progression involves contiguous bones, but occasionally multiple sites are "affected , Patients present with mild pain or with pathological fracture
9. The commonest site for a glomus tumor is the Phalanges
10. Background lesions simulating bone tumors are Fibrous dysplasia, Bone Island and Bone infarct

Infection

Osteomyelitis

1. Radio scintigraphy has high sensitivity but low specificity for diagnosis in the early stages of acute osteomyelitis.
2. An acute metaphyseal osteomyelitis around Hip joint can complicate into acute septic arthritis
3. The commonest site for acute osteomyelitis in adults is the Thoracolumbar spine
4. Salmonella osteomyelitis is most common in people with Sickle cell disease
5. Bony change on X-ray signs of acute osteomyelitis are seen after 10 days
6. In acute hematogenous osteomyelitis of childhood, the earliest microscopic changes in bone are in the Metaphyseal-physeal junction
7. First site to involve in hematogenous osteomyelitis is Metaphysis
8. Hematogenous osteomyelitis most frequently affects the metaphysis of long bones.

Chronic Osteomyelitis

1. Chronic discharging sinus is the commonest presenting complaint in chronic osteomyelitis (LQ)
2. Known complications chronic osteomyelitis are Pathological fracture, Amyloidosis and Septicemia
3. The sequestrum appears dense on X-ray because Of loss of blood supply, the sequestrum is not decalcified
4. Acute hematogenous osteomyelitis has a predilection for the metaphysis of long bones this is because Peculiar arrangement of the blood vessels in that area, The metaphysis is subject to trauma, The number of macrophages in the metaphysis in lesser when compared to the diaphysis
5. The commonest cause for a persisting discharging sinus in a cases of chronic osteomyelitis is Presence of a sequestrum
6. Pseudoarthrosis is seen in all the following; Fracture, Idiopathic and Neurofibromatosis

Infective Arthritis

1. Tom smith arthritis is the Septic arthritis of infancy
2. Septic arthritis of the hip joint seen in infancy is called Tom smith's arthritis
3. The known complication of acute septic arthritis are Deformity& stiffness, pathological dislocation & secondary OA

Transient (Toxic) Synovitis OF Hip/Observation Hip/lrritable Hip Or Coxalgia Fugax

1. Most common attitude of hip in treatment synovitis of hip is Flexion, Abduction, External rotation (Faber)

Skeletal Tuberculosis

1. Spina ventosa is Spindle shaped expansion of the bone seen in TB dactylitis
2. Caries sicca is the characteristic feature of Tuberculosis of shoulder joint
3. Night cries are typical of Tuberculous arthritis
4. Paradiscal Region is the commonest site for tuberculosis of the vertebral column
5. Features of osteoarticular TB are ; Generally monoarticular, Night cries and Severe osteoporosis
6. The commonest location for a Tuberculous Bursa is Gluteal bursa
7. The chief difference in the granulomas of tuberculosis and other granulomatous conditions like brucellosis, mycosis and sarcoidosis is (pathologically) presence of caseation necrosis
8. A Mantoux tests is negative despite the presence of active tuberculosis in all of the following condition; Severe disseminated TB, Steroid therapy and Immuno incompetent state
9. Bird's nest appearance on X-Ray of dorsal spine is a feature of TB spine
10. In tuberculosis of spine, best diagnostic modality is CT guided biopsy
11. Tuberculosis of Bone Is Pauci bacillary and hematogenous
12. Percutaneous vertebroplasty is not done for TB

T.B. KNEE

1. The synovium in TB knee is thickened and doughy to feel, it is best palpated on the Medial aspect of the knee

HIP

1. Reasons for limb shortening in TB hip are Adduction deformity, Bone and cartilage destruction, Growth plate defects in children
2. Radiological findings in TB of the hip are Haziness of the juxta articular bone, Reduction of joint space and "Wandering acetabulum"
3. In tuberculous synovitis of the hip joint the position of the hip is Flexion, abduction and external rotation

Hand Infections

1. Acute infection of the pulp space of the hand is called Whitlow or felon
2. Cardinal signs of suppurative tenosynovitis as subscribed by Kanavel are Tenderness over the involved sheath, Rigid positioning of the finger in flexion and Swelling of the affected part

Synovial Sheaths

1. Compound palmar ganglion is most often due to Tuberculosis

Madura Foot

1. Clinical features of maduromycosis are Presents as a nodular swelling over the dorsum or sole of the foot , Multiple discharging sinuses, Discharge contains small black granules which on microscopy reveal fungal elements
2. Painless effusions in joints in congenital syphilis are called Clutton's joint
3. Component of the Hutchinson's triad are Interstitial keratitis, deafness due to 8^{th} nerve palsy and deformed incisor teeth
4. Hydatid disease of bone most commonly infects Vertebra bones
5. Gonococcal arthritis most commonly affects the Knee
6. Periosteitis is a classical feature of the Syphilis

Arthritis

Basic Sciences: Synovial Joint

1. Clergyman's knee is Infrapatellar bursitis
2. Most common chronic synovitis of childhood is Juvenile rheumatoid arthritis
3. Synovial fluid follows Non-Newtonian fluid kinetics, Contains hyaluronic acid, Viscosity coefficient is variable

Osteoarthritis (O.A)

1. Tetracycline have a therapeutic role in treatment of osteoarthritis this is because of It inactivates the matrix metalloproteinases and thus protects the cartilage
2. The accepted methods of surgical treatment of osteoarthritis of the knee joint are Arthroscopic debridement of the joint, Transplantation with fresh cadaver osteochondral allografts, Proximal tibial osteotomy
3. Radiological features of osteoarthritis are Osteophyte formation, Narrowing of joint space and Sub articular cysts
4. Causes of secondary osteo arthritis Slipped capital femoral epiphysis, Neuropathic joint disease, Prior bone disease
5. Standing films with 6 degrees of knee flexion is best for OA
6. Intra-articular hyaluronic acid is now an approved disease modifying agent for OA. It improves joint affected by OA by Promoting the regeneration of cartilage
7. Kashin beck disease is a type of endemic OA
8. Triple deformity of the knee is present in Tuberculosis of knee
9. In patients with osteoarthritis of knee joint , atrophy occurs most commonly in Quadriceps
10. Premature OA is a articular manifestation of Wilson's disease
11. A patient presented with painful and swollen knee. On X-ray he was diagnosed as Ostearthritis Ahlbeck grade 3. Treatment is Knee replacement
12. Heberden's nodes are the Swollen DIP classically in OA

High Tibial Osteotomy

1. High tibial osteotomy is Indicated in unicompartmental osteoarthritis, Performed through cancellous bone, Recurrence is a long term complication

Rheumatoid Arthritis

1. The most common tendon rupture in Rheumatoid arthritis is Extensor pollicis longus
2. The manifestation of RA are Carpal tunnel syndrome , Olecranon bursitis and Atlanto axial subluxation
3. The classical deformity of rheumatoid hand is Swan-neck finger
4. Rheumatoid factor (RF) is an autoantibody directed against the Fc fragment of the IgG
5. Causes for a positive test for Rheumatoid factor other than Rheumatoid arthritis include Systemic lupus erythematosus, Sjogren's syndrome, Vasculitis such as polyarteritis nodosa
6. Subcutaneous nodules in rheumatoid arthritis are commonly seen at Elbow, Occipital part of the scalp and Achilles tendon
7. Olecranon bursitis is not part of the Diagnostic criteria for rheumatoid arthritis as described by the American rheumatology association.
8. Joint least commonly involved in RA according to 1987 modified ARA criteria is Tarsometatarsal
9. DIP joints of finger joint is spared in rheumatoid arthritis
10. A lady having flexion at proximal interphalangeal joint and hyperextension at distal interphalangeal joint of index finger is called Boutonniere Deformity
11. Rheumatoid arthritis is not associated with Heberden's Nodes
12. In rheumatoid arthritis, pathology starts in the Synovium
13. Indication of systemic steroids in rheumatoid arthritis is Mononeuritis multiplex
14. Windswept deformity in foot is seen in RA

Loose Bodies

1. Osteochondritis dissecans is the most common source of loose bodies in the knee joint

Seronegative Spondyloarthropathy

1. The features of Ankylosing Spondylitis are Bamboo spine, Romans sign and Squaring of the vertebral bodies
2. Ankylosing spondylitis primary affects Spine, Axial skeleton, Large proximal joints of the body
3. HLA B27 is histocompatibility antigens associated with ankylosing spondylitis
4. Extra skeletal sites of inflammation and post inflammatory fibrous tissue deposition in ankylosing spondylitis include Uveal tract, Aortic root wall, Apical lung parenchyma
5. Sacroiliac joint involvement in ankylosing spondylitis may be elicited by Bilateral compression of the pelvis, Gaenslen's sign
6. Earliest radiological changes in AS occur in the Sacroiliac joint
7. Arthritis Mutilans is a particularly disabling form of rheumatological conditions is Psoriatic arthritis
8. Polyarthritis, conjunctivitis and nonspecific urethritis are characteristic of Reiter's syndrome
9. Radiographic features of psoriatic arthritis are Fluffy periostitis of the large joints, Pencil in cup appearance of DIP joints, Bony ankylosis of the DIP joints, of the hands and toes
10. Most common cause of reactive arthritis is S. flexneri
11. Bony ankylosis occurs in Ankylosing spondylitis, Rheumatoid arthritis, Septic arthritis
12. Wrist & elbow is not involved in ankylosing spondylitis
13. In ankylosing spondylitis, radiological change are first seen in Sacro-iliac joints
14. Earliest investigation for diagnosis of ankylosing spondylitis MRI STIR sequence

Hemophilia

1. Classic hemophilia is due to deficiency of Factor VIII
2. An acute bleed into a joint in cases of hemophilia should be managed in Factor replacement, Analgesics may be given for pain relief, Immobilization for a day or two

3. Surgery in hemophiliacs is associated with high mortality. Following are the recommendations of Post and Telfer as regarding the surgical technique in hemophiliacs; Meticulous aseptic technique, Tight careful wound closure to avoid dead space , No intra muscular injection post operatively
4. The most common site for a pseudotumor like growth that appears in hemophilic arthropathy is Iliopsoas

Neuropathic Joint Disease/ Charcot's Joint

1. Causes of neuropathic arthropathy are Leprosy, Yaws and Syringomyelia.
2. Charcot's joint in diabetes mellitus is contraindication for Total ankle replacement

Crystal Deposition Disorder

1. Podagra is Acute inflammation of the first metatarsophalangeal joint
2. The crystals in pseudogout are Calcium pyrophosphate
3. Intra-articular calcification is the feature of Pseudogout
4. Characteristic finding on X ray in gout is Peri-articular erosions with overhanging edges of the affected joints
5. Feature of an uric acid crystal is Slender crystal needle shaped negatively birefringent under polarized light
6. MILWAUKEE shoulder syndrome is because of Deposition of crystal calcium pyrophosphate dihydrate
7. Pseudogout is due to deposition of calcium pyrophosphate crystals, in acute synovitis due to pseudo gout which is the joint commonly involved Knee
8. Calcium hydroxyapatite is another crystal which can give rise to morbidity. One of its manifestations is acute periarthritis the joint commonly involved is the Shoulder joint.
9. Drugs never to be given in acute of attack of Gout is Aliopurinol
10. Calcification of menisci is seen in Pseudo gout
11. MTP Swollen In CRF Middle Aged Male is due to Uric Acid
12. A woman developed acute pain in the right knee. Synovial fluid aspiration showed CPPD crystals. TSH should be done further for evaluation

Craniovertebral (CV) Junction Anomalies

1. CV junction anomalies are seen in Rheumatoid arthritis, Odontoid dysgenesis and Basilar invagination

Avascular Necrosis

1. Avascular necrosis of Scaphoid occurs in the fracture proximal fragment because of Retrograde Blood flow in Scaphoid
2. MRI detects femoral head ischemia in avascular necrosis of the femur, the earliest.
3. Vascular fibular grafting for avascular necrosis of the hip has been described by Urbaniak.

Additional Questions

1. The setting time for standard PMMA bone cement is 8-10 mins

Regional Pain Syndromes

Disc Degeneration & Prolapse

1. Clinical features of cervical spondylitis are Pain and stiffness, Radiating pain and Giddiness.
2. The posture associated with the greatest lumbar Intradiskal pressure is Sitting, trunk flexed
3. The motor changes most commonly encountered with an acute disk herniation at the C5-6 level are primarily in the Biceps and extensor carpi radialis.
4. Myelography findings in prolapse of the intervertebral disc are Complete or incomplete block to the flow of dye at the level of disc, An indentation of the dye column, Root cut off sign.
5. The factor most frequently associated with an increased risk of lumbar disk herniation is Repetitive lifting and twisting.
6. Chemo nucleosis is a technique to dissolve the disc in a case of intervertebral disc prolapse. The chemical commonly used is

Chymopapain

7. A person with chronic backache & unable to extend great toe, no sensory loss probable level of disc prolapsed is L4-L5

Low Back Pain (LBP)

1. Yellow Flag signs of Low Back Pain are Reduced activity levels, Withdrawal from social interaction and Potentially severe disabling pain,
2. Treatment for chronic backache are NSAID, Exercises, Epidural steroid injection.
3. L5 radiculopathy can cause loss of following Thigh adduction, Knee extension, Dorsiflexion of toes.

Painful Arc Syndrome

1. Causes of painful arc syndrome at the shoulder are Supraspinatus tendinitis , Subacromial bursitis and Fracture of the greater tuberosity

Tennis Elbow/ Lateral Epicondylitis/Dequervain's Tenosynovitis

1. Cozens test is a clinical test for diagnosis of Lateral epicondylitis (Tennis elbow)
2. Dequervain's disease affects 1st extensor compartment at wrist
3. Dequervain's disease is caused by Stenosing tenovaginitis
4. Treatment option for tennis elbow are Local steroid injection, Surgical release of the extensors at the lateral condyle, Ultrasound (therapeutic).
5. Tennis Elbow is Lateral epicondylitis
6. Finkelstein's test is positive in Dequervain's tenosynovitis

Dupuytren's Contracture

1. Dupuytren's contracture is Inherited as an autosomal dominant trait, High incidence in epileptics receiving Phenytoin sodium, Most common in people of European (Anglo-Saxon) descent
2. Dupuytren's disease commonly involves the palmar aponeurosis, Grayson's ligament and the peritendinous bands.

Stenosing Flexor Tenosynovitis (Trigger Finger)

1. Kanavel's sign is seen in Tenosynovitis, of flexor tendon sheath of fingers

Hallux Valgus

1. The procedures for correction of hallux valgus are Chevron osteotomy, Keller's technique and Mitchell osteotomy
2. The most important determinant of a successful outcome following surgery for hallux valgus is thorough preoperative assessment

Plantar Fascitis& Chronic Ankle Instability

1. Watson Jones operation is done for Chronic Ankle instability.

Recent & High Yield Updated LMRPs

1. A 75 year female, cod fish vertebrae: osteoporosis
2. Flexor tenosynovitis true is connection between thumb and little finger
3. Neck movement say no atlantoaxial joint
4. Tibia rim of reactive bone: Brodie abscess
5.
6. Foot drop: Common Peroneal nerve involved.
7. Rheumatoid Arthritis Treatment: DMARD with steroids
8. First Lumbricals is supplied by Median nerve
9. Painful arc: Mid abduction
10. Avascular necrosis or non union of scaphoid is likely to occur when fracture occurs through MIDDLE l/3rd part of scaphoid.
11. Lunate dislocations means Lower radius, scaphoid and capitate in
12. alignment, lunate alone out of plane
13.
14. Fallen fragment sign simple bone cyst.
15. In Rheumatoid arthritis Macrophages is the type of cells are prominently.
16. Soap bubble appearance seen in radial bone: Giant cell tumour

    Empty thecal sac sign on MRI seen in Arachnoiditis
17. Earliest sign/ symptom of Compartment Syndrome of Leg is Pain on passive flexion of fingers

    In patellar clunk syndrome hyperplastic scar tissue is present at Superior pole of patella and impinging on femoral component during extension.

17. Normally seen in lumbar spine is lordosis.
18. Coxa vara : Reduced neck shaft angle (<120 degrees)
19. 8th and 9th rib costal cartilage forms synovial type of joint
20. Tom smith septic arthritis is Septic arthritis of infancy , involves capital epiphyseal part of femur.
21. De Quervain's tenosynovitis involves extensor pollicis brevis + abductor pollicis longus
22. Features of intra articular pathology are passive and active movement painful, swelling and crepitus of joints.
23. In Fasciotomy structure cut are skin, subcutaneous fat, superficial and deep fascia.
24. Most common cause of non-purulent multifocal osteomyelitis is SAPHO syndrome.
25. Multiple nonsuppurative osteomyelitis with sickle cell anaemia is salmonella.
26. Drugs inhibit resorption of bone are raloxifene, risedronate, strontium ranelate(this has dual action).
27. Patient supracondylar humerus fracture, unable to flex interphalangeal joint of thumb: AIN nerve involve.
28. A 55 year female with hip flexion contracture: Thomas test done.
29. **Mallet Finger:**

    This is a flexion deformity affecting the distal interphalangeal joint of the finger and is due to either distal extensor tendon rupture or avulsion with a bony fragment after traumatic forced flexion of the extended finger tip.

Dermatology

1. Skin doubling time is 8 weeks.
2. Vasodilatation of skin does not occur with Vasopressin.
3. Desmosomes are helpful in connecting Keratinocytes.
4. Stratum Lucidum is Sandwiched between S. corneum and S. granulosum.
5. Stratum corneum is underdeveloped in the very LBW infants in the initial 7 days.
6. Melanocytes are present in Stratum basale.
7. Basal cell degeneration seen in Lichen planus.
8. Acantholysis involves Epidermis.
9. Acanthosis involves Stratum Spinosum.
10. Dyskeratosis is characteristic feature of Darier's disease.
11. Parakeratosis frequently occurs Actinic keratoses.
12. Fox Fordyce's disease is a disease of Apocrine glands.
13. Fordyce's spot involves Sebaceous glands.
14. Hidradenitis suppurativa is a disease of Apocrine glands.
15. Miliaria is a disorder of Eccrine glands.
16. Regarding Fordyce spots Ectopic sebaceous glands.
17. Fordyce's disease mainly involves Lips, Buccal mucosa.
18. Fox Fordyce disease is Common in adult woman.
19. Patch test is a type of delayed type Hypersensitivity.

Infections

1. Malignant pustule is seen in Anthrax.
2. Treatment of choice in genital wart in pregnancy Cryotherapy.
3. Immunomodulator used in treatment of genital warts is Imiquimod.
4. Coral red fluorescence Wood's lamp seen in Erythrasma.
5. For pediculosis corporis the treatment of choice is Disinfection of clothes.
6. In Molluscum contagiosumUmbilicated pearly white asymptomatic skin lesion are seen.
7. Most common site of affection of herpes simplex Oral mucosa.
8. Slapped cheek appearance of face, is seen in Erythema infectiosum.
9. Ramsay hunt syndrome refers to Herpes zoster of geniculate ganglion.
10. Acyclovir resistant herpes is treated with Foscarnet.
11. Oral hairy leukoplakia and whitish plaque on the tongue and palate are seen in HIV infection.
12. Erysipelas is caused by streptococci.
13. Erythrasma is caused by Corynebacterium minutissimum.
14. Most common site for zoster involvement is Thoracic area.
15. Multiple grouped vesicular lesions present on dermatome associated with pain in Herpes zoster.

15. Drug of choice for herpes zoster is Acyclovir.

17. Cutaneous leishmaniasis has erythematous lesion with central crusting.
18. Bockhart's impetigo refers to Staphylococcal infection of follicular ostium.
19. Maculae ceruleae are caused by Pubic lice.
20. Most common skin infection in children is Impetigo contagiosa.
21. Most common cause of Ecthyma Gangrenosum is Pseudomonas.
22. Rocky mountain spotted fever is caused by Rickettsia.
23. Henderson Peterson Bodies are seen in Molluscum contagiosum.

Drug Eruptions

1. Tzanck test is used in the diagnosis of Pemphigus vulgaris.
2. Target (Iris) lesions are seen in Erythema multiforme.

Common Fungal Diseases

1. Tinea capitis in children is caused byMicrosporum audouinii.
2. Kerion is caused by Dermatophytes.
3. Tinea "incognito" is due to inappropriate use of systemic and topical Steroids.
4. Tinea cruris commonly affects Adult males.
5. Causative agent of Favus isTrichophyton schoenleinii.
6. Dhobi itch is Tinea cruris.
7. Ringworm infection affects Stratum corneum.
8. Most common fungal infection of the female genitalia in diabetes Candidiasis.
9. Treatment with griseofulvin in fungal infection of the finger nails is for 6 months.
10. The most appropriate line of treatment for tinea-capitis on scalp Oral griseofulvin therapy.
11. Ciclopirox olamine is used in Dermatophytosis.
12. "Black dot" ring worm is caused by Trichophyton.
13. Granules coming out of the multiple discharging sinuses in mycetoma foot contain Fungus colonies.
14. The most common organism causing tinea capitis isTrichophyton tonsurans.
15. The substance responsible for the hypopigmentation and damaged melanocytes seen in patients with tinea versicolor is Azelaic acid.
16. Central clearing is a feature of Tinea corporis.
17. Ketoconazole is most effective against Candida and dermatophytes.

Cutaneous Tuberculosis and AMI

1. Lichen scrofulosorum is a tuberculid.
2. Skin tuberculosis which involves skin after involving lymph nodes is Scrofuloderma.
3. Swimming pool granuloma is caused by Mycobacterium marinum.

4. Cutaneous tuberculosis secondary to underlying tissue is called Scrofuloderma.
5. Tuberculosis verrucosa cutis is a form of Postprimary tuberculosis with good resistance.
6. In Scrofuloderma ulcers associated with underlying sinus tracts and discharge.

Scabies

1. Most severe form of scabies is Norwegian scabies.
2. Burrows of scabies are in Stratum corneum.
3. Permethrin is useful in Scabies.
4. The "circle of Herba" represents the main sites of involvement in Scabies.
5. Characteristic lesion of scabies is Burrow.
6. Incubation period of scabies is 4weeks.
7. Adult scabies is characterized by Involvement of anterior abdomen.
8. Scabies in children differs from that in adults in that it affects Face.
9. Nodular scabies is found in Scrotum.
10. Ivermectin in indicated in the treatment of Scabies.
11. Oral medication used in the treatment of scabies Ivermectin.
12. In children scabies Papulovesicular lesion occur on face, trunk, palm and sole.
13. Scabies, is an example of Water washed disease.

Eczema

1. Para tetra butyl phenol causes hypopigmented lesion on centre of forehead in females due to bindi application.
2. In Pityriasis alba white non-anesthetic, scaly hypopigmented macule are seen.
3. Patch test is read after 2 days.
4. Berloque dermatitis is due to contact with Cosmetics.
5. "Cradle cap" is a special form of Seborrheic dermatis.

6. Hertoghe's sign in atopic dermatitis is Loss of lateral eye brow.
7. In contact dermatitis the diagnostic method of choice is Patch test.
8. Atopic dermatitis can be best diagnosed by Clinical evaluation.
9. Most common precipitant of contact dermatitis is Nickel.
10. The commonest cause of air-borne dermatitis in India is Parthenium.

Differential Diagnosis

1. Spongiosis is seen in Acute eczema.

Atopic Dermatitis

1. Characteristic feature of atopic dermatitis is Pruritus.
2. 'Itch is disease' is true for Atopic dermatitis.
3. Dennie-Morgan fold is seen in Atopic dermatitis.
4. M. C. site of Atopic Dermatitis Antecubital fossa.

Contact Dermatitis

1. In India, the plant which causes dermatitis most commonly is Parthenium grass.
2. Most common cause of allergic contact dermatitis in Indian female is Dyes.
3. Air-borne contact dermatitis can be diagnosed by Patch test.
4. Patch test is done to document Delayed type hypersensitivity.
5. For severe air borne contact dermatitis, the most appropriate drug for treatment is Azathioprine.
6. Coin shaped eczema is Nummular eczema.

Erythro Derma

1. Cause of erythroderma is Psoriasis.
2. Gold poisoning leading to exfoliative dermatitis is treated by Steroid.

Urticaria

1. Recurrent urticaria while doing exercise and on exposure to sunlight is due to Cholinergic utricaria.
2. Dermographism is a type of physical urticaria.
3. Urticarial lesions are best described as Evanescent.

4. Tongue swelling, neck swelling, stridor, hoarseness of voice occurs in Angioneurotic edema.
5. In Cl Esterase Inhibitor deficiency episodic painful edema of face and larynx is seen.
6. Recurrent swelling on face and lips due to emotional stress, is due to Cl esterase inhibitor deficiency.
7. In angioneurotic edema non-Pitting edema of face, lips and mucous membrane is seen.

Inflammatory Disorders

1. Special feature which is seen only in inverse psoriasis is Flexural involvement.
2. One of the definite use of steroids in psoriasis is Impetigo herpetiformis.
3. Histopathological features of fat necrosis in a new born closely resembles features of Steroid induced lipid necrosis.
4. Oral isotretinoin is Treatment of choice in severe acne.
5. White lacy lesion in oral cavity with extension of proximal nail fold onto the nail plate/bed is seen in Lichen planus.
6. lesions of Pityriasis rosea clear up within 6 to 8 weeks.
7. The LEAST common site involved in psoriasis is CNS.
8. Pityriasis rosea is a Self-limiting disease.
9. Flaky-paint appearance of skin is seen in Kwashiorkor.
10. Necrobiosis lipoidica diabeticorum is more marked on Front of legs.
11. "Kogoj's Pustule is seen in Pustular psoriasis.
12. Munro's microabscesses are seen in Stratum corneum.
13. In pustular psoriasis, the treatment of choice is Etretinate.
14. For Erythrodermic psoriasis the treatment of choice is Methotrexate.
15. Rhinophyma is Glandular form of acne rosacea.
16. Darier's sign is seen in Urticaria pigmentosa.
17. Wickham's striae are seen in Lichen planus.
18. Quincke's disease is popularly known as Angioneurotic edema.
19. Psoralen act by Binding to DNA.
20. Lichenoid drug eruption is seen in Gold therapy.

21. Annular Herald patch is seen in Pityriasis rosea.
22. Psoriasis involve skin of head, neck and face.
23. The treatment of choice in nodulocystic acne is isotretinoin.
24. Auspitz sign is seen in Plaque psoriasis.
25. Pseudo isomorphic or Pseudo Koebner's phenomenon is seen in warts.
26. Itchy polygonal violaceous papules seen in Lichen planus.
27. Itchy purple papule followed by hyperpigmentation on resolution, is seen in Lichen planus.
28. The most characteristic finding in lichen planus is Basal cell degeneration
29. Max. Joseph's space is a histopathological feature of Lichen planus.
30. Wickham's stria seen in Lichen planus.
31. Characteristic nail finding in lichen planus Pterygium.
32. Lacy white lesion in mouth with pterygium is seen in Lichen planus.
33. Civatte's bodies are found in Lichen planus.
34. Lichen planus involve mucous membrane.
35. HHV7 viral association is found in pityriasis rosea.
36. "Islands of normal skin" are found Pityriasis rubra pilaris.
37. Keratoderma is a feature of Pityriasis rubra pilaris.
38. Koebner's phenomenon is characteristic of Psoriasis and Lichen planus.

Developmental & Pigmentation Disorders

1. Blaschko's lines are present along the Lines of development.
2. linear verrucous plaques on the trunk with vacuolization of keratinocytes in s. Spinosum and s. Granulosum is seen in Nevus.
3. Ocular hallmark of pseudoxanthoma elasticum is Angioid streak.
4. Mongolian spots are usually seen at Lumbosacral region.
5. Syringoma represents hamartoma of eccrine sweat gland.
6. In Pityriasis versicolor oval scaly hypopigmented macules over chest and back are seen.
7. Pityriasis alba presents with recurrent, scaly, hypopigmented patch on face.
8. Piebaldism is Associated with white forelock.
9. Hypopigmented lesions are seen in Pityriasis alba, Nevus anemicus, Naevus depigmentosa

10. In pityriasis alba no active treatment required.
11. Spaghetti and meat ball appearance is seen in Pityriasis versicolor.
12. Commonest type of vitiligo is vitiligoVulgaris.
13. An increased incidence of vitiligo is found is Diabetes mellitus.
14. Most common endocrine disturbance associated with vitiligo is Thyroid disease.
15. Brown macular lesions over bridge of Nose and cheeks following exposure to light is Chloasma.
16. Acanthosis nigricans is commonly seen in obesity
17. Acanthosis nigricans histological show Papillomatosis.
18. Rain drop pigmentation is seen in Chronic Arsenic poisoning.
19. Topical azelaic acid is used in Hyper pigmentary disorders.
20. Defective DNA repair is associated with Xeroderma pigmentosum

Drug Eruptions

1. Recurrent plaques on glans which heal with residual hyperpigmentation Develops in Fixed Drug Eruption.

Collagen Vascular Diseases

1. Chloroquine is used in treatment ofDiscoid lupus erythematosus.
2. Gottron's papules or sign is seen in Dermatomyositis.
3. Lilac colored, heliotrope, pigmentation over the face is characteristic of Dermatomyositis.
4. Malignancy is frequently associated with Dermatomyositis.
5. Pemphigus vulgaris is an autoimmune disease.
6. Gottron's papules are Violaceous papules over knuckles seen in dermatomyositis.
7. Palpable purpura is seen in HSP and PAN
8. "Pinch" purpura is diagnostic of Systemic primary amyloidosis.
9. In HSP non-blanching macules and papules on lower extremities with abdominal pain and arthropathy might occur.

10. IgA deposits on skin biopsy are seen in Henoch Schonlein purpura.
11. Erythema nodosum are usually tender.
12. Erythema nodosum may occur due to Contraceptive pills.
13. Geno dermal disease that can cause skin malignancy arexeroderma pigmentosa.
14. Lisch nodule is seen in Von Recklinghausen's disease.
15. Cafe au lait spots seen in NF.
16. Adenoma sebaceum is a feature of Tuberous sclerosis.
17. Ash leaf maculae is found in Tuberous sclerosis.
18. Koenen's periungual fibromas are seen in > 50% of cases with Tuberous sclerosis.
19. Granular layer is absent in ichthyosis vulgaris.
20. Ichthyosis is associated with Refsum disease.
21. Steroid sulphatase deficiency is seen in 'X^1 linked recessive ichthyosis.
22. Skin pigmentation & ichthyosis like side effects are seen in Clofazimine.
23. The mode of inheritance of Incontinentia pigment is X-linked dominant.

Vasculitis

1. Most common site of Erythema nodosum is Legs.
2. The treatment of choice of sweet syndrome is Corticosteroids.
3. Pyoderma gangrenosum is seen in Ulcerative colitis.
4. Temporal arteritis is also known as giant cell arteritis.

Alopecia

1. Typhoid followed by hair fall is suggestive of Telogen effluvium
2. Growing phase of hair isAnagen.
3. Pseudopelade is a type of Cicatricial alopecia.
4. Cicatricial alopecia is seen in Discoid lupus erythematosus.
5. Treatment of alopecia areata includes Minoxidil
6. Scarring alopecia is associated with Lichen planus.

Nail Diseases

1. Tinea unguium affects the Nail plate
2. Pitting nail dystrophy seen in Psoriasis.
3. Pitting of nails is seen in Lichen planus, Psoriasis
4. Moth eaten alopecia is seen in Secondary syphilis.
5. Pterygium of nail is characteristically seen in Lichen planus.
6. Koenen's periungual fibroma is seen in Tuberous sclerosis.

STD

1. Most specific test for syphilis FTA-Abs.
2. Donovanosis is caused by calymmatobacterium granulomatis.
3. For lymphogranuloma venereum the drug of choice is Doxycycline.
4. Polycyclic erosions are seen in Herpes genitalis.
5. The most frequent cause of recurrent non-infectious oro-genital ulceration in a HIV positive male is Aphthous ulcer.
6. Sabre tibia is seen in Syphilis.
7. Mucus patch is seen in Secondary syphilis.
8. Incubation period of syphilis is 9 to 90 days.
9. Primary bullous lesion is seen in Congenital syphilis.
10. In Syphilis a painless indurated ulcer over the penis is seen.
11. Yaws is cause by Treponema pertenue.
12. Nonvenereal disease Endemic syphilis.
13. In primary syphilis the treatment of choice is Benzathine penicillin.
14. Painful penile ulcer with inguinal adenitis is seen in infection with Haemophilus ducreyi.
15. Podophyllin is used in Condyloma acuminate.
16. Gonococcus is Intracellular gram-negative.
17. Main feature of gonorrhea is Purulent discharge per urethra.
18. In gonorrhea the drug of choice is Ceftriaxone.
19. Genital elephantiasis is seen in LGV.
20. Reliable test for chancroid detection Culture.

21. The Syndromic management of urethral discharge includes treatment of Neisseria gonorrhoeae and chlamydia trachomatis.
22. Painful ulcers occur in Chancroid.
23. Haemophilus ducreyi is the causative agent of Soft sore.
24. Bubo's with multiple sinuses discharging 'into the inguinal lymph nodes are seen inLGV.
25. Discharging sinus is seen inActinomycosis.
26. "Chancre Redux" refers to Relapsing primary chancre at the site of original chancre.
27. Higoumenaki's sign in late congenital syphilis is Thickening of the inner end of clavicle.
28. Treatment of choice in genital wart in pregnancy Cryotherapy

Blistering Diseases

1. Recurrent oral ulcers with yellow base erythematous surrounding & nodules in extensor aspect of legs seen in Behcet's syndrome.
2. Granular IgA deposit at dermal papilla are found in Dermatitis Herpetiformis.
3. Inter cellular IgG deposition in epidermis is seen in Pemphigus.
4. Persistent painful oral lesions, with acantholytic cells seen in Pemphigus vulgaris
5. HLA B8 associated with Dermatitis herpetiform.
6. Most common site of herpes gestationis is Peri umbilical region
7. Intraepidermal blisters are seen Pemphigus foliaceus.
8. Tzanck cell is a Keratinocyte.
9. In Tzanck smear, multinucleated giant cells are seen in Herpes simplex.
10. Dyskeratosis is a feature of Darier's disease.
11. Tzanck smear in a patient of bullous lesions shows Acantholytic cells.
12. Porphyria cutanea tarda can be treated by Low dose chloroquine.
13. Vesicles are never seen m Measles.
14. Ballooning is a characteristic feature of Herpes zoster.
15. Rarest variety of pemphigus is Pemphigus vegetans.
16. Acantholysis is characteristic of Pemphigus vulgaris.
17. Tzanck smear is useful for diagnosis of Herpes infection.

18. In erythema multiform Vesicle and bullae are seen.
19. Acantholysis is seen in the Epidermis.
20. A bullous eruption of skin associated with pregnancy Herpes gestationis.
21. Erythema multiforme can have both intra and sub epidermal bullae.
22. In congenital dystrophic epidermolysis bullosa defect is seen in Collagen type 7

Leprosy

1. Leprosy doesn't affect Ovaries.
2. The most effective drug against M. leprae is Rifampicin.
3. Most sensitive index to assess the drug effectiveness in skin smears of leprosy patient is Morphological index.
4. Maximum suppression of cell-mediated immunity occurs in Lepromatous leprosy.
5. Negative smear is seen in Neuritic type leprosy.
6. Multidrug therapy is employed in leprosy in order to prevent drug resistance
7. Dose of dapsone in LEPROSY is 1-2 mg/kg.
8. Daily dose of thalidomide for controlling ENL is 200-400 mg.
9. Half-life of dapsone is 24 hours.
10. Drug of choice in type II Lepra reaction with severe neuritis is Systemic steroid.
11. Lagophthalmos is seen in Leprosy.
12. Hemolytic anemia is a side effect of dapsone.
13. In lepromatous leprosy, globi consist of Macrophage cells laden with acid fast bacilli.
14. Satellite lesion is seen in Borderline tuberculoid leprosy.
15. Drug of choice in type I Lepra reaction with severe neuritis is Systemic steroids.
16. Skin pigmentation and ichthyosis-like side effects are seen inClofazimine.
17. Skin biopsy in leprosy shows Peri appendageal lymphocytosis.
18. The dosage of clofazimine for Lepra reaction is 300mg daily
19. DOC of in relapsing type ii Lepra reaction is Oral thalidomide
20. DOC of in unresponsive type ii Lepra reaction is Oral thalidomide.

Cutaneous Malignancies

1. Parapsoriasis can progress to which malignancy Cutaneous T cell lymphoma
2. Leonine facies are seen in LL Leprosy.
3. Mycosis fungoides has an indolent course and is difficult to treatment.
4. Marker for Langerhans' cell histiocytosisCD-la.
5. Ichthyosis is associated with Hodgkin's disease.
6. Premalignant conditions of skin Bowen's disease, Actinic keratosis.
7. Underlying internal malignancy is NOT shown by Granuloma annulare.
8. A naevus present at birth which has predisposition to the development of malignant melanoma is Giant congenital pigmented naevus.
9. Kasabach-Merritt syndrome represents hemangiomas with Thrombocytopenia.
10. The most common premalignant tumour of skin is Actinic keratosis.
11. NEVUS of melanocyte is Becker nevus.
12. Maximum malignant potential is in Junctional naevus
13. Predisposing factors for skin cancer are U- V-light.
14. Changes of squamous cell carcinoma are seen in Bowen's disease.
15. Actinic keratosis is seen in Squamous cell carcinoma.
16. Actinic keratosis is associated with sun exposure.
17. Mycosis fungoides affects T Cells.
18. Pautrier's micro-abscess is a histological feature of Mycosis fungoides.
19. Total Skin Electron Irradiation is used for the treatment of Mycosis Fungoides.

Maculopapular Skin Disease

1. Rose spots are seen in Typhoid.
2. The rash in measles occurs first in the Post auricular region.
3. Features of hereditary angioedema Autosomal dominant inheritance.
4. The most frequent cause of Lyell's disease is Drug induced.

Genodermatoses

1. Infantile spasm, Hypopigmented macule on back, delayed milestones are seen in Tuberous sclerosis.
2. Hailey-Hailey disease is inherited asAutosomal dominant.
3. Ichthyosis vulgaris is inherited as Autosomal dominant.
4. Etiology of epidermolysis bullosa is Genetic.
5. Lisch nodules are seen in Neurofibromatosis.
6. Crocodile skin or sauroderma is seen in Ichthyosis vulgaris.
7. facial telangiectatic erythema, photosensitivity and dwarfism are seen in Bloom's syndrome.

Miscellaneous

1. Chemical peeling is done by Trichloroacetic acid.
2. Steroid most potent as Ointment.
3. Isomorphic phenomenon is not seen in Pityriasis rosea.
4. Medically important form of UV radiation isUV-B
5. A red color to tattoos is produced by the pigment Mercuric sulphide.
6. An autoimmune pathology is seen in Pemphigus vulgaris.

Pediatric Dermatology

1. Neonatal fat necrosis resembles Post steroidal panniculitis
2. In sweet syndrome Neutrophilia is present

Cells seen in Dermatology

1. Normal skin anatomy
    a. Langerhans cells
    b. Glomus cells
    c. Mast cells
2. Bullous disorders Tzanck cells
3. Metabolic and storage disorders
    a. Gargoyle cells
    b. Gaucher's cell
    c. Xanthoma cells
4. Tumors
    a. Basalioma cells, Basophilic and shadow cells
    b. Hibernoma cells (Large polyhedral fat cells containing eosinophilic granular cytoplasm),
    c. Paget cells, Sezary cells, Signet ring cells (seen in an adenocarcinoma. Sheet of large cells with vacuolated cytoplasm pushing the single hyperchromatic nucleus to the periphery)
    d. Reed Sternberg cells (seen in a case of Hodgkin's lymphoma have bilobed nucleus with a resemblance to an "owl's eye" with prominent eosinophilic inclusion-like nucleoli)
5. Histiocytic disorders Touton giant cells
6. Collagen vascular disorders LE cells (Distorted nuclear material in the cytoplasm of a polymorphonuclear leukocyte causing the nucleus to be compressed and pushed to the periphery)
7. Drug induced Podophyllin cells
8. Disorders of the panniculus Bean bag cell
9. Bacterial Clue cells (Squamous epithelial cells with a large number of coccobacillary organisms, Gardnerella vaginalis and other anaerobic bacteria densely attached in clusters to their surfaces give them a granular appearance), Lepra cells (Large cells with their abundant cytoplasm, occupying the greater part of the ceil and filled with mycobacteria leprae bacilli), Langhans giant cells
10. Protozoal Wright cells

11. Viral Koilocyte, Warthin Finkeldey cells.
12. In the first 4 weeks of syphilis the most specific test is FT A-Abs'
13. Most effective drug for type2, Lepra reaction is Thalidomide
14. The commonest complication of synthetic retinoid is Dryness of skin and mucosa Alopecia areata Spontaneous recovery will occur within 3-6 months in the majority of patients
15. Cradle cap in babies is Seborrheic dermatitis
16. Syphilitic Gumma are Non-infectious
17. "Apple jelly nodules" are characteristically found in Lupus vulgaris
18. Non-cicatrical alopecia is present in Psoriasis
19. Acantholytic bullae are found in Pemphigus vulgaris
20. The target cell of rickettsial infections is mainly Endothelial cells
21. Common cutaneous lesions of Hodgkin's disease are Secondary to pruritus
22. Frei's test is diagnostic of Lymphogranuloma inguinale
23. Photochemotherapy is useful in Pityriasis rosea
24. Intra-epidermal bullae are the feature of Pemphigus
25. Scarring alopecia may be caused by Discoid Lupus erythematosus, Lichen planus.
26. Onycholysis may be seen in thyroid disease, Psoriasis, Pityriasis rubra
27. Porphyria cutanea tarda can be treated by Phlebotomy, (Low dose chloroquine Norwegian scabies is cause by Female Acarus scabies)
28. Commonest cutaneous eruption in SLE is Erythema of light exposed area
29. STD that cause Inguinal bubo Chancroid, LGV!
30. Melanocyte is most sensitive to cold.
31. Degeneration of basal cells occurs in Lichen planus
32. Berkeley membrane is seen in Psoriasis
33. 'Bulla spread sign' is seen in Pemphigus vulgaris
34. Photosensitive rash is common in Erythropoietic protoporphyria
35. Acanthosis nigricans is most common due to carcinoma of stomach
36. Diagnostic histology of lichen planus is basal cell vacuolization + Liquefactive degeneration of basement membrane
37. In American classification of SLE, the least important criteria are Convulsions
38. Phenolphthalein, Aspirin, Dapsone, Furosemide produce fixed drug eruptions
39. The drugs producing erythema nodosum are Sulfonamides

40. Heliotrope rash is seen on face in Dermatomyositis
41. The lesions not containing Treponema are Gumma
42. Dapsone is used in the treatment of Dermatitis herpetiformis, Leprosy, Pemphigus vulgaris
43. DOC for pustular psoriasis is acitretin/etretinate
44. Tzanck test is not positive in Bullous pemphigoid
45. Nikolsky's sign is not positive in Psoriasis
46. A young boy, single hypo anaesthetic patch over Hand + Thickened ulnar nerve, diagnosis is Tuberculoid leprosy
47. A young female complains of genital wart, the agent implicated is Human papilloma virus
48. H. ducreyi causes Soft chancre
49. Drugs used in Lepra reaction is Thalidomide, Clofazimine, Chloroquine
50. Drug effective against dermatitis herpetiformis is Dapsone
51. Increased level of IgE seen in Atopy
52. Commonest site of atopic dermatitis in children is Elbow
53. Definitive diagnosis of Sporotrichosis generally depends on Culture 54: Pitting of nails can be seen in Alopecia areata
55. Selenium sulfide is indicated for treating Tinea versicolor
56. Perioral pallor and Dennie's line are seen in Atopic dermatitis
57. 'Chancre Redux' is a clinical feature of Early relapsing syphilis
58. ivermectin is indicated in the treatment of Scabies
59. Tuberculid are seen in Lichen scrofulosus
60. Auspitz sign is seen in Plaque type psoriasis
61. Subcutaneous nodules are not seen in Reiter's syndrome
62. Intraepidermal IgG deposition is seen in Pemphigus
63. Leprosy does not affect CNS, CVS and ovary
64. Acanthosis nigricans is not a malignant condition of skin
65. 10-15 live mites are there in an adult with scabies
66. Cutaneous depigmentation is not seen in Dyskeratosis congenita
67. Bullous congenital ichthyosiform erythroderma (bullous C.I.E) is Autosomal dominant
68. Solar urticaria is characterized by Wheal formation
69. Mutation of keratin I and 10 is seen in Epidermolytic hyperkeratosis
70. Pityriasis rosea is not characterized by Lower respiratory infection

Some Diagnostic Method

1. **Tzanck smear** **a.** Vesicles are scrapped and stained with Giemsa/ Wright's stain.
   b. HSV / VZV - multinucleate giant cells-*-.
   c. Pemphigus- Acantholytic cells

2. **Diascopy**
   a. Erythema - blanches with pressure
   b. Purpura- does not blanch
   c. Granuloma - Apple jelly appearance

3. **Koebner's phenomena** are seen with (Traumatized area often develops lesions esp. elbow, knee)
   a. Lichen planus b. Psoriasis (characteristic)
   c. Vitiligo d. Molluscum contagiosum Pseudokoebner
   e. Lichen nitidus f. Common & plane warts J

4. **Nikolsky's sign +ve in**
   a. Pemphigus
   b. TEN
   c. Steven Johnson's syndrome
   d. Staphylococcal scalded skin syndrome

Normal turnover time for epidermis,' 8 weeks (52-75 days)

-> Fungi which give fluorescence in wood's light are,'- M. Canis, M. audouinii, T. schoenleinii

-> KOH preparation,' Used for Dig of Tinea infections

Patch test,' read after 2 days and 4 days

□ **DIFFERENT ITCH**

1. Winter itch	Asteotic eczema / xerotic eczema
2. Swimmer's itch	Bilharziasis / Schistosomiasis
3. Dhobi's / Jock itch	Tinea cruris
4. Ground itch	Nematode Larvae
5. Barber's itch	Sycosis barbae
6. Itch mite	Acarus scabies (which transmits Scabies).

OTHER ERYTHEMAS

E- gyratum	E- migrans chronicum	E- marginatum (E- annulare)	E - Infectiosum
Malignancy	Lyme disease	- Rheumatic fever -Trunk	- Fifth disease - Parvovirus B-19 - Slapped cheek app-

1. E~ pernio - in Chilblain
2. E~ streptogenes - in pityriasis alba
3. E ~ toxicum - in normal neonates
4. Erythema Induratum Seen usually in calf region, a form of necrotic vasculitis, type of Tuberculid.
5. Granuloma Annulare Seen in DM.

A. Urticaria Pigmentosa

1. Development of wheal on gentle stroking of a pigmented macule (Darier's sign).
2. Disease of mast cells systemic mastocytosis --> severe, itching.
3. AD inheritance in some cases (familial).
4. Recurrent diarrhea, reddish brown macule on torso / extremities.

B. Diseases of eccrine sweat glands

1. Hyperhidrosis
2. Anhidrosis
3. Miliaria

Some Imp. Negative Points

a. Genital Ulcers are NOT seen in - LGV (incorrect)
b. Lymphadenopathy is NOT seen in - Donovanosis
c. Pruritus is NOT seen in - Pemphigus
d. NOT seen in secondary syphilis - Bullae or vesicobullous lesion.
e. Lesions NOT seen in Lepromatous Leprosy are - Vesicles
f. Griseofulvin - is NOT used topically
Antifungal

g. Griseofulvin is NOT used in T/t of Candida - Tinea versicolor,

h. Nail involvement is NOT seen in -DLE

-> Herald patch is seen in - Pityriasis rosea

--> Main Treatment of Pediculosis corporis - Disinfection of Clothes

Recent & High Yield Updated LMRPs

1. Dermatomal vesicle distribution seen in herpes zoster.
2. Erythema Multiforme: Antimalarial drugs
3. Alopecia areata associated with pitting of nails.
4. Antifungal developed resistance in last 2 years and not routinely prescribed for tinea cruris and corporis is Terbinafine.
5. Rash and hypo pigmentations over nose after taking NSAIDS for 1 week due to history of joint pain and fever, the most likely diagnosis is chikungunya.
6. Incubation period for LGV is 7-12 days.
7. Nerve used for biopsy from lower limb is sural nerve.
8. Meissner corpuscles present in Papillary dermis.
9. Patient present with the rashes in groin region, the most important cause is Three anamorphic (asexual or imperfect) genera causes dermatophytoses are Trichophyton, Microsporum, and Epidermophyton.
10. A 16 yr. old boy comes with oily skin and multiple nodulocystic lesion since 2 years, best management is oral isotretinoin.
11. Early lesions of pemphigus vulgaris show supra basal epidermal acantholysis, clefting and blister formation. The floor of the blister may be lined with intact keratinocytes, the "tombstone pattern.
12. More than 30% body surface are blisters involvement of skin occurs due to drugs.
13. Becker nevus:

    • A Becker nevus (nevus in American spelling) is a late-onset epidermal nevus or birthmark occurring mostly in males. It is also known as Becker melanosis.

• It is due to an overgrowth of the epidermis (upper layers of the skin), pigment cells (melanocytes)and hair follicle.

14. Cutis marmorata occurs due to exposure to cold temperatures.
15. A child has a rash; his family history is positive for asthma. The most probable diagnosis is Allergic contact dermatitis.
16. Painless lesion seen in Human papilloma virus.
17. Child scratch his hand with pen, red wheal appears and persists for 30 min is dermographism.
18. Nerve taken for biopsy to diagnose neuritic leprosy is radial cutaneous nerve.
19. Component of cement causing allergic contact dermatitis is chromium.
20. Pruritus over fingers occur in scabies.
21. Highest concentration of desmosomes seen in supra basal portion.

Psychiatry

1. DSM -IV is a multiaxial classification system.
2. Healthy thinking as per psychiatry is consistent, continues and organized, doesn't have clarity.
3. Superstition is a false belief unexplained by reality and is shared by a number of people.
4. Cognition isThought.
5. Circumstantiality: - person responds to each question, but he gives long answers with a great deal of tedious and unnecessary detail.
6. Magical thinking belief that thinking can cause action.
7. Hallucination is disorder of perception.
8. Best definition of a delusionisFixed, firm, false belief.
9. Delusion is a disorder of thought.
10. Emotion is controlled by Frontal lobe.
11. Commonest type of organic hallucination is Visual.
12. Commonest type of functional hallucinations is Auditory.
13. Stupor is triad of decreased reactivity to stimuli, akinesia and mutism (but retention of consciousness and often with open eye).
14. Formation and storage of immediate and recent memories: - Hippocampus.
15. Anterograde amnesia is characteristic of Post traumatic head injury.
15. Commonest psychiatric illness in Cancer, stroke, HIV is Depression.
17. Insight is awareness of being ill. Present in Neurosis and Absent in Psychosis.
18. Lability:A person who laughs one minute and cries the next without any clear stimulus.
19. Anhedonia: - inability to enjoy previously pleasurable activates.

20. Conation is action.
21. The primary delusion is disorder of thought.
22. Delusion is not present in Compulsive disorder.
23. Illusion is misperception of stimulus, e.g. rope seen as snake.
24. Hallucination is disorder of Perception.
25. Formed visual hallucinations are seen in lesion of Temporal lobe.
26. Confabulation means Making stories to fill gaps in memory loss.
27. One of the most specific feature of psychosis is Neologism
28. Insight is absent in schizophrenia.
29. Signs of organic brain damage are evident on Bender Gestalt Test.
30. Ambivalence is most commonly seen in Schizophrenia.
31. Incidence of suicide is 22/ lakh/ year in Indian population.
32. Pin-point pupil is seen in Pontine hemorrhage.
33. Deja vu is seen in Temporal lobe epilepsy.
34. Unfamiliarity of familiar things is seen in Jamais vu.
35. Reflex hallucination is a type of Synesthesia.

Psychological Tests

1. Rorschach's test measures ProjectivePersonality.
2. Best test for diagnosis of Organic Mental Disorders Bender Gestalt Test.
3. Rorschach inkblot test is ProjectivePsychological Test.
4. Signs of organic brain damage are evident onhalstedReitan Battery test.
5. Normal IQ as per Stanford Binet test is 90-108.
6. Normal IQ as per WAIS is 90-110.
7. The eight - stage classification of human life is proposed by Erikson.

Organic Mental Disorders

1. Delirium is marked by Clouding of consciousness.
2. Formed visual hallucinations are seen in lesion of Temporal lobe.
3. The most common cause of delirium in the elderly is Use of multiple medications.
4. Delusion in delirium are Transient.

5. Disorientation is a features of Organic brain syndrome.
6. Reversible dementia is a feature of Hypothyroidism.
7. Delirium and schizophrenia differ from each other by Disorientation.
8. Neurofibrillary tangles with senile plaques are seen in Alzheimer's disease.
9. Korsakoff's syndrome (a severe inability to form new memories and a variable inability to recall remote memories) damage is located in Mamillary bodies.
10. Diffuse bilateral slow waves in EEG activity are seen in Delirium.
11. Vascular dementia is characterized by disorientation, memory deficit and emotional liability.
12. Most common cause of dementia is Alzheimer's disease.
13. Most common type of cortical dementia is Alzheimer's disease.
14. Prominent visual hallucinations are Suggestive of an organic cause of the behavioral symptoms.
15. Pseudodementia is commonly seen in Depression.
16. Slowly progressive disease without much neurological signs is Alzheimer disease.
17. Myoclonic seizure typically seen in SSPE.
18. Apraxia is inability to execute a planned action in presence of Normal motor, cerebellar, sensory function.

Psychoactive Substance Use Disorders

1. Physical dependence to drugs is indicated by Presence of need for increased dosage and withdrawal symptoms occur on absence of drug.
2. Intelligence is not related to development of drug dependence Intelligence.
3. Male started alcohol at age of 20 years, presently taking 3 quarters daily over 30 years, now complains that he gets the kick in I quarter, diagnosisis Reverse tolerance.
4. Two policeman pullover the driver of a car a 20-year old man, for speeding. They immediately notice a strong smell of alcohol on his breath and administer a Breathalyzer test. According to the instrument, the man's blood alcohol level is 200mg/dl, but he does not show any typical signs of intoxication. His gait is study; his speech is clear, explanation for

such presentation is development of tolerance to the effect of alcohol.

5. Disulfiramis used in dependence due to Alcohol.
6. Commonest alcohol withdrawal symptom is Tremor.
7. Korsakoff's psychosis is diagnosed by Impairment of short term memory.
8. Characteristic feature of Korsakoff psychosis is Amnesia.
9. 'Marchiafava-Bignami' syndrome isa complication of alcoholism.
10. Alcohol hallucinosis is Classically occur in, clear consciousness.
11. Treatment of opioid overdosage is Naloxone.
12. The nonopioid medication can be used to treat some of the symptoms of opioid withdrawal syndrome is clonidine
13. Smack is Heroin.
14. Rhinorrhea, lacrimation, diarrhea are withdrawal symptoms of Heroin.
15. Physical drug dependence is not seen with Cannabis.
16. Cannabis produce no withdrawal syndromeCannabis.
17. Most active compound in Cannabis is 9-tetrahydrocannabinol.
18. L5D causes, flashback phenomenon, pupillary dilatation, perceptual change in clear consciousness and may produce panic reaction.
19. 'Hemp insanity' is due to intake of Cannabis.
20. Amphetamines may induce a psychosis that is easily confused with, or misdiagnosed as, paranoid schizophrenia.
21. Treatment is not required in withdrawal of LSD.
22. Active substance in Hashish is 9 delta Tetra-Hydro cannabinol.
23. Run amok is seen with cannabis.
24. Yawning is a common feature of Opioid withdrawal.
25. Acute opioid withdrawal is not characterized by Constipation.
26. The drug which is used for long term maintenance in opioid addiction are Methadone, Buprenorphine.
27. Naltrexone is used in opioid addiction because Prevent relapse.
28. Tactile Hallucinations (Formication)are seen in Cocaine.
29. Alcohol dependence is best indicatedby Withdrawal symptoms.
30. Psychiatric complications of alcohol dependence isschizophrenia.
31. Wernicke encephalopathy presents with confusion, nystagmus and ataxia. Examination reveals 6th cranial nerve weakness.
32. In alcohol withdrawal drug of choice is Chlordiazepoxide.
33. Widmark's Formula is used for blood Alcohol content.
34. Morbid Jealousy is commonly seen with Alcohol.

35. Alcoholic Paranoia characterized with Transient Delusions.
36. Formication and delusion of persecution are together seen in Cocaine psychosis.
37. Dependence is best indicated by withdrawal symptoms and Over whelming involvement in having & seeking substance.

Schizophrenia and Other Psychosis

1. The term "Dementia precox" was coined by Kraepelin.
2. 'Dementia precox 'is Schizophrenia.
3. Contact with reality is lost in Psychosis.
4. Formal thought disorder is present most common in Hebephrenic schizophrenia.
5. Features of schizophrenia are Autism, Ambivalence, Affective blunting, loosening of association, olfactory hallucination, delusion, automatic obedience, concrete thinking, thought broadcasting,
6. Schizophrenia is Functional psychosis.
7. Good prognosis in schizophrenia is indicated by Affective symptoms.
8. Personality deterioration is seen in Schizophrenia.
9. Echolalia , mutism , Rigidity, Posturing is seen in catatonic Schizophrenia
10. Disorder of volition is characteristic
11. Psychomotor features are maximally seen
12. Marked disturbance in conation is a feature.
13. Personality deterioration is less in case of Paranoid schizophrenia.
14. Schizophrenia occurring in persons with IQ less than 70 isPropf schizophrenia.
15. Catatonic Stupor is an indication for ECT in schizophrenia.
16. A 20 year old boy was all right 2 days back. Since then he feels that people are abusing him and he c/o hearing of faint voices when no one is around, aggressive behavior since 2 days. He has fever since only 2 days. No past history. When asked his family says that he has been muttering to self. Diagnosis is Acute psychosis.
17. Late onset schizophrenia. Onset after 45 yrs.
18. Life time risk of schizophrenia 0.85%(1%).
19. The most frequent period for onset of schizophrenia is Adolescence.

20. Dopamine hypothesis' was given for the etiology ofSchizophrenia.
21. Blood of 45 yrs old male shows increased HVA. This pt is most likely to show Schizophrenia.
22. Most common cause of premature death in schizophrenia- Suicide.
23. Drug of choice for Resistant schizophrenia is Clozapine.
24. Most common type of postpartum psychosis is Depressive.
25. Most common side effect of Typical Antipsychotics is Akathisia.
26. Earliest Side effect of Typical anti psychotics is Dystonia (occurring from Minutes to hours of drug intake).
27. Delusional Disorder --Single Non-Bizarre Delusion and rest all is usually normal. But As per DSM-5 even single bizarre delusion is Delusional Disorder.
28. Maximum heritability is seen in Mania.
29. Symptom of schizophrenia respond earliest to treatment is Auditory hallucinations.
30. Grimacing and Mannerism is Catatonic Schizophrenia.
31. Early onset and bad prognosis is seen in Hebephrenic.
32. Drugs abuse with symptoms similar like schizophrenia are seen in Amphetamine.
33. Schizophrenia with late onset and good prognosis- Paranoid Schizophrenia.
34. Most common type of schizophrenia- Paranoid.
35. Bad prognostic indicator of Schizophrenia is Family history of Schizophrenia.
36. Van Gogh's Syndrome is seen in Schizophrenia.
37. Sialorrhea adverse effect of clozapine.
38. Akathisia-lrresistible urge to move about with inner restlessness.

Mood Disorders & Affective Disorders

1. Intense nihilism, somatization, and agitation in old age are the features of Involutional melancholia.
2. Dysthymia : Sub syndromal depressive symptoms for 2 years .
3. Duration for leveling manic episode is 1 week.
4. Affective disorders are associated with disturbance in Mood.

5. Pressure of speech & flight of ideas is a feature of Manic episode.
6. A period of normalcy in between two psychotic disorders is a feature of Manic depressive psychosis.
7. Drug of choice for rapid cycling MDP is Sodium valproate.
8. FDA approved Rx of refractory depression is Combination of fluoxetine with olanzapine.
9. Commonest psychiatric illness in India is Endogenous depression.
10. 'Early morning awakening' is seen characteristicallyin Endogenous depression.
11. Common cause of mood congruent delusions is Depression.
12. The neurotransmitter defect implicated in depression is Catecholamines.
13. Characteristic feature of mania is High self-esteem.
14. Dysthymia is Mild chronic depressed mood.
15. Alexithymia is Inability to express emotions.
16. Most common psychiatric complication of chronic antihypertensive therapy is Depression.
17. Double depression is Major depression on dysthymia.
18. Persistent mood disorder is diagnosed if the symptoms persist more than 2 years.
19. Neurotransmitter which produce suicidal tendency is Serotonin.
20. Most common age and gender for depression is Middle age female and elderly man.
21. Neurotic depression is Usually associated with anxiety.
22. Endogenous Depression is not characterized by Loss of self-esteem, guilt psychosis, paranoid feelings.
23. The psychological disorder most commonly associated with myxedema- Depression.
24. Most common psychiatry disorder in India, world is Depression.
25. Neurotransmitters involved in depression are Serotonin and Norepinephrine.
26. Otto Veraguth sign is found in Depression.
27. Suicidal tendencies are most common in Psychotic depression.
28. Drug of choice in depression in old person is Fluoxetine.
29. Most common mental disorder as a cause of suicide- Depression.
30. The clinical features of mania include Elated mood, Delusion of grandiosity.

31. Hypersexuality, Hyperactivity, decreased sleep is seen in mania.
32. Bipolar II disorder includes Major depression& hypomania.
33. In Manic Depression Psychosis (MDP) - period of normalcy is seen between two psychosis.
34. Chromosome associated with bipolar disease Chromosome 18.
35. HI AA is a metabolite of Serotonin.
36. TrycyclicAnti-depressant are contraindicated in Glaucoma.
37. Mode of action of fluoxetine - Inhibit uptake of 5 - HT.
38. Side effect of fluoxetine are weight gain, sweating, diarrhoea.
39. Tianeptine acts by Serotonin uptake Enhancer.
40. Lithium is treatment of choice for Bipolar MDP prophylaxis.
41. Prophylactic maintenance serum level of lithium is 0.5 - 0.8 mEq/L.
42. Most common cause of mood congruent delusion is Mania.
43. Drug preferred for treatment of Acute Bipolar disorder- sodium valproate.
44. Dysthymia is not a/w psychotic feature like delusion.

Neurotic, Stress Related & Somatoform Disorder

1. Drug of choice of acute anxiety attack is benzodiazepine.
2. Drug of Choice of GAD is Benzodiazepine/ SSRI/TCA/Buspirone.
3. Agoraphobia is Fear of places from where easy escape is not possible.
4. Phobia is characterized by Excessive and Irrational fear of common objects which is usually not feared by others.
5. Phobia is Neurosis.
6. Most common type of phobia is Agoraphobia.
7. 'Flooding' is a type of behaviour therapy used in treatment of Phobia.
8. Most specific symptoms of social phobia is Blushing or shaking.
9. In obsessive compulsive neurosis Anxiety is produced if not allowed to act.
10. Best treatment for obsessive compulsive neurosis is Drugs with behaviour therapy.
11. Drug of choice for treatment of obsessive compulsive disorder isSSRI (Best SSRI is Fluvoxamine)
12. "Undoing[1 11] is typically seen in Obsessive compulsive neurosis.
13. Most common type of obsession is Contamination> Pathological doubt.
14. Most common Compulsion is Checking.

15. Obsessive-compulsive disorder has a lifetime prevalence of 2.5%.
16. Somatization disorder is characterizing by poly symptomaticpresentation; patient comes to doctor with multiple symptoms which are present across several organ systems. Eg: She has seen five doctors in the past 3 months, and has had six surgeries since the age of 18.
17. Hypochondriasis- minimum complaints are taken as sign of Deadly disease.
18. Body dysmorphic disorder- doubt and Preoccupation about outer appearance of Body. As per DSM-5 , it is taken under Obsessive Compulsive Disorder.
19. For Hypochondriasis, Body dysmorphic disorder/Somatoform disorder. Symptoms must be present for 6 months for diagnosis.
20. In hysteria, defense mechanism seen is Dissociation.
21. The hysterical seizures never occur in sleep.
22. Treatment of choice for hysteria is Psychotherapy.
23. Kleptomania means Irresistible desire to pick up Things (steal).
24. Trichotillomania - Pulling of once own hair.
25. A lady, while driving a car, meets in an accident. She was admitted in an ICU for 6 months. After being discharged, she often gets up in the night and feels terrified and has fear to sit in a car again. The Diagnosis is Post Traumatic Stress Disorder and treatment is EMDR (Eye Movement Desensitization and reprocessing).
26. Post-traumatic stress syndrome is due to Major life threatening events

Personality Disorder

1. Sociopaths are Impulsive.
2. Feature of anankastic personality disorderis Rigidity and stubbornness.
3. Personality disorder characterized by disregard for social norms and incapacity to experience guilt isAnti-Socialpersonality disorder.
4. Personality disorders are usually evident by adolescence.
5. Personality with traits like disciplined, parsimonious, punctuality, liking cleanliness etc. is Anankastic.
6. Paranoid personality comes under Cluster A.
7. Dramatic emotionality, suggestibility and over-concern with physical

attractiveness is a feature of personality traitsis Histrionic Personality.

8. Personality disorders is more common in females is Histrionic.
9. TYPE D personality is a poor outcome for Coronary artery disease.

Miscellaneous

1. Body Image disorder is Anorexia Nervosa.
2. A young lady is present with H/O repeated episode of over eating, followed by purging using laxatives- Bulimia nervosa.
3. Anorexia nervosa can be differentiated from bulimia by Intense fear of wt gain.
4. Narcolepsy is characterized by Sleepattacks, Sleep paralysis, cataplexy, Hypnagogic and Hypnopompic hallucinations, Abnormal REM intrusion in EEG.
5. Centre of Narcolepsy lies in Hypothalamus.
6. DOC of Narcolepsy was Methylphenidate, now Modafinil.
7. In narcolepsy, the polysomnography recording typically shows REM intrusion during inappropriate periods.
8. Nightmaresis a Parasomnia associated with REM sleep.
9. Paradoxical sleep is REM.
10. Klein-Levin syndrome is invariably associated with- Hypersomnia, Hyperphagia, Hyper sexuality.
11. Night terrors is associated with non-REM (NREM) sleep.
12. Bisexuality is not sexual paraphilias.
13. Most accurate treatment of erectile dysfunction- Sildenafil.
14. Semen's Squeeze Technique is used for Premature ejaculation.
15. Diseases are given benefit under disability Act (PDA)area. Schizophrenia b. OCD, c.BPAD, d.Dementia.
16. Diseases given benefit under National Trust Act are Cerebral Palsy, Autism, Severe MR.

Biological Therapies in Psychiatry

1. Cognitive theory of depression given by Beck.
2. Best marker for Electro convulsive therapy- Brain derived growth factor.
3. ECT is contraindicated in- Acute anxiety.
4. A patient revealing his thoughts freely to a therapist; free association.
5. Counter transference means Feeling therapist develops toward patient during psychotherapy.
6. Obsession is not an ego defense mechanism
7. Displacement is the defensive mechanism for Phobia.
8. Primary processes as per Freud is Non-logical and primitive.
9. Undoing is a defense mechanism in OCD.
10. Habit reversal training is therapy for Trichotillomania.
11. Regression and Fixation in OCD as per Freud model is at Anal stage of Psychosexual development.
12. Fixation of Hysteria is in Phallic stage.
13. Regression and Fixation in Schizophrenia as per Freud model is at Oral stage of Psychosexual Development.
14. Technique used in Psychoanalysis is Free Association.
15. Faulty ideas and beliefs -is principally focused on in cognitive therapy.
16. Ego is working on reality principle.

Child Psychiatry

1. Imbecile is Moderate MR with IQ 35 -49.
2. In severe mental retardation IQ is 20-35.
3. Treatable cause of MR is Hypothyroidism.
4. A child has moderate Mental retardation. Practical training for daily life activities in such a case- Contingency training.
5. Autism is a Neurodevelopment disorder.
6. Autism is Social and language communication problem.
7. ASPERGER'S syndrome isNeurodevelopmental disorder.
8. Tourette's disorder is characterized by Motor tics and vocal tics of abusive language or sexually obscene words.

9. Coprophrasia refers to Obscene acts.
10. Macdonald triad is association with Sociopathic behavior includes - Fire setting, Nocturnal Enuresis and Torturing Small Animals.
11. In adolescent behaviour, which is normally unacceptable is Juvenile delinquency.
12. Stealing and telling lies is due to Conduct disorder.
13. DOCof night terrors is Diazepam.
14. Enuresis is diagnosed after age of 5 years.
15. School refusal in children is associated with Separation anxieties.

Recent & High Yield Updated LMRPs

1. Fear of darkness is Nyctophobia.
2. Guilty, intense sadness seen in melancholia.
3. CAM (Confusion Assessment Method) test is used for delirium.
4. Early age of onset not a risk factor for Delusional disorder.
5. Hoarding has poor response to treatment with exposure and response prevention.
6. Premature ejaculation is seen in orgasmic phase
7. Down's syndrome MC: Alzheimer's
8. Somnambulism false is: The person is conscious.
9. According to POCSO, aggravated sexual offence if the abused child is mentally ill or when the abuse is committed by:

a. Armed forces or security forces

b. Person in a position of trust like a family member, police officer, teacher, or doctor.

10. Type 1 schizophrenia: Acute illness, Good prognosis, Intellect maintained
11. Treatment of morphine dependence: Methadone, Buprenorphine, Clonidine, Naltrexone.
12. SPIKES protocol is to break bad news.
13. The provision a mentally ill patient have the right of choosing his caregiver and the further course of management is because of Advance directive.
14. Freud's theory includes displacement, condensation, symbolisation.
15. Expression and consequent release of previously repressed emotions is

Abreaction.

16. Minimum dysfunction syndrome seen in dyslexia.
17. Mental retardation now known as intellectual disability.
18. Chronic alcoholic not drunk for last 3 days present with visual hallucinations and delirium: Delirium tremens.
19. Down syndrome comes under category of oligophrenia.
20. Antipsychotic causing prolactinoma is Risperidone.

Radiology

tadio Physics & Nuclear Medicim

1. X-ray are extranuclear in origin.
2. All electromagnetic waves have same velocity and frequency
3. PACS is acronym for picture archiving & communication System
4. The amount of radiation absorbed is measured by RAD in conv. Unit/ Gray in SI unit.
5. Most radiosensitive phase of cell cycle is G2m
6. Ionization radiation acts on tissue leading to excitation of electron from orbit
7. Functional basis of ionizing radiation depends on removal of orbital electron
8. X-ray are produced when electron beam strikes the anode
9. Most common used rays for radiotherapy is X- rays
10. Whole body electron therapy is used in the treatment of Mycosis fungoides
11. 1 Gray equals 100 rad
12. Curie is unit of Radioactivity
13. Contrasts used in USG is sonoview
14. USG uses Piezoelectric crystals
15. Acoustic shadow in USG is due to reflection
16. USG frequency used for diagnostic purpose is 1-20 MHz
    The intensity of color in Doppler is determined by velocity of flow
17. Color Doppler is used in diagnosis of peripheral vascular disease and deep vein thrombosis
18. The ultrasound probe is made up of PZT
19. Ultrasound is the most practical technique to detect retinal detachment
20. The method of choice to determine thyroid size accurately is USG

21. Most sensitive test for Ductal carcinoma in situ is MRI
22. Ultrasound waves are poorly transmitted through lungs
23. Bile is not echogenic on USG
24. In case of stenotic valvular lesions the outflow tract pressure gradient can be best estimated by Doppler ultrasonography
25. Duplex ultrasonography combines B-mode imaging and pulse-wave Doppler examination
26. On USG diffuse thickening of gall bladder with hyperechoic shadow at neck and 'comet tailing is seen in adenomyomatosis
27. The procedure of choice to confirm the presence of perirenal collections of urine, blood, or lymph in a transplanted kidney is USG
28. Ultrasound is investigation of choice for CHPS
29. Hounsfield Unit depends on Linear Attenuation coefficient
30. Coronal CT sections can be most useful for assessing Sinonasal diseases
31. Calcification of posterior spinal ligament is best diagnosed by CT
32. Thin - One mm slices are taken in HRCT
33. Noncontrast spiral CT is investigation of choice for Hangman's fracture
34. Solitary pulmonary nodule can be seen with HRCT
35. Investigation of choice for interstitial lung disease is HRCT
36. Best investigation to detect intra-articular osteochondral fracture fragments is MRI
37. The most sensitive investigation to detect obscure fractures of cervical spine is the Helical CT
38. HRCT can be extremely useful in determining the integrity of ossicular chain
39. CT scan is least accurate in the diagnosis of stone in common bile duct
40. CT scan room is shielded by lead
41. Fine Bone abnormalities are best seen with CT
42. Investigation of choice for fractures involving sacroiliac joints is CT
43. Attenuation value of <0 on CT is seen in Fat, Air
44. High resolution CT of lung is a specialized CT technique for greater detail of lung parenchyma and it utilizes bone algorithm for image reconstruction
45. Slice of tissue x ray is tomography
46. HRCT is ideal modality for evaluating interstitial lung disease

47. Single most important advantage of MRI is high contrast resolution
48. MRI is vastly superior to CT in evaluating intracranial posterior fossa tumors as CT scanning is frequently hampered by Beam-hardening artifacts
49. MRI is contraindicated in patients with metallic foreign body in eye
50. CSF on MRI scan appears hypointense on T1 weighted image and hyperintense on T2 weighted image
51. Cardiac pacemaker is a contraindication for MRI
52. Contrast agent used for MRI is GD DTPA
53. Mucocele are bright on Tl-MRI and T2-MRI
54. NMR is based on principle of proton beam
55. In MRI images are produced due to H+
56. In MRI the field used is 0.2-3 tesla
57. Metallic foreign body in eye can be detected by X-ray
58. MRI is better than CT scan to detect lesions located in extremity
59. In cerebral angiography the dye is injected through femoral artery
60. Inferior mesenteric artery is dissected most frequently following arteriography by femoral route
61. Gadolinium is non iodinated
62. Osmolar contrast agents may be ionic or non ionic
63. Contrast media of choice for myelogram is lohexoi
64. Most common complication of myelography is Headache.
65. Lower osmolar contrast is preferred in a patient with decreased renal function to avoid contrast nephropathy
66. Motor mechanism of gall bladder is not required for visualization of gall bladder in OCG.
67. Maximum dose of radiation per year in a human which is safe is 5 rad
68. Maximum permissible radiation dose in pregnancy is 0.5 rad
69. Most sensitive tissue to radiation is Bone marrow
70. The cell most sensitive to RT is lymphocyte
71. The radiation tolerance of whole liver is 40 Gy

72. Most sensitive structure in cell for radiotherapy is DNA
73. Cartilage is radioresistant
74. Hypoxia cause cell to become more radioresistant
75. Radiation therapy to hypoxia tissue may be potentiated by the treatment with metronidazole
76. Radio protective drug is Amifostine
77. Most common hormone deficiency seen after intracranial radiation therapy is Growth hormone
78. MC cancer due to radiation is Leukemia
79. Most common presentation of radiation carditis is pericardial effusion
80. Most common skin manifestation seen after 2 days of RT is erythema
81. Gamma camera in nuclear medicine is used for measuring the radioactivity
82. Tc-99 is derived from Mo-99
83. In radionuclide imaging the most useful radiopharmaceutical for skeletal imaging is Tc 99 MDP
84. Best investigation for bone metastasis is bone scan
85. Double density sign is osteoid osteoma
86. Distribution of functional renal tissue is seen by DMSA
87. Impaired renal function is assessed by MAG3Tc99
88. Renal GFR is best measured by Tc99 DTPA
89. Best imaging modality for neuroendocrine tumors is radionuclide scan
90. Sestamibi scan is used in parathyroid adenoma
91. Investigation of choice for locating parathyroid adenoma is Tc thallium subtraction scan
92. Isotope for thyroid scanning is 1123, Tc 99
93. Amount of ^{131}1 used for thyroid scan is 50 microcurie
94. Hot spot in acute Ml is seen in Tc 99 strontium pyrophosphate
95. Thallium scan is performed to detect reversible myocardial ischemia

96. Multiple gated radionuclide cardiac MUGA scan is used for testing ventricular function
97. Acute myocardial infarct scintigraphy is done with Tc stannous pyrophosphate
98. To visualize vascular sling causing tracheal/external airway compression MRI would be preferred.
99. Drug used to perform stress echo is Dobutamine
100. The most recent advance in noninvasive cardiac output monitoring is use of electrical impedance cardiography technology
101. Tc labeled RBC are used for splenic disease
102. In pancreatic scanning radioisotope used is Se 75
103. Commonly used agent for liver nuclear scan is 99mtc-sulfur colloid
104. Gastroparesis is most commonly diagnosed with Scintigraphic scan
105. Agent of choice for Meckel's diverticulum is 99mtc-Pertechnate
106. Hampton hump is a feature of pulmonary embolism
107. Best method to diagnose pulmonary embolism is CT Pulmonary. Angiography.
108. Gold standard for diagnosing pulmonary embolism is angiography
109. PET is best for differentiating recurrence of brain tumour from radiation necrosis
110. Transfemoral route is the most preferred route to perform cerebral angiography
111. Warthin tumour adenolymphoma shows a hot spot on pertechnetate scan
112. Panda sign is seen in Sarcoidosis on Gallium scan
113. Nuclear agent used for sarcoidosis is Gallium 67

CNS

1. Hyperintense corticospinal tracts on T2 W MRI is seen in Amyotrophic lateral sclerosis
2. The MR imaging in multiple sclerosis will show lesions in White matter
3. Extensive involvement of deep white matter with bilateral hyperdense thalamus on noncontrast CT scan of brain is virtually diagnostic of Krabbe's disease

4. Investigation that should not be done in patient with brain tumours, is lumber puncture
5. "Face of giant panda" sign on MRI brain is seen in Wilson's disease
6. Eye of tiger" sign on brain MRI is characteristic of Hallervorden-Spatz Disease
7. Basal exudates, infarcts and hydrocephalus on computed tomography are seen in Tuberculous meningitis
8. Abnormal signals in bilateral thalami on MRI brain is seen in Japanese encephalitis
9. Meningioma shows calcification on CT scan
10. Periventricular calcification is often due to Cytomegalic infection
11. Intracranial calcification with cystic lesion in plain x-ray skull is seen in Craniopharyngioma
12. Suprasellar calcification is characteristic of Craniopharyngioma
13. Commonest calcifying brain tumour in child is Craniopharyngioma
14. Tumour associated with extracranial spread is medulloblastoma
15. Pituitary adenoma is highly vascular in nature
16. "Ice-cream cone" sign on MRI brain is seen in acoustic neuroma
17. Corpus callosum lesions are characteristically seen in the Butterfly conditions
18. Epidermoid can be differentiated from arachnoid cyst on MRI by restricted diffusion on DWI
19. Wide neural foramina is associated with neurofibromatosis 1
20. MRI/CT appearance of lateral meningocele is widened neural foramen
21. Mesencephalon-oculo-facial- angiomatosis is seen in Wyburn Masson syndrome
22. Tram track appearance on CT scan of head is seen in Sturge Weber syndrome
23. IOC for temporal bone injury is CT
24. Subdural hematoma most commonly results from injury to cortical bridging veins
25. Characteristic of subdural hematoma is concavo-convex hyper density
26. Crescent shaped hyperdense lesion is a classical CT appearance of acute subdural hematoma
27. IOC for diagnosis of acute sub arachnoid hemorrhage is CT scan

28. Hyper dense biconvex appearance on cranial CT scan is seen in EDH
29. The 1st IOC in patient with suspected SAH should be NCCT
30. Best test to determine etiology of SAH is Intra-arterial digital subtraction angiography
31. Investigation of choice for diffuse axonal injury is MRI
32. 'Tear-drop' appearance on PNS x-ray is seen in fracture floor of the orbit
33. The 'Light-bulb' sign on DWMRI is hyperacute stroke
34. The most definitive test for identifying intracranial aneurysms is Cerebral angiography
35. Premature closure of coronal, sagittal, and lambdoid sutures results in Oxycephaly
36. Raised intracranial tension in adults is seen as erosion of dorsum sella
37. MRI finding of cavernous angioma is Popcorn like pattern

Chest

1. In Chest X-ray 40% lung tissue is obscured by bony structure and mediastinum
2. Lt sided cardiac bulge on chest x-ray is due to enlargement of left atrial appendage
3. Structure forming right border of heart is SVC,IVC. RA
4. Base of heart is formed by RA+LA
5. Middle lobe collapse is best seen in Lordotic view of chest x-ray
6. All show miliary shadow on CX ray except Staphylococcal pneumonia.
7. Bulging fissure in lungs is seen in Klebsiella pneumonia
8. Hyperinflation of lung in CX ray is seen in congenital lobar emphysema
9. Linear air fluid level is a feature of hydropneumothorax
10. Deep sulcus sign is a feature of pneumothorax
11. Minimal amount of fluid which is required for detection on chest x-ray is 150 - 200ml
12. Stratosphere sign on M mode USG is seen in pneumothorax
13. Floating water lily sign is a feature of lung hydatid
14. Water lily sign is seen in chest x-ray of Echinococcus

15. Extensive pleural thickening and calcification especially involving the diaphragmatic pleura are classical features of Asbestosis
16. Obliteration of left cardiac shadow on PA view is due to lingular lesion
17. If the right cardiac silhouette is obliterated, it means the pathology involves Rt middle lobe

Cardiology

1. Left ventricular enlargement is more specific of MR than MS
2. Posterior marking on Ba column in Ba swallow study is caused by aberrant right subclavian artery
3. CXR picture in CCF are Cardiomegaly, Thick interlobar septum
4. Pruning of pulmonary arteries is seen in pulmonary hypertension
5. Earliest feature of pulmonary venous hypertension is upper lobe diversion of vessels
6. Characteristic X-ray finding in ASD is pulmonary plethora
7. X-ray picture of VSD are dilated Lt atrium and dilated pulmonary veins
8. Calcification of ascending aorta is virtually diagnostic of aortitis on chest X-ray

Sign in Cardio Respiration Diseases

1. Kerly B lines seen in mitral stenosis and lymphangitis carcinomatosa
2. Popcorn calcification is characteristically seen in pulmonary hamartoma
3. Spring water cyst is another name for pleuro-pericardial cyst
4. Coarctation of aorta causes rib notching on chest radiograph
5. Inferior rib notching is seen in coarctation of aorta (LQ)
6. In Tetralogy of Fallot, there is a coeur en sabot shape of heart is seen
7. Snowman appearance is seen in supra cardiactotal anomalous pulmonary venous connection
8. Egg on side appearance is seen in uncorrected TGA

Breast

1. Areas of spiculated microcalcifications on mammogram would suggest malignancy
2. The sensitivity of mammography is low in young females because young breast has dense tissue
3. Triple assessment for carcinoma breast includes clinical examination, mammography and biopsy /cytology
4. The most sensitive investigation for DCIS of breast is MRI
5. BIRADS stand for Breast imaging reporting and data system
6. Screening modality of choice in lactating mother is USG

GIT

1. 'Cork-screw' esophagus is seen in diffuse esophageal spasm
2. Investigation of choice in diffuse esophageal spasm is barium examination showing tertiary contractions
3. Gold standard investigation for GERD is 24-hour intragastric pH monitoring
4. Barium swallow is the investigation of choice for Zenker diverticulum
5. Investigation of choice for trachea-oesophagal fistula is X-ray
6. Bird beak appearance is seen in Aclasia cardia
7. Early gastric cancer generally indicates gastric adenocarcinoma confined to the mucosa and submucosa
8. Gold standard investigation for recurrent gastrointestinal stromal tumour is PET
9. Investigation of choice for small intestinal tumor is CT scan with contrast
10. In Crohn's disease, enteroenteric fistulas are commonly seen
11. Pneumoperitoneum can be best diagnosed by CT scan
12. Double bubble sign seen in duodenal atresia
13. Mucosal granularity is the earliest sign of ulcerative colitis on double contrast barium enema (DCBE)
14. An important screening test for functional anorectal dysfunction is balloon expulsion test

15. Pudendal nerve terminal motor latency (PNTML) can best evaluate the extent of the injury to the sphincter muscles in patients with incontinence
16. The most common facial abnormality in Gardner's syndrome is Multiple osteomas
17. The best investigation to diagnose Hirschsprung's disease is rectal biopsy

Liver & Gall Bladder

1. Central dot' sign is Caroli's disease
2. Hyperechoic hepatic metastasis on USG is seen in Ca colon
3. Focal nodular hyperplasia can be diagnosed with high accuracy by using nuclear imaging/ triphasic CT
4. Porcelain Gall bladder may be detected on the plain abdominal film and is a premalignant condition
5. Thickened gall bladder in USG seen in acute cholecystitis.

Pancreas

1. Most worth investigation for detection of suspected pancreaticobiliary worms is ERCP
2. Most sensitive investigation for identification of Insulinoma is intraoperative ultrasound
3. The modality of choice for localizing both primary NETs and their metastases is Somatostatin receptor scintigraphy
4. Investigation of choice to detect ruptured spleen is CT scan
5. Adrenals should always be imaged in a suspected case of bronchogenic carcinoma
6. Sentinel loop sign is seen in acute pancreatitis
7. Colon cutoff sign is seen in acute pancreatitis
8. Widening of C loop of duodenum is a feature of pancreatic head growth
9. ERCP in pancreatitis is done to know about pancreatic divisum

Abdominal Trauma

1. Investigation of choice for detecting minimal ascites is ultrasound
2. Investigation of choice for detecting minimal intraperitoneal free air is CT scan

Sign & Facts GIT

1. Double bubble sign is seen in duodenal atresia
2. X ray feature of pyloric stenosis is single bubble appearance
3. Radiological sign of Crohn's disease is Cobblestone appearance
4. Lead pipe appearance is seen in ulcerative colitis
5. String of Kantor is seen in Crohn's disease
6. Soap bubble appearance is seen in meconium ileus
7. Radiological sign of ischemic colitis is thumb print appearance
8. String sign is suggestive of hypertrophic pyloric stenosis
9. Feathery appearance in jejunum is due to valvulae conniventes
10. X-ray appearance of CBD stone on cholangiography is meniscus appearance
11. Chain of lake appearance in ERCP is seen in Chronic pancreatitis
12. Central dot sign is seen in Caroli's disease
13. Spongy appearance with central sunburst calcification is seen in serous cystadenoma
14. Rim sign in IVP is seen in Hydronephrosis
15. Cobra head IS characteristic of. Ureterocele
16. B/L spider leg sign on IVP suggests Polycystic kidney disease

GUT

1. Rapid sequence excretory urography is used in suspected renovascular hypertension
2. Non-visualization of kidney in excretory urogram is seen in renal vein thrombosis
3. A dense nephrogram is obtained by rapid (bolus) injection of dye

4. In Nephro graphic phase of IVP, contrast is PCT
5. Hydronephrosis may be absent on ultrasound when obstruction is associated with Staghorn calculi
6. 90 percent of urological stones are radiopaque
7. The Most Sensitive Imaging Modality for Diagnosing Ureteric Stones in A Patient with Acute Renal Colic is non Contrast CT Scan of Abdomen
8. For renal stone, diagnosis is not done by MRI
9. Calcification is best detected by CT scan
10. IOC for bladder calculus is CT **scan**
11. Filarial dance sign is seen with Ultrasonography
12. Medullary cystic disease (MCD) can be best diagnosed by renal biopsy
13. Persistent fetal lobulation of kidney is because of normal variant
14. Most important investigation for posterior urethral valve is MCU
15. The posterior urethra is best visualized by Voiding cystogram
16. The most common sign of renal cell carcinoma on IV is polar enlargement
17. IOC for Carcinoma of Urinary Bladder is CECT
18. Lymphatic spread commonly occurs in carcinoma of prostate
19. Rim sign on nuclear imaging is a feature of testicular torsion
20. IOC for testicular torsion is Doppler USG

OBG

1. Earliest ANC diagnosis on USG is done for anencephaly
2. To detect gestational sac on transabdominal ultrasonography, it should be minimum of size 20-30 mm
3. Oligohydramnios is commonly associated with renal agenesis
4. Nuchal edema is an ultrasound marker, associated with greatest increased risk for Trisomy 21 in fetus
5. Color Doppler finding suggestive of impending fetal death is reversal of flow in umbilical arteries
6. "Ring of fire" appearance in ectopic pregnancy is due to vascularity
7. USG can detect gestation sac earliest at 5-6 weeks of gestation on transabdominal sonography.
8. Earliest sign of fetal life is best detected by Real time USG
9. Parameters used to estimate gestational age in last trimester is femur length

10. USG done at 18-20 weeks mainly to detect fetal abnormality.
11. Anencephaly can be diagnosed by USG at 10-12 weeks of gestation
12. Best for unruptured ectopic pregnancy is Trans vaginal USG
13. Most accurate assessment of gestational age by USG is done by crown rump length
14. Ectopic pregnancy, characteristic findings in USG is absence of gestational sac in uterus
15. On USG findings of cystic hygroma in fetus in suggestive of Turner syndrome
16. Missed IUD (IUCD) is recognized by USG
17. Radiological investigation of female of reproductive age group is restricted to first 10 days of menstrual cycle

Musculoskeletal System

1. Acro-osteolysis is seen in Pycnodysostosis
2. Metacarpal sign is positive in Turner's syndrome
3. 'Chevron sign' is seen in achondroplasia
4. On X-ray, typical appearance of burning candle with slippage of wax around is seen in Melorheostosis
5. Absent lateral third of clavicle is seen in Cleidocranial dysostosis
6. "Champagne glass" pelvis is seen in Achondroplasia
7. Most common radiological abnormality predisposing to developmental dysplasia of the hip is Developmental Acetabular dysplasia
8. Heberden's nodes are found in DIP joint in osteoarthritis
9. Tufting of distal phalanx is characteristically seen in Psoriatic arthropathy
10. Chondrocalcinosis is seen with Pseudogout
11. Calcification of IVD is seen in Non rheumatic ankylosis
12. Calcification of IVD is seen in Alkaptonuria.
13. Calcification around the joint is seen in Pseudogout
14. Bone erosion is a recognized X ray feature of RA
15. Terminal phalangeal sclerosis is associated with rheumatoid arthritis
16. Calcification of meniscal cartilage is a characteristic feature of pseudogout

17. Earliest evidence of healing in rickets is provided by radiological examination of growing bone ends
18. Radiological features of rickets include cupping of metaphysis
19. Splaying and cupping of metaphysis is seen in rickets
20. Looser's zone is seen in osteomalacia
21. Flaring of anterior end of the ribs is characteristically seen in Rickets
22. Brown tumors are seen in Hyperparathyroidism
23. Osteofluorosis is best characterized by calcification of ligaments and tendons
24. "Rugger-jersey" spine seen in chronic renal failure patients is mainly due to Secondary hyperparathyroidism
25. Radiological feature of osteosarcoma is sunray appearance
26. Dense calcification is seen in Chondrosarcoma
27. Expansile pulsating secondary metastasis is a feature of RCC
28. All the statements are true about exostosis, except Growth Continues After Skeletal Maturity
29. Most common lesion of hand is enchondroma
30. Ollier's disease is Multiple Enchondromatosis
31. Bone tumor that typically affects the epiphysis of a long bone is Chondroblastoma
32. Secondary tumor in osteochondroma is chondrosarcoma
33. Expansile lytic lesion of sacrum with specks of calcification is suggestive of chordoma
34. Most common site of osteogenic sarcoma is the upper end of humerus
35. A classical expansile lytic lesion in the transverse process of a vertebra is seen in aneurysmal bone cyst
36. Ground glass appearance is an X ray feature of fibrous dysplasia
37. Bohler's angle is lost in fracture of calcaneum
38. Radiological sign of spondylolisthesis is the ’Scottish dog with collar’ sign
39. Cl C2 best seen in Odontoid view
40. Clay choveller fracture involves the spinous process of C7
41. Epiphyseal enlargement is seen in Juvenile rheumatoid arthritis
42. Dense metaphyseal band is seen on Hypervitaminosis
43. Windswept deformity is seen in Rheumatoid arthritis and Rickets
44. Trident hand is seen in Achondroplasia

45. Champagne glass pelvis is seen in Achondroplasia
46. Bone within bone appearance is seen in Osteopetrosis
47. X-ray view of choice for lumbar spondylosis is the lateral view
48. Scottish terrier sign is seen in the oblique view
49. Beheaded Scottish terrier sign is Spondylolisthesis
50. In spondylolisthesis, Napoleon sign is seen
51. Pseudo fracture of loser's zone is seen in Osteomalacia
52. Radiographic appearance of Pindborgtumour is Driven snow appearance
53. Sunray appearance on X-rays is suggestive of an osteogenic sarcoma
54. Sunray appearance is seen in Osteosarcoma

Hematology

1. Hair on end appearance is seen in Thalassemia
2. Wide diploic space of skull with brush border (hair on end) appearance is characteristic of Congenital hemolytic anemia
3. H shaped vertebral body is a feature of sickle cell anemia
4. Autonephrectomy is a feature of Tuberculosis
5. In sickle cell anemia, Salmonella is the major causative organism causing osteomyelitis
6. Bone infarcts are characteristically seen in sickle cell anemia
7. Hypertelorism is a feature of Thalassemia
8. Widened intercondylar notch is seen in Hemophilia

Pediatrics

1. Invertogram is done in a new born after 6 hrs
2. First sign of hydrocephalus in children is sutural diastasis
3. William's syndrome is associated with congenital supravalvular aortic stenosis
4. Steeple sign is a feature of croup
5. Thumb sign is a feature of epiglottitis
6. White cerebellum sign is a feature of hypoxic ischemic encephalopathy

Endocrine

1. For the imaging of adrenal glands in neonates, the modality of choice is ultrasound
2. DOPA - PETscan is most sensitive for evaluation of extra adrenal pheochromocytoma
3. Light bulb appearance on MRI is seen in Pheochromocytoma
4. Post irradiation thyroid tumour is Papillary CA
5. Radioiodine is used in treatment of Follicular ca thyroid

Investigation of Choice

1. Investigation of choice for juvenile naso angiofibroma is CECT
2. The procedure of choice for evaluation of an aneurysm is Arteriography
3. The best investigation to diagnose a case of acoustic neuroma is Gd enhanced MRI
4. MRI is the best choice to evaluate radiologically a posterior fossa tumour
5. Ideal imaging method for diagnosis of hydrocephalus in infants is USG
6. Parameningeal rhabdomyosarcoma is best diagnosed by MRI
7. The best x-ray view for minimal pleural effusion is lateral decubitus
8. Decubitus view is useful in diagnosing pleural effusion, Pleural effusion with dependent hemithorax
9. Best view for Rt pleural effusion in X-raychest is right lateral decubitus
10. Interlobar pleural effusion can be detected in the best way in Reverse lordotic position
11. Basal skull view (submentovertical) X-ray is best to visualize Sphenoid sinus
12. In a down's syndrome patient posted for surgery, the necessary preoperative investigation to be done is echocardiography
13. IOC for aortic dissection is CT scan in stable patient.
14. IOC for pericardial effusion is echocardiography
15. The most accurate investigation for assessing ventricular function is MRI.
16. Cardiotoxicity caused by radiotherapy and chemotherapy is best detected by Endomyocardial biopsy
17. IOC for detection and characterization of interstitial lung disease is HRCT
18. IOC in bronchiectasis is Bronchography

19. Best diagnostic aid for bronchiectasis is CT scan
20. Most sensitive investigation for air embolism is Doppler USG
21. In patient with high clinical suspicion of pulmonary thromboembolism, best investigation would be Catheter angiography
22. IOC for pulmonary embolism is CECT
23. Pulmonary embolism is best diagnosed by CT scan
24. Best method for detecting minimal bronchiectasis is CT scan
25. Best view to diagnose pneumothorax is PA view in full expiration
26. In renal cell carcinoma, investigation of choice to evaluate IVC and renal vein for thrombus is Colour Doppler
27. Functional analysis of kidney is best done by Radionuclide scanning
28. IOC for studying renal cortical mass is Tc 99 DMSAlT
29. IOC in diffuse oesophageal spasm is manometry
30. Gastro - oesophagal reflux is best detected by endoscopy
31. IOC for gall stone is USG
32. Investigation of choice in obstructive jaundice is USG
33. Most common investigation for obstructive jaundice is USG
34. Minimal ascites can be best detected by USG
35. The IOC for acute cholecystitis is HIDA scan
36. Best radiographic view for fracture C1,C2 vertebrae is Odontoid view
37. Best investigation for traumatic paraplegia is MRI
38. The gold standard for assessing bone mineral density and diagnosis of osteoporosis is Dual Energy X ray absorptiometry
39. Judet view is done for acetabular fracture
40. Neural tube defect best detected by amniocentesis
41. Earliest congenital malformation that may be detected on USG is Anencephaly

Radiotherapy

1. Inverse square law means radiation from any source increases in intensity as a function of the square of the distance from the source.
2. Maximum damage to skin is caused by Orthovoltage x-ray therapy
3. Linear accelerator is used to provide electrons and x-rays
4. A positively charged radiation is alpha particle

5. Linear accelerator employs electrons and X -rays
6. Very effective in reducing pain of bone cancer is strontium 89
7. Phosphorous-32 emits beta Particles
8. In the treatment of papillary carcinoma thyroid, radioiodine destroys the neoplastic cells predominantly by beta rays
9. Electron beam therapy may be used in treatment of Mycosis fungoides
10. Systemic radiation therapy, by using Iodine-131, Phosphorous-32
11. For shield (mould) in eye tumors, Phosphorous-32 is preferred
12. Isotopes used for teleradiotherapy are Cobalt-60
13. In colon malignancy postoperative radiotherapy is minimally used
14. For Prostate malignancy, intensity modulated radiotherapy is the most suitable
15. Radiotherapy is treatment of choice for Nasopharyngeal CA T3N1
16. cobalt 60 is commonly used as external beam radiotherapy in treatment of cancer patients
17. Conventional dose per fraction in external radiotherapy is 225-250 cGy
18. Mantle Irradiation is used in Hodgkin's disease
19. Dose of radiotherapy given at point b in carcinoma cervix is 5000 rads
20. The most commonly used form of radiation therapy is teletherapy
21. Stereotactic radiosurgery is a form of radiotherapy
22. Gamma-knife is very useful in the treatment of cerebral metastasis
23. Stereotactic radiotherapy used for CA lung stage 1 single lesion
24. Ibritumomab is drug of choice for NHL
25. RFA is used in treatment of hepatoma
26. Prophylactic craniospinal irradiation is used as treatment modality for small cell carcinoma lung
27. Radiotherapy can be used with best results to treat Medulloblastoma
28. Testicular tumor most sensitive to radiation is seminoma
29. Seminoma responds best to radiotherapy
30. The most radiosensitive lung cancer is squamous cell carcinoma
31. Poorly differentiated carcinoma responds best to radiation
32. Benign condition that can be treated by radiotherapy is pituitary adenoma
33. Osteosarcoma is radioresistant
34. First sign after radiation treatment is erythema

Miscellaneous

HISTORICAL ASPECT

1.	JJ. Thompson	- Discovered electrons
2.	W.K. Roentgen	- discovered X-rays in 1895.
3.	Henry Becquerel	-- discovered radioactivity in 1896.
4.	Madam Marie Curie radium, Uranium, etc.	-- discovered radioactive substances
5.	Chadwick	-- discovered neutron.
6.	Maxwell (invented- by Hertz)	-- discovered electromagnetic waves

Characteristic appearances

a. Spondylolysis- scotty dog wearing a collar app
b. Spondylolisthesis- Scotty dog with separated neck
c. Scottish terrier sign- in oblique view
d. Soap bubble appearance in abd x-ray- Meconium ileus
e. Soap bubble appearance in head CT - Cryptococcal meningitis
f. Soap bubble calcification in x-ray - Osteoclastoma
g. Puffed rice appearance on CT-Scan head -neurocysticercosis
h. Soap bubble cerebral calcification in head CT- Toxoplasmosis (Congenital)

Important Point

1. Investigation of choice in traumatic paraplegia - MRI
2. Intra-osseous skeletal tumours are best diagnosed by- MRI
3. In fibromuscular dysplasia string of beads appearance on angiography
4. Trethowan sign in Slipped capital femoral epiphysis
5. Trachea lies behind LA so in left atrial enlargement there is widening of tracheal bifurcation angle. Enlargement is best seen in penetrated chest x-ray PA view. Descending aorta is displaced to the left by LA enlargement (Bedford's sign) &in LA enlargement esophagus is displaced towards right & posteriorly[1]
6. Amt. of air needed to create pnuemo peritoneum---------800 ml

7. Amt. of air needed to produce death in air embolism --------- 200 ml
8. Echo cardiography can detect pericardial effusion as little as --------- 15 ml
9. X-ray can detect pericardial effusion as little as—..... 250 ml
10. Minimum amt. of ascitic fluid required to elicit puddle sign ---------- 50 ml
11. Lateral view chest X-ray can detect pleural effusion as little as- 75 ml
12. Lateral decubitus chest-X ray detect pleural effusion as little as—-10-15 ml

Some Imp. Negative points

1. On PA view X-ray chest cardiac silhouette is NOT increased in-------- TOF
2. NOT a Radiosensitizer substance ---------- Cyclophosphamide
3. NOT a Radiosensitive tumour --------- Osteosarcoma
4. Miliary mottling is NOT seen in ---------- Staph, aureus pneumonia on chest X-ray PA view Rt heart border is NOT formed by ------- RV
5. NOT related to development of bladder cancer---------- TB
6. Skin tumours, which is NOT radiosensitive --------- Malignant melanoma
7. MCV is NOT indicated for---------- Suspected renaltumours/mass
8. Solitary pulmonary nodule is NOT seen in ---------- Neurofibromatosis/ neurofibroma
9. Air in biliary tract is NOT seen in---------- Sclerosing cholangitis B/L calcification of lung NOT occur in -------- Klebsiella pneumonia.

HALF LIFE OF IMPORTANT RADIONUCLIDES

NUCLIDE	HALF-LIFE
1132	2.3 hours
C06O	5.2 years
Tc99m	6 hours
P32	14 days
Thallium	3 days
Gallium	3 days
Irl92	74 days
Carbon-ll	20.3 min
Cesium-137	30 yr
Chromium-51	27.8 day
Cobalt-57	270 day
Cobalt-58	71.3 day

Cobalt-60	5.26 yr
Fluorine-18	109min
Gadolinium-1 53	240 day
Gallium-67	78.1 hr
Indium-Ill	67 hr
lodine-l 23	13 hr
lodine-l 25	60 day
Iodine-131	8 days
Krypton-81m	13 see
Moiybdenum-99	66.7 hr
Nitrogen-13	IO min
Oxygen-IS	124 see
Phosphorus-32	14.3 day
Rhenium-1 86	90 hr
Rubidium-82	1.3 min

RADIOSURGERY

a. y-knife radiosurgery

Focused radiation for limited brain metastasis

b. Cyber knife

Combines robotics and advanced image guidance to deliver radiation to tumour along spinal cord/other critical location.

Respiratory System

1. **Hydatid cyst of lung**
   a. Meniscus / Moon/ Air crescent / Double arch sign
   b. Combo sign
   c. Water Lilly / Camalotte sign
   d. Serpent sign / Rising sun sign
   e. Empty cyst sign
2. **Hamartoma &Mediastinal nodes of histoplasmosis**
   a. Popcorn calcification

3. **Pulmonary thrombo-embolism**

a. Westermark sign b. Hapton's hump
c. Palla sign d. Fleishner lines
e. Felson's sign

4. **Thymic enlargement** b. Muivay Wave sign c. Notch sign
a. Sail sign

5. **Rounded atelectasis**
a. Comet tail sign

6. **RUL collapse secondary to a central mass**
a. Golden S sign

7. **LUL collapse**
a. Luftsichel sign

8. **LLL collapse**
a. Broncho lobar sign

9. **Pneumo-mediastinum**
a. Ring around artery sign b. Continuous diaphragm sign c. Tubular artery sign d. Double bronchial wall sign
e. V sign of Naclerio f. Spinnaker sail sign

10. **Pneumothorax**
a. Deep sulcus sign
b. Visceral pleural line

11. **Epiglottitis**
a. Thumb sign

12. **Croup**
a. Steeple sign

13. **Aspergilloma**
a. Air crescent sign b. Monod sign

14. **Klebsiella pneumonia**
a. Bulging fissure sign

15. **Pulmonary edema on CXR**
a. Batwing sign

16. **Diaphragmatic rupture**
a. Collar sign b. Dependant viscera sign

17. **Pulmonary septic emboli**
a. Feeding vessel sign

18. **ABPA**
    a. Finger in glove sign
19. **Aspergillosis**
    a. Halo sign
20. **Subacute hypersensitivity pneumonitis**
    a. Head cheese sign
21. **RUL atelectasis**
    a. Juxta phrenic peak sign
22. **Cryptogenic organized pneumonia** a. Reversed halo sign
23. **COPD**
    a. Saber sheath trachea
24. **Alveolar microlithiasis** a. Sandstorm lungs
25. **Bronchiectasis**
    a. Signet ring sign
26. **RLL atelectasis**
    a. Superior triangle sign
27. **Empyema**
    a. Split pleura sign
28. **Endobronchial spread in TB** a. Tree in bud sign on HRCT

Metastasis in Lung **Calcifying lung metastasis**	**Cavitating lung metastasis**	**Hemorrhagic lung metastasis with ill defined nodules**
a. Osteosarcoma/chondro sarcoma **b. Mucinous adeno Ca.+** **c. Lung metastasis following RT/CT**	a. SqCC, Sarcoma b. Colon c. Transitional cell d. Cx under CT (Chemotherapy)	**1. Choriocarcinoma** **2. RCC** **3. Melanoma** **4. Thyroid Ca**

Calcification in Lungs & Pleura

Calcification in Lungs

a. B/LTB
b. **B/L Histoplasma**
c. **B/L coccidiomycosis**

Pleural calcification

a. **Old empyema**
b. **Old Hemothorax**
c. **Asbestosis**
d. **Silicosis**
e. **Talc exposure**

Miliary shadows on CXR

1. CWP & silicosis,
2. MS sarcoidosis,
3. Hyperparathyroidism,
4. Eosinophilic granuloma (Histiocytosis X),
5. Blastomycosis, coccidiomycosis, histoplasmosis,
6. streptococcal pneumonitis, VZV (But not staph).
7. Hemosiderosis in Mitral stenosis

THORAX
THE SILHOUETTE SIGN

Silhouette sign is used mainly for localizing intrathoracic lesion.

SIGN	LESION OF
Obscured right heart border	**— Right middle lobe lesion,**
Obscured left heart border	**--- Lingular lobe /left lower lobe.**
Hemidiaphragm	**— Relative lower lobe.**
Aortic knuckle	**™ Apico-posterior segment of left**
Ascending aorta	**upper lobe.**
Descending aorta	**— Ant. segment of right upper lobe.**
	— Sup. &postero basal segment of left lower lobe.

Pneumomediastinum Hamman's sign +ve

1. Lung tear
2. Asthma
3. Artificial ventilation

4. Esophageal perforation
5. Spontaneous rupture of emphysematous bullae(MC cause)
6. Diabetic ketoacidosis
7. Histiocytosis
8. Respiratory distress syndrome

Neonatal Cyanosis

With Oligemia + Cardiomegaly (All have an ASD)	**With Oligemia But No Cardiomegaly**	**With Pleonemia (Plethora)**
a. PS **b. Pulm atresia** **c. Ebstein anomaly** **d. Tricuspid atresia** **e. Hypercyanotic spells & polycythemia may develop T/t palliative shunt surgery**	(Sign appear usually after 1 wk) •TOF • Pulm atresia with VSD* • Tricuspid atresia	**Cyanosis + CCF** **TAPVC** **a. Hypoplastic LV** **b. Interrupted aortic arch** **C. TGA** **d. Truncus arteriosus** **e. Treat CCF & Rashkind atrial septostomy is done in these patients as an emergency measure to decompress LA**

Cardiac Calcification

Intracardiac	**Myocardial**	**Pericardial**
a. Atrial myxoma b. Valve thrombus	a. Mainly in LV - apex b. Post-myocarditis c. Hydatid ds d. Aneurysms e. Infarct	a. Mainly in right chambers b. (RV) & A-V groove c. Constrictive pericarditis d. Post-traumatic e. Uremia/CRF f. Asbestosis

GIT

Gasless abdomen on X-ray

a. Acute pancreatitis
b. Bowel malrotation
c. Cong. Diaphragm. Hernia

d. Duo-atresia
e. Annular pancreas
f. Cog. Hypertrophic PS
g. Duo. Atresia
h. Infraction (Mesenteric)

Skeletal System

GROSSLY EXPANSILE LUCENT BONE LESIONS

i.	Aneurysmal cyst
ii.	Enchondroma
iii.	Sarcoma
iv.	Plasmacytoma
v.	Giant cell tumor
vi.	Brown tumour (PTH)
vii.	Fibrous dysplasia
viii.	Hemophilia

Moth eaten appearance of bone is seen in

1. MM
2. Lymphoma
3. Sarcoma
4. Osteomyelitis
5. Leukemia
5. Histiocytosis-x

Extra Edge

1. Epiphyseal dysgenesis is characteristic of hypothyroidism.
2. Enlargement of Epiphysis is characteristic of JRA.
3. Epiphyseal widening is seen in rickets.
4. Epiphyseal loss of density is seen in scurvy.

Osteolytic Bone Metastasis

a. Neuroblastoma
b. Lung cancer
c. Breast cancer
d. Thyroid cancer
e. Kidney
f. Colon

Osteoblastic Bone Metastasis

a. Prostate cancer
b. Breast cancer
c. Brain (Medulloblastoma)
d. Bronchus
e. Bladder
f. Buie (carcinoid)
g- Lymphoma

QUICK SPECIFICS - BREAST AND OBGY

Stepladder sign Linguine sign	Breast implant rupture
Spalding sign Robert sign	Intrauterine fetal demise
Snowstorm pattern	Molar pregnancy
Rosary sign Pearl necklace sign	Adenomyomatosis
Interstitial line sign	Ectopic pregnancy
Double decidua sign	Early normal intrauterine gestation
Breast in a breast	Fibroadenolipoma

Guide to the Relative Radiosensitivity of Normal Tissue

1. Radiosensitive
   a. Lymphocytes Bone marrow Gonads b. Embryonic tissue
2. Moderately sensitive
   a. Skin, Small blood vessels Lens of the eye Growing tissues Lung tissue Salivary glands
3. Moderately resistant
   a. Skin b. Thyroid gland c. Nerve cells
4. Radio resistant
   a. Muscle b. Bone c. Connective tissue d. platelet

Guide to the Relative Radiosensitivity of Tumours

1. **Radiosensitive tumours**
   a. Embryonic tumours b. ReticulosisAnaplastic, carcinomas
2. **Limited sensitivity**
   a. Epithelial tumours b. Adenocarcinomas
3. **Radioresistant**
   a. Soft-tissue sarcomas b. Osteosarcomas c. Melanomas

Some important views

VIEW	USED FOR
. Lordotic	For apex, lingual lobe (rt middle lobe) of lung
. Reverse lordotic	
. Oblique	To detect interlobar effusion
. Von Rosen	Spondylolisthesis, #scaphoid
. Skyline	CDH
. Stryker's view	# patella
. Lateral skull view	Recurrent subluxation / dislocation of shoulder
	For sella turcica

Views for study of PNS / Orbit

View	Used to visualize	Comments
1. Water's view [Occipitomental view]	Maxillary sinus & antrum (best) Floor of orbit Frontal sinuses	Not ideal for frontal sinus
2. Caldwell's view [Occipitofrontal view]	Ethmoidal sinus For sphenoid sinus (best)	Maxillary antra are not well seen
3. Lateral view		

Imp. Findings of Skull

Geographical skull

(lytic lesions + beveled edges) ----- Eosinophilic granuloma

Punched out lesions in skull -- Multiple myeloma

Brush border skull (TRU cut app.) - Cong. Hemolytic anemia esp. thalassemia

Chicken-wire calcification -— Chondroblastoma (Codman's tumour)

Silver beaten appearance ----- Raised ICT

Salt peeper skull -----Hyperparathyroidism

Sun ray appearance------ Meningioma

Calcification of Imp. Structures

Basal ganglia calcification

a. Hypoparathyroidism (2nd MC)
b. Idiopathic with age (MC)
c. Lead & CO poisoning
d. Wilson's disease
e. Cysticercosis

Calcification of pinna

a. Ochronosis
b. Frost bite
c. Gout
d. Addison's disease
e. Cockayne's synd.

Radionuclide Imaging

o Tc 99^m (99 is mass and m is metastable) is most commonly used. It is administered IV and is pure 'Y rays emitter. It has Short half life (6 hrs).

Uses -

Tc 99^m labeled serum albumin -To detect pulmonary emboli

Tc 99^m labeled RBCs - For spleen imaging

Tc 99^m labeled DMSA -is taken up by renal cortical cells, is used for renal structure, scarring

Tc 99^m labeled DTPA -Measures GFR

Tc 99^m MAG3 - Diagnostic of transplant rejection./renal function

Tc 99^m labeled HIDA/PIPIDA-To study the functions of hepatobiliary tree

Thallium 201 chloride-For cardiac imaging (cold spots in myocardial perfusion studies), reversibility of myocardial ischemia

Ga-67 nitrate-To detect tumours, inflammation and abscess cavities.

Download From: AghaLibrary.com

Investigation Of Choice CT SCAN (BEST FOR)	MRI	US6
a. Bronchiectasis b. Pancreas c. Adrenal d. Acute SAH	a. For pituitary & hypothalamic & optic chiasma lesion cavernous sinus invasion b. Brain abscess c. For spinal lesions d. Prolapse IVD e. ICSOL (esp. post. Fossa mass lesions)	Pregnancy mass Gall stones

1, **ECHO -** is investigation of choice for minimal pericardial effusion, MS

2. **Angiography -** is investigation of choice for sequestration lung

Radiotherapy

RADIOSENSITIZERS	RADIOPROTECTIVE AGENTS	RADIATION POTENTIATOR
Chemotherapeutic agents which enhances radiation effect by sensitizing the cell (radio -mimetic) a. Cisplatin b. 5- FU c. Hydroxyurea d. Vincristine e. Metronidazole f. Bleomycin (but NOT-cyclophosphamide)	Chemotherapeutic agents which protect the cell from radiation injury Amifostine Sodium butyrate	They have been reported to cause flare-up of dermatitis/esophagitis in areas previously treated with radiation therapy (radiation recall reactions) Doxorubicin Dactinomycin

1. Amifostine reduces cisplatin-induced nephrotoxicity &also reduces xerostomia in patient with head &neck Ca.
2. Sodium butyrate when given topically improves the symptom of radiation proctitis

Download From: AghaLibrary.com

Radiation Units

Radiation exposure	- Coulombs
Radiation absorbed dose (Remember Red & Gray Color)	- Gray & Rad [1 Gy = 100 Rads]
Radioactivity	- Becquerel, Curie
Radiation effectiveness public health measure of radiation)	

Tissue penetration" capability y-ray > (50cm) X-ray > (15-30cm) P-ray> (.06-4mm) a-ray (0.5 mm)

Radiosensitivity

	Most radiosensitive	Least sensitive or radioresistant
1. Stage of cell cycle	G2M	S phase
2. Organ	Ovary, testis	Vagina (bone CNS, cartilage, muscle)
3. Tissue	Bone marrow, gonads	Nervous tissue (bone, CNS, cartilage, muscle)
4. Cell type	Rapidly dividing	Quiescent
5. Blood cells	Lymphocyte	Platelet

Extra Edge

1. Most common mucosal surface affected is intestinal mucosa
2. Most common organ affected is skin and presents as erythema
3. For Chemotherapy &radiotherapy induced cardiotoxicity investigation of choice is endomyocardial biopsy
4. Most sensitive

Testicular tumour	Seminoma
Ovarian tumour	Dysgerminoma
Brain tumour	Medulloblastoma
Lung tumour	Small cell carcinoma
Skin cancer	Basal cell cancer
Bone tumours	Ewing's sarcoma (multiple myeloma)

Download From: AghaLibrary.com

Radiotherapy

1. Maximum Half-life is of uranium 701 x 10^8yrs >Ra (1622 yrs.)
2. **Important radioisotopes**

a. Gadolinium Paramagnetic contrast dye used in NMR (MRI)

b. Xenon — For regional cerebral blood flow (CBF) studies

c. Tc"^{m} labeled RBCs — Imaging of spleen, GIT bleeding, Ventriculography

d. Tc"MAG3 Gallium — Diagnostic of transplant rejection Isotope

e. abscess cavity Tc^{9Sm} (technetium) — selectively concentrated in

Pyrophosphate — Used for infarct avid imaging Standard isotope

g- Thallium (Tl^{201}) — for "Hot spot" imaging in Ml

h. studies — Agent used for myocardial perfusion

Imaging agent of choice to assess myocardial viability Shows "Cold spot" in Ml on perfusion scan (in Non avid infarct imaging) Evaluation of radioactive Iodine uptake, (RAID)

Iodine -^{123}

For detection of thyroid cancer For Red cell survival studies.

j- Iodine-^{131}

k. Cr^{52}

Most frequently used moiety in PET is 2-

l. FDG

[I8F] fluro-2-deoxy-D-glucose

Radioactive P32 is useful in

1. Diagnosis of Eye cancers, Esophageal cancers
2. Rx of Sq CC, Ca esophagus, CML, MM, bone secondaries, Ca breast, Ca prostate, Polycythemia vera
3. Malignant ascites, Mycosis fungoides, Senile keratosis, Superficial angiomas

Download From: AghaLibrary.com

Recent & High Yield Updated LMRPs

1. Myelography uses a real-time form of x-ray called fluoroscopy and an injection of contrast material to evaluate the spinal cord, nerve roots and spinal lining (meninges)
2. Empty thecal sac sign on MRI seen inArachnoiditis
3. M.R.I is the tests does not include ionizing radiations.
4. Giant cell tumour is the condition having a soap bubble appearance seen in radial bone
5. Water soluble contrast islohexol
6. Allergic fungal sinusitis shows double density appearance on CT scan.
7. Gasless abdomen:Acute pancreatitis
8. Boot shaped heart cause: Right ventricular hypertrophy
9. Doppler waveform in peripheral arterial disease in severe stenosis is monophasic.
10. Rigler triad seen in gall stone ileus has 3 components-pneumobilia, small bowel obstruction, ectopic gall stone.
11. Imaging techniques which are not used in Uterus anomalies is CT guided HSG
12. Salt and Pepper pot appearance of skull seen in Hyperparathyroidism
13. Bragg peak effect pronounced in proton
14. Contrast of choice used in diagnosis of esophageal perforation is lohexol.
15. After radical resection of chondroma, best radiotherapy is Proton.
16. FDG pet negative tumour is typical carcinoid.