1. Which of the following structure (s) pass through adductor magnus

a) Femoral vessel

b) Femoral nerve

c) Femoral sheath

d) Saphenous nerve

e) Tibial nerve

Correct Answer - A

Ans. a. Femoral vessel

- Femoral artery pass through an opening in the adductor magnus to become continuous with the popliteal artery
- Femoral vein enters the thigh by passing through an opening in the adductor magnus as a continuation of the popliteal vein

2. Which of the following statement(s) is true regarding axillary artery:

a) Start from upper border of clavicle

b) Ulnar nerve lies medially to distal l/3 of artery

c) Radial nerve lies posteriorly distal 1/3 of artery

d) Axillary vein lies laterally to proximal 1/3 of the artery

e) End at lower border of pectoralis minor

Correct Answer - B:C

Ans. b. Ulnar nerve lies medially to distal l/3 of artery; c. Radial nerve lies posteriorly distal 1/3 of artery

Axillary artery

- It is the main artery of upper limb. It begins at the level of outer border of first rib as a continuation of subclavian artery. It ends at the level of lower border of teres major to continue as brachial artery.
- The axillary artery is covered anteriorly by pectoralis minor, which divides it into three parts:?
- First part :- This part is proximal to upper border of pectoralis minor, i.e. extends from outer border of first rib to upper border of pectoralis minor. The branch of first part is Superior thoracic artery.
- Second part :- This part is behind pectoral is minor. It gives following branches.
- Thoracoacromial artery :- It pierces clavipectoral fascia and gives following branches :-

1. Acromial
2. Pectoral,
3. Clavicular and deltoid.

Lateral thoracic artery

- Third part :- This part is distal to lower border of pectoralis minor, i.e. extends from pectoralis minor (lower border) to teres major (lower border). It gives following branches –
- Subscapular artery:- It gives off circumflex scapular artery and then continues us thoracodorsal artery.
- Anterior circumflex humeral artery.
- Posterior circumflex humeral artery.
- Anterior and posterior circumflex arteries (both are branches of 3rd part of axillary artery) forms anastomosis around surgical neck of humerus.

3. Facial development takes place b/w:

a) 4-8 week

b) 8-l0week

c) 12-14week

d) 18-20week

e) 6-10week

Correct Answer - A
Ans. a. 4-8 week
Development of face

- Facial development occurs mainly between 4th and 8th weeks, and is induced by migration of cells of neural crest.
- Five facial primordia appear as prominences of mesenchyme : a frontonasal process, a pair of maxillary processes and a pair of mandibular processes.

4. Muscle having double nerve supply:

a) Digastric muscle

b) Omohyoid muscle

c) Trapezius

d) Thyrohyoid muscle

e) Adductor magnus

Correct Answer - A:E

Ans. a. Digastric muscle; e. Adductor magnus

Innervation of Digastric:

- Anterior belly of digastric is supplied by nerve to mylohyoid (a branch of mandibular nerve) & posterior belly is supplied by facial nerve.

Innervation of adductor magnus

- Posterior division of obturator nerve innervates most of the adductor magnus
- Vertical or hamstring portion innervated by tibial nerve (L2, L3, L4)

5. Which of the following is true regarding vertebral column curvature:

a) Primary curves are concave forward

b) Lumbar curve is primary

c) Thoracic curve develop when infant start walking

d) Cervical appear when the infant starts supporting its head

e) Lumbar curve appears when the child assumes the upright posture

Correct Answer - A:D:E

Ans. a. Primary curves are concave forward; d. Cervical appear when the infant starts supporting its head; e. Lumbar curve appears when the child assumes the upright posture

- The thoracic and sacral kyphotic curves are termed primary curves, because they are present in the fetus.
- The cervical and lumbar curves are compensatory or **secondary**, and are developed after birth.

KYPHOTIC CURVE:

- The thoracic curve, concave forward, begins at the middle of the second and ends at the middle of the twelfth thoracic vertebra. Its most prominent point behind corresponds to the spinous process of the seventh thoracic vertebra. This curve is known as a kyphotic curve.
- The sacral curve begins at the sacrovertebral articulation, and ends at the point of the coccyx; its concavity is directed downward and forward as a kyphotic curve.

LORDOTIC CURVES:

- The lumbar curve is more marked in the female than in the male; it begins at the middle of the last thoracic vertebra, and ends at the sacrovertebral angle. It is convex anteriorly, the convexity of the lower three vertebrae being much greater than that of the upper two. This curve is described as a lordotic curve.
- The upper cervical spine has a curve, convex forward, that begins at the axis (second cervical vertebra) at the apex of the odontoid process or dens, and ends at the middle of the second thoracic vertebra; it is the least marked of all the curves. This inward curve is known as a lordotic curve.

6. Pepsinogen, the inactive form of pepsin, is secreted by:

a) Interstitial cell of Cajal

b) Chief cell

c) Paneth cell

d) Goblet cell

e) Zymogen Cells

Correct Answer - B:E

Ans. (B) Chief cell (E) Zymogen Cells

[Ref Ganong25th/456,24th/457-59]

- The gastric mucosa contains many deep glands.
- In the pyloric and cardiac regions, the glands secrete mucus.
- Body of the stomach, including the fundus, the glands contain parietal (oxyntic) cells, which secrete hydrochloric acid and intrinsic factor, and chief (zymogen, peptic) cells secreting pepsinogen.

7. Type IIB muscle fibers are different from type I fiber with having:

a) Small diameter

b) Calcium reWlease by sarcoplasmic reticulum is low

c) Fast fatigable

d) Color pink

e) Faster acting

Correct Answer - C:E

Ans. (C) Fast fatigable (E) Faster acting

[Ref Ganong 25th/108, 24th/107t 23rd/103]

Classification Erlanger & Gasser	Lloyd & Hunt	Characteristics of fibers	Function
A alpha	I	Diameter - 13-20 Myelination - **Heavily myelinated & thick** Conduction - 70-120 (**maximum velocity)**	• **Proprioception -** ◦ Due to fiber thickr • **Motor supply to skeletal muscle (extrafusal to muscle spindle)**
A beta	II	**Diameter - 4-13** Myelination - Present	• Touch • **Kinesthesia**

		Conduction - 25-70	• Pressure
A gamma	- No comparable ent Diameter - 3-6 Myelination - Slightly myelinated Conduction - 15-30ity -	Diameter - 3-6 Myelination - Slightly myelinated Conduction - 15-30	• Motor supply to intrafusal muscle fibers (Muscle spindles)
A delta	III	**Diameter - 1-5** Myelination - Some myelination Conduction - 5-30	**Pain - "Fast/Epicritic/Fi pain.** • Since fibers are relatively fast • Temperature • Pressure • Touch
B fiber	- No comparable entity -	Diameter - 1-3 Myelination - Some myelination Conduction - 3-14	• **Preganglionic autonomic fibers** • (both sympathetic parasympathetic)
C fiber	IV	Diameter - 0.2-1.0 **Myelination - Unmyelinated** Conduction - 0.2-2 (**minimum**)	**Pain - Slow pain ("Protopathic /Second pain)** • **Temperature** • **Pressure** • **Postganglionic autonomic fibers**

8. All of these are correct of renal physiology *except:*

a) Sodium absorption occurs in DCT

b) Potassium is both secreted and absorbed in tubules

c) Glucose is reabsorbed in DCT

d) All

e) None

Correct Answer - C

Ans. C i.e. Glucose is reabsorbed in DCT

RENAL HANDLING OF SUBSTANCE

In PCT:

- 60-70% of filtered water reabsorbed passively.
- Coupled mainly to sodium reabsorption.
- Glucose & amino acids Absorbed completely (100%).
- Maximum (90%) bicarbonate absorption.

In DCT:

- **Principal (P) cells reabsorb sodium & water** from lumen & **secrete potassium** into lumen.
- **Intercalated (I) cells reabsorb potassium & secrete hydrogen** into lumen.
- Sodium reabsorption a**pproximately 7% filtered Na^{2+} reabsorbed.**

In Henle loop:

Thin descending segment -

- **Water reabsorption: Highly permeable to water.**
- Reabsorption of solutes: **Impermeable to solutes (Na^{2+}, Cl^{-} & urea).**

- **Minimal urea secreted.**

In thin ascending limb:

- $NaCl^-$ reabsorption occurs - Due to high $NaCl^-$ permeability.
- Less permeable to water.

Thick ascending limb:

Sodium, Potassium & Chloride reabsorption:

- Transports one Na^{2+}, one K^+, & two Cl^-.
- Active sodium absorption occurs.
- 30% filtered Na^{2+} reabsorbed.
  - **Water reabsorption: Totally impermeable to water.**

9. Vasomotor inputs to rostral nuclesus of ventomedial medulla is/are from:

a) Inhibitory input from caudal ventrolateral medulla

b) Excitatory inputs from cerebral cortex via hypothalamus

c) Inhibitory inputs from cerebral cortex via hypothalamus

d) Inhibitory inputs from brain stem reticular formation

e) Inhibitory inputs pain pathway

Correct Answer - A:B:C

Ans. (A) Inhibitory input from caudal ventrolateral medulla
(B) Excitatory inputs from cerebral cortex via hypothalamus
(C) Inhibitory inputs from cerebral cortex via hypothalamus
[Ref Ganong 25th/587-89, 24th/589-91]

Medullary control of the cardiovascular system:

- One of the major sources of excitatory inPut to sympathetic nerves controlling the vasculature is a group of neurons located near the pial surface of the medulla in the Rostral Ventrolateral Medulla (RWM).
- This region is sometimes called a vasomotor area
- Neurovascular compression of the RVLM has been linked to some cases of essential hypertension in humans
- The activity of RVLM neurons is determined by many factors

Factors affecting the activity of RVLM

Excitatory inputs:

- Cortex vio hypothalamus, mesencephalic periaqueductal gray, brain stem reticular formation, pain pathway, somatic afferent (somatosympathetic reflex), Carotid & aortic chemoreceptors

Inhibitory inputs:

- Cortex vid hypothalamus, caudal ventrolateral medulla, caudal medullary raphe nuclei, lung inflation afferents; carotid, aortic & cardiopulmonary baroreceptors

10. Parasympathetic nerve stimulation results in:

a) Sphincter closure of gall bladder

b) Increased peristalsis

c) Decreased GIT motility

d) Detrusor muscle relaxation

e) Gall bladder musculature contraction

Correct Answer - B:E

Ans. (B) Increased peristalsis (E) Gall bladder musculature contraction

[Ref Ganong 25th/257-60, 24th/265; Katzung 13th 110-111]

- Parasympathetic nerves are motor to musculature of the gallbladder & bile duct, but inhibitory to the sphincter.
- Sympathetic nerves from T7-9 are vasomotor & motor to sphincters.
- The cranial outflow of the parasympathetic division supplies the visceral structures in the head via oculomotor, facial, and glossopharyngeal nerves, and those in the thorax and upper abdomen via the vagus nerves.
- Pupil - Constricted (Miosis)
- Ciliary muscle - Constricted (near vision)
- Glands (Nasal, Lacrimal, Parotid, Submandibulal Gastric Pancreatic) - Stimulation of copious secretion (containing many enzymes for enzyme-secreting glands)
- Sweat glands - Sweating on palms of hands
- Bronchial muscle - Contraction
- Gallbladder and bile ducts - Contracted

- LUmen - Increased peristalsis and tone
- Detrusor - Contracted
- Trigone - Relaxed

11. Which of the following are feature of blood-brain barrier:

a) Thick basement membrane

b) Podocyte

c) Closely associated layer of astrocyte

d) Tight junction

e) Decreased vesicles in endothelial cells

Correct Answer - A:C:D:E

Ans. (A) Thick basement membrane (C) Closely associated layer of astrocyte (D) Tight junction (E) Decreased vesicles in endothelial cells

Ref; Ganong 25th/671, 24th/604-06; Guyton 12th/816-17

Blood-brain barrier (BBB):

- Barriers exist both at the choroid plexus and at the tissue capillary membranes in essentially all areas of the brain parenchyma except in some areas of the hypothalamus, pineal gland, and. area postrema where substances diffuse with greater ease into the tissue spaces.
- Cause of the low permeability of the blood-brain barrier is the manner in which the endothelial cells of the brain tissue capillaries are joined to one another.
- They are joined by so-called tight junctions.
- That is, the membranes of the adjacent endothelial cells are tightly fused rather than having large slit-pores between them, as is the case for most other capillaries of the body.
- Glial cells are derived from neuroectoderm (macroglia: astrocytes,

oligodendrocytes, ependyma) or from bone marrow (microglia).

- Glial cells (astrocytes) form a layer around brain blood vessels and may be important in the development of the 8BB.
- Astrocytes may be also be responsible for transporting ions from the brain to the blood

12. For Growth hormone testing, which of the following stimulate the secretions of Growth hormone:

a) Glucagon

b) Insulin

c) Cortisol

d) Water deprivation

e) Arginine

Correct Answer - A:E
Ans. (A) Glucagon (E) Arginine
[Ref: Ganong 25th/328-29,24th/330-32; Guyton 12th/555-56;]
GH Testing:
Stimulate Growth Hormone:

- Decreased blood glucose
- Decreased blood free fatty acids
- Increased blood amino acids (arginine)
- Starvation or fasting
- Protein deficiency
- Trauma
- Stress
- Excitement
- Exercise
- Testosterone
- Estrogen
- Deep sleep (stages ll and lV)
- Growth hormone- releasing hormone

- Ghrelin

13. Which of the following is true about myoglobin:

a) Bind 1 mol of oxygen per mole of myoglobin

b) Dissociation curve is a rectangular hyperbola

c) Its curve lies right of the hemoglobin curve

d) Bind oxygen at low P02 pressure

e) Show Bohr effect

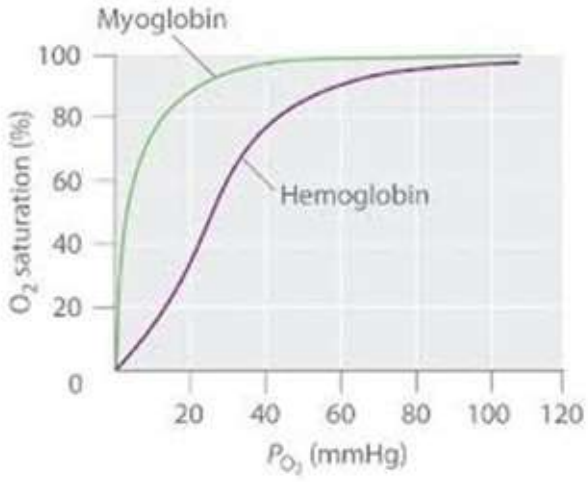
Correct Answer - A:B:D

Ans. (A) Bind 1 mol of oxygen per mole of myoglobin (B) Dissociation curve is a rectangular hyperbola (D) Bind oxygen at low P02 pressure

Ref Ganong 25th/641-42, 24th/643-zt4; Guyton 12th/96

Myoglobin:

- Iron-containing pigment found in skeletal muscle.
- Contains one heme group with one polypeptide chain.
- Resembles hemoglobin, but myoglobin binds 1 rather than 4 mol of O2 mole.
- Its dissociation curve is a rectangular hyperbola rather than a sigmoid curve.
  ? Because it's curve is to the left of the hemoglobin cune, as it takes up O2 from hemoglobin in the blood.
- Does not show Bohr effect.



14. Mucopolysacchidosis, which is a lysosomal storage disease, occurs due to abnormality in:

a) Hydrolase enzyme

b) Dehydorgenase enzyme

c) Lipase enzyme

d) Phosphatase

e) Acetyl-CoA carboxylase

Correct Answer - A

Ans: a. Hydrolase enzyme ***[Ref Harper 30th/638-39, 29th/589, 599, 600; Lippincott 6th/163-64]***

- The mucopolysaccharidoses are hereditary diseases caused by a deficiency of any one of the lysosomal hydrolases normally involved in the degradation of heparan sulfate and/or dermatan sulfate
- They are progressive disorders characterized by accumulation of glycosaminoglycans in various tissues, causing a range of symptoms, such as skeletal and extracellular matrix deformities, and mental retardation.
- Children who are homozygous for any one of these diseases are apparently normal at birth, then gradually deteriorate. In severe cases, death occurs in childhood.
- Diagnosis is confirmed by measuring the patient's cellular level of the lysosomal hydrolases. Bone marrow and cord blood transplants have been used to treat Hurler and Hunter syndrome

15. Sulphur of cystein are not used/ utilized in body for the following process/product:

a) Help in conversion of cyanide to thiocyanate

b) Thiosulphate formation

c) Introduction of sulphur atom in methionine

d) Disulfide bond formation b/w two adjacent peptide

e) None

Correct Answer - C

Ans: c. Introduction of sulphur atom in methionine, *[Ref Harper 30th/301-02, 313-14, 29th/285-86; Lippincott 6th/263-68; Shinde 7th/471-73, 578; Vasudevan 5th/191; Satyanarayan 3rd/361]*

- The H_2S derived from the cysteine may be oxidized to sulfites & thiosulfates er further oxidized to sulfate.
- Cysteine transaminates to form beta mercapto pyruvic acid & finally pyruvate. The beta mercapto pyruvate can transfer S to CN to form thiocynate (SCN).
- The sulphur may be removed either as H_2S or elemental sulphur or as sulfite, Cysteine on decarboxylation gives beta mercapto ethanolamine. This is used for synthesis of coenzyme A.
- Formation of cysteine is by using the carbon skeleton contributed by serine & sulphur originating from methionine.

16. Which one of the following statements about protein structure is correct:

a) Proteins consisting of one polypeptide can have quaternary structure

b) The formation of a disulfide bond in a protein requires that the two participating cysteine residues be adjacent to each other in the primary sequence of the protein

c) The stability of quaternary structure in proteins is mainly a result of covalent bonds among the subunits

d) The denaturation of proteins always leads to irreversible loss of secondary and tertiary structure

e) The information required for the correct folding of a protein is contained in the specific sequence of amino acids along the polypeptide chain

Correct Answer - E

Ans: e. The information required for the correct...*[Ref Harper 3001/36-41, 29th/36-40; Lippincott 6th/24, 13-20]*

- The correct folding of a protein is guided by specific interactions between the side chains of the amino acid residues of the polypeptide chain
- The two cysteine residues that react to form the disulfide bond may be a great distance apart in the primary structure (or on separate polypeptides), but are brought into close proximity by the three-dimensional folding of the polypeptide chain. Denaturation may either be reversible or irreversible.
- Quaternary structure requires more than one polypeptide chain.

These chains associate through noncovalent interactions"

- Primary structures are stabilized by covalent peptide bonds. Higher orders of structure are stabilized by weak forces—multiple hydrogen bonds, salt (electrostatic) bonds, and association of hydrophobic R groups.
- Protein denaturation results in the unfolding and disorganization of the protein's structure, which are not accompanied by hydrolysis of peptide bonds. Denaturation may be reversible or, more commonly, irreversible.

17. True about retinol:

a) Form part of rhodopsin

b) Transported from intestine to liver by via chylomicrons

c) Actively take part in visual cycle

d) Implicated in growth & differentiation of tissue

e) Not formed by retinoic acid

Correct Answer - B:D:E

Ans: b. Transported from intestine to liver by via chylomicrons, d. Implicated in growth & differentiation of tissue, & e. Not formed by retinoic acid,

[Ref Harper 30th/547-51, 29th/526-28; Lippincott 6th/381-83; Shinde 7th/152-56; Vasudevan 5th/284-86]

- Retinoic acid is produced by oxidation of retinal. However, retinoic acid cannot give rise to the formation of retinal or retinol"
- Retinoic acid is implicated in growth & differentiation of tissue, it is necessary for the reproductive system. Retinol
- acts like a steroid hormone in controlling the expression of certain genes. This may account for the requirement of Vit A for normal reproduction
- Retinyl esters present in the diet are hydrolyzed in the intestinal mucosa, releasing retinol and free fatty acids. Retinol derived from esters and from the cleavage and reduction of carotenes is re-esterified to long-chain fatty acids in the intestinal mucosa and secreted as a component of chylomicrons into the lymphatic system.
- Retinyl esters contained in chylomicron remnants are taken up by, and stored in, the liver.
- retinol is released from the liver and transported to extrahepatic

tissues by the plasma retinol binding protein (RBP).

18. In prolong fasting glycerol is formed from triglyceride. Which of the following statement (s) is/are true regarding glycerol:

a) Used in synthesis of chylomicron

b) It is directly used by tissues for energy needs

c) It is formed due to increased activity of lipoprotein lipase

d) It is formed due to increased activity of hormone sensitive lipase

e) Glycerol acts as a substrate for gluconeogenesis in the liver

Correct Answer - D:E

Ans: d. It is formed due to increased activity of hormone sensitive lipase, & e. Glycerol acts as a substrate for gluconeogenesis in the liver,*[Ref Harper 30th/262, 149, 29th/160-61; Lippincott 6th/331, 178, 190].*

- Fasting: In adipose tissue the decrease in insulin and increase in glucagon results in inhibition of lipogenesis, inactivation of lipoprotein lipase, and activation of intracellular hormone-sensitive lipase.
- This leads to release from adipose tissue of increased amounts of glycerol (which is a substrate for gluconeogenesis in the liver) and free fatty acids, which are used by liver, heart, and skeletal muscle as their preferred metabolic fuel, therefore sparing glucose.
- The glycerol produced from TAG degradation is used as a gluconeogenic precursor by the liver.
- Lipolysis Is Controlled by Hormone-Sensitive Lipase, which is

·activated by ACTH, TSH, glucagon, epinephrine, norepinephrine, and vasopressin and inhibited by insulin, prostaglandin E_1 and nicotinic acid

- Activity of the hormone-sensitive lipase is increased by fasting and stress and decreased by feeding and insulin. Conversely, feeding increases and fasting and stress decrease the activity of lipoprotein lipase

19. Pyruvate dehydrogenase complex uses following coenzymes/ cofactors:

a) Biotin

b) Lipoic acid

c) NAD

d) FMN

e) TPP

Correct Answer - B:C:E

Ans: b. Lipotic. acid. , c. NAD & e. TPP *(Ref Harper 30th/172-74, 29th/174-75; Lippincott 6th/109-11; Satyanarayan 3rd/253-54]*

Pyruvate Dehydrogenase Complex (PDH) Satyanarayan 3rd/253-54

- It is found only in mitochondria, High activity of PDH are found in cardiac muscle & kidney
- The enzyme PDH requires five cofactors (coenzymes) namely- TPP, lipoamide (it contains lipoic acid linked to c-amino group of lysine), FAD, coenzyme A & NAD+, PDH is inhibited by arsenite
- Pyruvate dehydrogenase irreversibly converts pyruvate, the end product of glycolysis, into acetyl CoA, a major fuel for the TCA cycle and the building block for fatty acid synthesis.
- The PDH complex contains five coenzymes that act as carriers or oxidants for the intermediates of the reactions. El requires thiamine pyrophosphate (TPP), E2 requires lipoic acid and CoA, and E3 requires FAD and NAD+.

20. In conversion of pyruvate to acetyl CoA & CO2, which of the following coenzyme is used:

a) Biotin

b) Lipoic acid

c) TPP

d) Pyridoxal phosphate

e) Tetrahydrofolate

Correct Answer - B:C

Ans: b. Lip... & c. TPP ***[Ref above* Q; *Harper 30th/172-74, 29th/174-75; Lippincott 6th/109-11; Satyanarayan 3rd/253-54]***

- Pyruvate dehydrogenase irreversibly converts pyruvate, the end product of glycolysis, into acetyl CoA, a major fuel for, the TCA cycle and the building block for fatty acid synthesis". (Lippincott 6th/109-10)

21. True about urea cycle:

a) Nitrogen of the urea comes from alanine & ammonia

b) Uses ATP during conversion of arginosuccinate to arginine

c) On consumption of high amount of protein, excess of urea formed

d) Occur mainly in cytoplasm

e) Synthesis of argininosuccinate consumes energy

Correct Answer - C:D:E

Ans: c. On consumption of high..., d. Occur mainly in cytoplasm & e. Synthesis of arginosuccinate.... ***[Ref Harper 30th/290-96, 29th/274-88; Lippincott 6th/253-55; Shinde 7th/450-51; Vasudevan 5th/180-811]***

- In healthy people, the normal blood urea concentration is 1040 mg/dl. Higher protein intake marginally increases blood urea level.
- Citrulline Plus aspartate forms argininosuccinate, catalysed by enzyme Argininosuccinate synthase. The reaction requires ATP.
- Cleavage of argininosuccinate, catalyzed by argininosuccinase, proceeds with retention of nitrogen in arginine and release of the aspartate skeleton as fumarate (require no ATP)" .
- Urea has two amino groups, one derived from ammonia & other from aspartate. Carbon atom is supplied from carbon dioxide.

22. Gangliosides contains:

a) Phosphate

b) Galactose

c) Sulphate

d) Serine

e) Sailic acid

Correct Answer - B:E

Ans: b. Galactose & e. Sailic acid ***[Ref Harper 30th/218, 250-51, 29th/146, 136, 234; Lippincott 6th/209; Vasudevan 5th/78; Chatterjea Shinde 7th/45, 58-61].***

- A ganglioside is a molecule composed of a glycosphingolipid with one or more sialic acids linked on the sugar chain.
- NeuNAc, an acetylated derivative of the carbohydrate sialic acid, makes the head groups of gangliosides anionic at pH 7, which distinguishes them from globosides.
- Gangliosides are present and concentrated on cell surfaces, with the two hydrocarbon chains of the ceramide moiety embedded in the plasma membrane and the oligosaccharides located on the extracellular surface, where they present points of recognition for extracellular molecules or surfaces of neighboring cells. They are found predominantly in the nervous system where they constitute 6% of all phospholipids.

23. All are true about structure of DNA except:

a) Right -handed helix

b) Left-handed helix

c) Phosphate form backbone

d) Deoxyribose forms backbone

e) Nitrogen bases form backbone

Correct Answer - E

Ans: e. Nitroge...*[Ref Harper 30th/359-61, 29th/354-60; Lippincott 6th/395-400; Ananthanarayan 9th/54)*

- Each chain of double helix has a backbone of deoxyribose & phosphate residues arranged alternately. Attached to each deoxyribose is one of the 4 nitrogenous bases: A, G, C for T"-Ananthanarayan 9th/54
- The common form of DNA is said to be right-handed. In the test tube, double-stranded DNA can exist in at least six forms (A-E & Z)"
- With the exception of a few viruses that contain single-stranded (ss) DNA, DNA exists as a double stranded (ds) molecule, in which the two strands wind around each other, forming a double helix
- The A form is produced by moderately dehydrating the B form. It is also a right-handed helix, but there are 11 base pairs per turn, and the planes of the base pairs are tilted 20"
- away from the perpendicular to the helical axis. . Z-DNA is a left-handed helix that contains about 12 base pairs per turn (Note: deoxyribose -phosphate backbone "zigzags, " hence, the name'S"-DNA)

24. Which of the following is false:

a) Ratio of A:T & G:C is approximately equal to 1:1

b) Ratio of A:G & T:C is approximately equal to 1:1

c) A+T=G+C

d) A+C=G+T

e) A+G= C+T

Correct Answer - B:C

Ans: b. Ratio of A: G... & *c.* A+T=G+C*(Ref Harper 30th/360-61; Satyanarayan 3rd/73; Lippincott 4th/291; Ananthanarayan 9th/54-55]*

- Chargaff rule stated that in DNA molecules the concentration of deoxyadenosine (A) nucleotides equals that of thymidine (T) nucleotides (A = T), while the concentration of deoxyguanosine (G) nucleotides equals that of deoxycytidine (C) nucleotides (G = C)
- The two strands of this double-stranded helix are held by both, hydrogen bonds between the purine and pyrimidine bases of the respective linear molecules and by vander Waals and hydrophobic interactions between the stacked adjacent base pairs.
- The pairings between the purine and pyrimidine nucleotides on the opposite strands are very specific and are dependent upon hydrogen bonding of A with T and G with C
- "The ratio of each pair of bases (A÷T)/(G+C) though constant for each species, varies widely from one bacterial species to another"- Ananthanarayan 9th/54

25. True about restriction enzyme:

a) Also k/a restriction endonuclease

b) Produce sticky ends

c) Can detect mutations

d) Obtained from virus

e) Breaks at sugar-phosphate bond

Correct Answer - A:B:E

Ans: a. Also k/a. restriction..., b. Produce sticky ends & e. Breaks at sugar-phosphate bond.*[Ref Harper 30th/452-54, 28th/388-90; Lippincott 4th/465-66; Satyanarayana 3rd/580]*

- RE can specifically recognize DNA with particular sequence of 4-6 mucleotides and cleave. The recognition sequences are palindromic^{Q} (i.e., twofold rotational symmetry" (Lippincott 4th/466)
- It is an enzyme that cleave double-stranded DNA^{Q} at specific recognition nucleotide known as restriction sitesQ. To cut the DNA, a restriction enzyme makes two incisions, one through each sugar-phosphate backbone^{Q} (i.e. each strand) of the DNA double helix. This enzyme can restrict viral replication so called restriction enzymes.
- The cut DNA fragments by RE may have sticky ends (cohesive ends)^{Q} or blunts ends^{Q} depending on the mechanism used by enzyme. DNA fragments with sticky ends are particularly useful for recombinant DNA experiments (hybrid or chimeric DNA molecules).
- To cut the DNA, a restriction enzyme makes two incisions, once through each sugar-phosphate backbone (i.e. each strand) of the DNA double helix.

26. Which of the following is/are true about PCR except:

a) Uses heat labile DNA polymerase

b) Uses heat stable DNA polymerase

c) Is technique for DNA amplification

d) Used to yield multiple copies of DNA

e) Reverse transcriptase- PCR is used for quantification of RNA

Correct Answer - A

Ans: a. Uses heat labile DNA polymerase,*[Ref Harper 30th/458-59; Lippincott 6th/479-83, 5th/497-83; Chatterjea er Shinde7th/267-272]*

- Specificity[Q] is based on the use of two oligonucleotide primers that hybridize to complementary sequence on opposite strands of DNA & flank the target sequence Double stranded DNA can be disrupted by heat or high pH, giving rise to single stranded DNA. The single stranded DNA serves as a template for synthesis of a complementary strand by replicating enzymes, DNA polymerase.
- Early PCR reaction used an E. coli DNA polymerase that was destroyed by each heat denaturation cycle. Substitution of a heat-stable DNA polymerase (Taq polymeraseY from Thermus aquaticus, obviates this problem & has made possible automation of the reaction, since the polymerase reactions can be run at 70°C

27. Which of the following techniques are used for detection of mutation:

a) RT-PCR

b) Microarray

c) Allele-specific oligonucleotide (ASO)

d) Westren blot

e) DNA sequencing

Correct Answer - A:B:C:E

Ans: a. RT-PCR , b. Microarray , c. Allele-specific oligonucleotide (ASO) & e. DNA sequencing,

[Ref Lippincott 6th/473; Harper 30th/470, 29th/483-85; Harrison 19th/83e, 443-44, 18th/508, 17th/406; Vasudevan 5th/454-56]

- Mutational analysis: More discrete sequence alterations rely heavily on the use of PCR, which allows rapid gene
- amplification and analysis. Moreover, PCR makes it possible to perform genetic testing and mutational analysis with small amounts of DNA extracted from leukocytes or even from single cells, buccal cells, or hair roots. DNA sequencing can be performed directly on PCR products or on fragments cloned into plasmid vectors amplified in bacterial host cells" (Harrison 19th/444).
- Southern blotting can detect DNA mutations such as the insertion or deletion of nucleotides.
- It can also detect point mutations that cause the loss or gain of restriction enzyme cleavage sites. Such mutations cause the pattern of bands to differ from those seen with a normal gene.
- A comprehensive approach to genome-scale studies consists of

microarrays, or DNA chips. Used to determine the gene expression pattern of thousands of genes simultaneously. Microarrays allow the detection of variations in DNA sequence and are used for mutational analysis and genotyping.

28. Which of the following is/are most severe/ dangerous change in gene:

a) Deletion

b) Insertion

c) Mutation

d) Translocation

e) Duplication

Correct Answer - A:B

Ans: a. Deletion & b. Insertion -Most probably *[Ref Harper 30th/416-19; Lippincott 6th/434; Harrison 19th/432-34; Robbins 9th/160-61; Harshmohan 7th/2551.*

- Deletion & Insertion could be possible answer (Please go through explanation given & other references for deciding appropriate answer
- Frameshift Mutations Result from Deletion or Insertion of Nucleotides in DNA That Generates Altered mRNAs
- The deletion of a single nucleotide from the coding strand of a gene results in an altered reading frame in the mRNA.
- if three nucleotides or a multiple of three are deleted from a coding region, the corresponding mRNA when translated will provide a protein from which is missing the corresponding number of amino acids. Because the reading frame is a triplet, the reading phase will not be disturbed for those codons distal to the deletion.
- If, however, deletion of one or two nucleotides occurs just prior to or within the normal termination codon (nonsense codon), the reading of the normal termination signal is disturbed. Such a deletion might

result in reading through a termination signal until another nonsense codon is encountered.

- Insertions of one or two or nonmultiples of three nucleotides into a gene result in an mRNA in which the reading frame is distorted upon translation, and the same effects that occur with deletions are reflected in the mRNA translation. This may result in garbled amino acid sequences distal to the insertion and the generation of a nonsense codon at or distal to the insertion, or perhaps reading through the normal termination codon

29. Which of the following technique is/are used in quantitification of viral nucleic acid:

a) MALDI-TOF MS

b) Branched-chain DNA (bDNA)

c) PCR

d) Gas-Liquid Chromatography

e) Biochemical phenotyping

Correct Answer - B:C

Ans: (B) Branched-chain DNA (bDNA) & (C) PCR *[Ref Harper 29th/26; Lippincott 6th/482, 485; Harrison 19th/150e-3-6, 183e-1, 194e-3; http://www. researchgate. net/profile/Ivo_Gut/ publication/8597456_DNA_ analysis_by_MALDI- TOP]*

- Quantitative NAATs are available for HIV (PCR), cytomegalovirus (PCR), hepatitis B virus (PCR), and hepatitis C virus (PCR and TMA).
- Branched-chain DNA (bDNA) testing is an alternative to NAAT (Nucleic acid amplification techniques) for quantitative nucleic acid testing. In such testing, bDNA attaches to a site different from the target-binding sequence of the original probe.
- Chemiluminescence-labeled oligonucleotides can then bind to multiple repeating sequences on the bDNA. The amplified bDNA signal is detected by chemiluminescence. bDNA assays for viral load of HIV, hepatitis B virus, and hepatitis C virus have been approved by the FDA.
- The advantage of bDNA.assays over PCR is that only a single

heating/annealing step is required to hybridize the target-binding probe to the target sequence for amplification.

30. Genes in CpP island is inactivated by:

a) Methylation

b) Metrylation

c) Ubiquitisation

d) Acetylation

e) None

Correct Answer - A

Ans: a. Methylation*[Ref Lippincott 6th/709; Harrison 19th/101e-4, 18th/668, 679; Robbins 9th/893; Satyanarayan 3rd/359, 572; Lippincott 4th/460-62; Chatterjea Shinde 7th/346, 426; en. wikipedia. org/wiki/DNA_methylationj*

- CpG islands: Methylation of cytosine by a methyltransferase is associated with silencing of the activities of certain gene"-Lippincott 6th/709
- Cytosine in the sequence CG of DNA gets methylated to form 5'-methylcytosine. A major portion of CG (about 20%) in human DNA exists in methylated form. In general, methylation leads to loss of transcriptional activity & thus inactivation of genes.
- The role of epigenetic control mechanisms in the development of human cancer is unclear. However, a general decrease in the level of DNA methylation has been noted as a common change in cancer. In addition, numerous genes, including some tumor-suppressor genes, appear to become hypermethylated and silenced during tumorigenesis.

31. Which of the following is not true about transcription

a) Synthesis of precursors for the large and small ribosomal RNAs

b) Formation of tRNA transcript

c) RNA polymerase II is responsible for the synthesis of precursors for the large ribosomal RNAs

d) RNA polymerase I is responsible for the synthesis small ribosomal RNAs

e) Binding of RNA polymerase on DNA

Correct Answer - C:D

Ans. is 'c' i.e., RNA polymerase II is responsible for the synthesis of precursors for the large ribosomal RNAs; & 'd' i.e., RNA polymerase I is responsible for the synthesis small ribosomal RNAs.

[Ref: Harrion 19th/e p. 427-28; Satyanarayan 4thie* p. *546, 566-68]

- RNA, eukaryotes have three different RNA polymerases : I,II,II
- RNA polymerase I : It catalyzes the synthesis of large ribosomal RNA (rRNA), i.e. 28S rRNA, 18S rRNA and 5.8S rRNA.
- These rRNAs are coded on class-I gene, i.e. class I gene is transcribed by rRNA. rRNAs are not translated into protein.
- RNA polymerase II :?It catalyzes the synthesis of mRNA, small nuclear RNA (sn-RNA) and miRNA. These products are coded by class II gene, i.e. class II gene is transcribed by mRNA. Class II gene differ from class I and III in that one of its transcribed products (mRNA) is translated into protein
- RNA polymerase III :? It catalyzes the synthesis of tRNA and 5S

rRNA. These products are coded by class III gene.

- Besides these three nuclear RNA polymerases, in a eukaryotic cell, a fourth type of RNA polymerase is found in mitochondrial matrix known as mitochondrial RNA polymerase (mtRNAP). Similar to prokaryotic RNA polymerase, mtRNAP catalyzes the synthesis of all the three types of RNA, i.e. mRNA, tRNA and rRNA

32. Which of the following RNA contains unusal bases:

a) mRNA

b) rRNA

c) tRNA

d) 30 S RNA

e) 50s RNA

Correct Answer - B:C

Ans: c.tRNA [Ref Harper 30th/pg394.

- tRNA molecule contain a high percentage of unusal bases, for example, dihydrouracil er have extensive intra-chain base pairing that leads to characteristic secondary 6'' tertiary structure"- Lippincott 6th/418.
- The tRNA molecules contain a high percentage of unusual bases (for example, dihydro uracil) and have extensive intrachain base-pairing that leads to characteristic secondary and tertiary structure.
- Each tRNA serves as an "adaptor" molecule that carries its specific amino acid—covalently attached to its 3'-end—to the site of protein synthesis. There it recognizes the genetic code sequence on an mRNA, which specifies the addition of its amino acid to the growing peptide chain

33. True about follicular lymphoma:

a) Lymphadenopathy is the most common presentation

b) BCL-1 positive

c) CD5 positive

d) More common in males than females

e) All

Correct Answer - A

Answer- A. Lymphadenopathy is the most common presentation

It is the tumor of germinal centre (follicular centre), B cells, and is strongly associated with chromosomal translocation involving Bcl 2.

Growth pattern is nodular (follicular) or nodular (follicular) and diffuse.

The neoplastic cells closely resemble normal germinal centre B cells, expressing CD19, CD 20, CD 10, surface Ig, and Bcl 6.

In most follicular lymphomas, centrocytes predominate.

It usually presents in middle age and affects males and females equal.

The most common presentation for follicular lymphoma is with new painless lymphadenopathy.

34. True about Chronic Lymphocytic Leukaemia:

a) Most common leukaemia in adult

b) Proliferation centre is path gnomonic

c) Massive splenomegaly

d) Radiotherapy & chemotherapy are given in treatment

e) None

Correct Answer - A:B:C

Answer- (A) Most common leukaemia in adult (B) Proliferation centre is path gnomonic (C) Massive splenomegaly

- CLL is the most common form of NHL.
- CLL is when peripheral blood lymphocytes count is exceeding 4000 cells/ µL.
- The tumour cells contains high level of BCL2 (inhibits apoptosis).

Clinical features-

- Splenomegaly & hepatomegaly
- Hypogammaglobulinemia leads to bacterial infection in combination of neutropenia.

Treatment-

- Alkylating drugs as cyclophosphamide
- Corticosteroids
- Radiotherapy & chemotherapy
- Splenectomy in AIHA

35. True about mitochondrial DNA:

a) Linear

b) Circular

c) Transmitted by mother only

d) Transmitted by both parents

e) Contains less gene than nuclear DNA

Correct Answer - B:C:E

Answer- (B) Circular (C) Transmitted by mother only
(E) Contains less gene than nuclear DNA

In sexual reproduction, mitochondria are normally inherited exclusively from the mother; the mitochondria in mammalian sperm are usually destroyed by the egg cell after fertilization.

UGA codes for tryptophan, Codes for 13 proteins, Circular double stranded DNA, Mitochondrial disease occur due to Point Mutations and Large-Scale Rearrangements.

The remaining 22 tRNA and 2 rRNA-encoding genes are dedicated to the process of translation of the 13 mtDNA encoded proteins.

36. True about autosomal dominant type of inheritance:

a) 25% affected & 50 % carrier, if one parent affected

b) 50% affected & 75 % carrier, if both parent affected

c) 75% affected, if both parent affected

d) 50% affected, if one parent affected

e) All carrier irrespective of either one parent affected or both parent affected

Correct Answer - D
Answer- D. 50% affected, if one parent affected
Autosomal dominant disorders are manifested in the heterozygous state .
Both males and females are affected.
Because the alleles segregate randomly at meiosis, the probability that an offspring will be affected is 50%.

37. In a-thalassemia, Hb Barts is said when number of gene loci affected is:

a) 1

b) 2

c) 3

d) 4

e) None

Correct Answer - D
Answer- D. 4
The alpha-thalassemias are caused by inherited deletions that result in reduced or absent synthesis of alpha-globin chains.
Normally, there are four alpha-globin genes.

38. Which of the following cellular component gives purplish blue colour with H & E reagent:

a) Reticulum

b) Elastin

c) P-selectin

d) Collagen

e) Heterochromatin

Correct Answer - A:E

Answer- (A) Reticulum (E) Heterochromatin

- The most commonly used staining system is called H&E (Haematoxylin and Eosin).
- H&E contains the two dyes haematoxylin and eosin.
- Eosin produces three different hues-
- Red blood cells stain dark reddish orange
- Collagen (acidophilic) stains a lighter pastel pink.
- Smooth muscle stains bright pink.
- Haematoxylin is a basic dye.
- It is used to stain acidic (or basophilic) structures a purplish blue.
- Nucleus is stained purple by H&E staining.

39. Which of the following is true about glutathione & glutathione peroxidase:

a) Act as scavenger of free radicle

b) Glutathione has anti-oxidant property

c) Reduced glutathione can chemically detoxify H202

d) Oxidized glutathione can chemically detoxify H202

e) None

Correct Answer - A:B:C

Answer- (A) Act as scavenger of free radicle (B) Glutathione has anti-oxidant property (C) Reduced glutathione can chemically detoxify H202

- It helps in detoxification of H_2O_2 by reducing it. Superoxide anion (O_2) first converted to H_2O_2 by superoxide dismutase.
- H_2O_2 is then reduced to H_2O_2 by glutathione perioxidase, a reaction requires reduced glutathione. Thus, glutathione scavenges free radicals and superoxide anion.
- A series of enzymes acts as free radical-scavenging systems and breaks down H_2O_2 and O_2

40. Histological finding of hypertrophic cardiomyopathy includes:

a) Myocyte disaaray

b) Interstitial fibrosis

c) Amyloid deposition in muscle

d) Myocyte hypertrophy

e) Myocardial fibres are arranged in parallel pattern

Correct Answer - A:B:D

Answer- (A) Myocyte disaaray (B) Interstitial fibrosis (D) Myocyte hypertrophy

Most important histologic features of the myocardium in HCM are-

1. extensive myocyte hypertrophy
2. haphazard disarray of bundles of myocytes- myocytes, and contractile elements in sarcomeres within cells (myofiber disarray)
3. interstitial and replacement fibrosis

41. True about bcl-2:

a) T Apoptosis

b) Apoptosis

c) T Resistance of tumour to treatment

d) Only associated with follicular lymphoma

e) Cause meningioma

Correct Answer - B:C
Answer- (B) Apoptosis (C) T Resistance of tumour to treatment
Bcl-2 inhibits apoptosis; a (14:18) translocation resulting in overexpression of the bcl-2 protein in B lymphocytes causes apoptosis of neoplastic cells to be permanently inhibited, producing follicular lymphoma.

42. True about thrombus formation:

a) Arterial thrombus grow in direction toward heart

b) Venous thrombus grow in direction toward heart

c) Venous thrombus form chicken fat

d) Line of Zahn is seen microscopically in red thrombi

e) None

Correct Answer - B:D

Answer- (B) Venous thrombus grow in direction toward heart
(D) Line of Zahn is seen microscopically in red thrombi

Arterial or cardiac thrombi usually begin at a site of endothelial injury.

Venous thrombi characteristically occur in sites of stasis.

Arterial thrombi tend to grow in a retrograde direction from the point of attachment.

Venous thrombi extend in the direction of blood flow (i.e., toward the heart).

When formed in the heart or aorta, thrombi may have grossly (and microscopically) apparent laminations, called lines of Zahn.

Arterial thrombi are usually occlusive; the most common site.

43. Red infarct occur in:

a) In tissues with dual circulations

b) Occur only when both arterial & venous obstruction occurs simultaneously

c) Organs which are previously congested

d) Organs with loose tissue

e) All

Correct Answer - A:C:D

Answer- (A) In tissues with dual circulations (C) Organs which are previously congested (D) Organs with loose tissue

Red infarcts (Haemorrhagic) : occur with :

- Venous occlusions (eg ovarian torsion);
- In loose tissues (such as lungs);
- In tissues with dual circulation (e.g. Lung & S. intestine)
- In tissues that were previously congested because of sluggish venous out flow.
- When flow is reestablilshed to a site of previous arterial occulusion and necrosis.

44. Spindle shaped cells is/are seen in which sarcoma:

a) Osteosarcoma

b) Chondromyosarcoma

c) Embryonal rhabdomyosarcoma

d) Leiomyosarcoma

e) Fibrosarcoma

Correct Answer - A:C:D:E

Answer- (A) Osteosarcoma (C) Embryonal rhabdomyosarcoma (D) Leiomyosarcoma (E) Fibrosarcoma

"Osteosarcoma'. The tumour cells may have various shapes such as spindled polygonal & bizarre tumour gaint cells.

Leiomyosarcomas: They consist of eosinophilic spindle cells with blunt-ended.

Fibrosarcoma- Malignant fibrous arranged in a herringbone pattern.

Malignant fibrous histiocytoma of spindled fibroblasts arranged in a storiform pattern admixed with large; ovoid, bizarre multinucleated tumor giant cell.

"Embryonal rhabdomyosarcoma: consist of sheets of both primitive roundatd spindled cells in a myxoid stroma.

"Liposarcomas- contains adipocytes with scattered atypical spindle cells.

45. Which of the following dyads are correct

a) Pulsus paradoxus-aortic regurgitation

b) Pulsus bisferiens- mitral stenosis

c) Water-hammer pulse-aortic regurgitation

d) Pulsus parvus et tardus - aortic stenosis

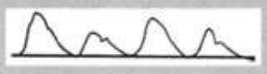
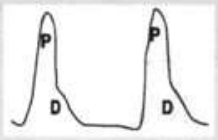
e) Collapsing pulse - aortic regurgitation

Correct Answer - C:D:E

Answer- C,Water-hammer pulse-aortic regurgitation D,Pulsus parvus et tardus - aortic stenosis E,Collapsing pulse - aortic regurgitation

Arterial & Venous Pulses

Types of Pulses		
Type	**Character**	**Disease**
Pulsus parvus/Hypokinetic pulse 	Small weak pulse, a narrow pulse pressure, and increased peripheral vascular resistance	Hypovolemia Left ventricular failure Restrictive perticardial disease Mitral valve stenosis Aortic stenosis
Pulsus tardus (Pulsus parvus-et-tardus) 	Slow rising pulse with delayed systolic peak	Severe aortic valve stenosis

Hyperkinetic 	Large, bounding, rapid rise, wide pulse pressure	Complete Heart Block Hyper dynamic circulatory state (Anxiety, Anemia, Exercise, Fever, Beri beri) Patent ductus arteriosus Peripheral AV fistula Aortic & Mitral regurgitation Ventricular Septal Defect
Pulsus paradoxus/Pulsus normalis aggregans 	Decrease in Systolic pressure > 10 mm Hg during inspiration	Cardiac tamponade Chronic constrictive pericarditis (sometimes) Emphysema Bronchial athma (Severe) SVC obtruction
Reversed pulsus paradoxus	Increase in systolic pressure during inspiration	Hypertrophic Obstructive Cardiomyopathy (HOCM), IPPV
Pulsus Bisfriens (Checked in radial artery) 	2 systolic peaks	Severe Aortic regurgitation Combined aortic stenosis & severe aortic regurgitation HOCM
Dicrotic pulse 	1 systolic & 1 diastolic peak	Dilated cardiomyopathy LVF Cardiac tamponade Typhoid Dehydration
Pulsus alternans (Radial artery) 	Alternate strong & weak beat with regular rhythm	Severe Left ventricular functional impairment (e.g. Acute M.I) may occur in paroxysmal tachycardia, Toxic myocarditis for several beats following a premature beat
Water hammer pulse/Collapsing/ Corrigan's 	It is an extreme form of the hyperkinetic pulse. Large bounding pulse associated with increased stroke volume & decreased peripheral vascular resistance	Aortic regurgitation
Pulsus bigeminus 	Normal beat followed by premature beat followed by compensatory pause occurring in rapid succession resulting in alteration in strength of pulse (like pulsus alternans however in pulsus alternans there is no compensatory pause)	Digitalis toxicity

46. Alpha feto protein is/are increased in:

a) Yolk sac tumour

b) Seminoma

c) Dysgerminoma

d) Non-seminoma

e) Hepatocellular carcinoma

Correct Answer - A:D:E

Answer- (A) Yolk sac tumour (D) Non-seminoma
(E) Hepatocellular carcinoma

Serum alpha feto proetin level is elevated in non seminomatous testicular tumors.

Non seminomatous testicular tumors include:

1. Yolk sac or endodermal sinus tumor
2. Embryonal carcinoma
3. Teratomas
4. Non- seminoma

47. True about hemophilia B:

a) Factor 8 deficiency

b) Factor 9 deficiency

c) X-linked disorder

d) Clinically indistinguishable from hemophilia A

e) Fresh frozen plasma given for treatment

Correct Answer - B:C:D

Answer- (B) Factor 9 deficiency (C) X-linked disorder
(D) Clinically indistinguishable from hemophilia A

Hemophilia is an X-linked recessive hemorrhagic disease due to mutations in the F8 gene (hemophilia A or classic hemophilia) or F9 gene (hemophilia B).

Male subjects are clinically affected.

Clinically, hemophilia A and hemophilia B are indistinguishable.

Hemophilia is classified as-

- severe (<1%),
- moderate (l-5%),
- or mild (6-30%)

Clinical features-

- Bleeding into the joints (hemarthrosis), soft tissues, and muscles.

Investigations-

- Hemophilia B- Normal BT & PT & increased PTT

Treatment-

- The disease is treated with infusions of recombinant factor u.

48. True about primary biliary cirhhosis:

a) More common in female

b) Periportal fibrosis

c) May be ssociated with Rheumatoid arthritis & crohn's disease

d) Jaundice may be present

e) All

Correct Answer - A:B:D
Answer- (A) More common in female (B) Periportal fibrosis (D) Jaundice may be present
PBC is primarily a disease of middle-aged women, with a female predominance of 9: l.
Antimitochondrial antibodies are the most characteristic- laboratory finding in PBC.
Etiology- portal inflammation and necrosis of cholangiocytes C/F
Hypercholesterolemia is common
Xanthelasma, and xanthomata
Hepatomegaly, splenomegaly, ascites, and edema.
Development of jaundice
Investigations-
The disease is confirmed by liver biopsy, which is considered diagnostic if a florid duct lesion is present.

49. Finding in histopathology of brain in rabies includes:

a) Negri body

b) Nodule

c) Neuronophagia

d) Vacuolar degenerative changes

e) Inflammatory cell

Correct Answer - A:B:C:E

Answer- (A) Negri body (B) Nodule (C) Neuronophagia (E) Inflammatory cell

Rabies is a severe encephalitis transmitted to humans by the bite of a rabies animal.

Macroscopically, brain shows intense edema and vascular congestion.

Microscopically,

Widespread neuronal degeneration and an inflammatoty reaction that is most severe in the rhombencephalon.

Negri bodies, the pathognomonic microscopic finding can be found in pyramidal neurons of the hippocampus and Purkinje cells of the cerebellum.

Pathologic studies show mild inflammatory changes in the CNS in rabies, with mononuclear inflammatory infiltration in the leptomeninges, perivascular regions, and parenchyma, including microglial nodules called Babes nodules.

Neuronophagia is observed occasionally.

50. True about hyperacute rejection in renal transplant:

a) Occur within few days of transplant

b) T cell involvement

c) Blood vessel thrombosis

d) Eosinophilic infiltration

e) B cell infiltration

Correct Answer - C

Answer- (C)Blood vessel thrombosis

- Hperacute rejection occurs when preformed antidonor antibodies are present in the circulation of the recipient.
- Acute antibody-mediated rejection is caused by antidonor antibodies produced after transplantation.
- It is mediated by preformed humoral antibody.
- In acute rejection there is infiltration of T & B cell

51. True about gluten sensitive enteropathy:

a) Diet should exclude barley, wheat & rye

b) Intestinal biopsy is diagonstic

c) Anti IgA endomycial antibody is specific

d) Mucosal hyperplasia

e) None

Correct Answer - A:C

Answer-(A)Diet should exclude barley, wheat & rye (C)Anti IgA endomycial antibody is specific

- Intolerance to gliadin a component of gluten present in wheat, barley, rye & oat.
- Absence or reduced height of villi (Flat appearance)
- Crypt hyperplasia, villous atrophy, Cuboidal appearance of epithelial cells & increased intraepithelial lynphocytes.
- Antiendomysial antibodies
- Disappearance of Ig antiendomysial antibodies following institution of a gluten free diet is diagnostic.
- lgA antiendomysial.

52. Mechanism of action of gabapentin is/are:

a) Enhances GABA release

b) Agonist at GABAA receptor

c) Act on NMDA receptor

d) Prolongation of Na+ Channel Inactivation

e) Inhibition of voltage-gated Ca2+ channels

Correct Answer - A:E

Ans,. (A) Enhances GABA release (E) Inhibition of voltage-gated Ca2+ channels

[Ref: K. D. T 7th/419-21; Katzung 12th/41j; Harrison 19th/2548, 2551- 56]

Gabapentin:

MOA:

- Modify the synaptic or non synaptic release of GABA.
- An increase in brain GABA concentration is observed in patients receiving gabapentin.
- Gabapentin is transported into the brain by the L-amino acid transporter.
- Gabapentin binds avidly to voltage-gated Ca2+ channels.
- Gabapentin also act presynaptically to decrease the release of glutamate; this effect is probably dependent on reduced Presynaptic entry of Ca2+ via voltage-activated channels.

53. Which of the following is/are true regarding muscarianic action except:

a) Miosis

b) Detrusor muscle contraction

c) Dicylomine is antimuscuarnic drug used for smooth muscle relaxation

d) Cardiac muscuranic receptors are predominantly M 3 type

e) salivary gland secretion

Correct Answer - B:D

Ans. (B) Detrusor muscle contraction (D) Cardiac muscuranic receptors are predominantly M 3 type

[Ref KDT 7th/100-103, 117; Katzung 12th/97-102]

- Cardiac muscarinic receptors are predominantly M 2 type & mediate vagal bradycardia.

Dicyclomine:

- Antagonist of M1 & M3 (smooth muscle)-

Muscarinic Actions

Heart:

- At the A-V node & His-purkinje fibers refractory period (W) is increased & conduction is slowed; PRinteryal inteases 6 partial to complete A-V block may be produced.

Eye:

- Contraction of circular muscle of iris → miosis
- Contraction of the ciliary muscle → spasm of accommodation, increased outflow facility, reduction in intraocular tension (especially in glaucomatous patients

Smooth Muscle:

- Peristalsis in ureter is increased.
- Detrusor muscle contracts while the bladder trigone & sphincter relaxes → voiding of bladder.

Glands:

- Secretion from all parasympathetically innervated glands is increased via M3 & some M2 receptors: sweating, salivation, lacrimation, increased tracheobronchial & gastric secretion.

54. Disease modifying drug (s) used in treatment of rheumatoid arthritis:

a) Neproxen

b) Nabumetone

c) Abatacept

d) Monoclonal antibodies

e) Methotrexate

Correct Answer - C:D:E

Ans. (C) Abatacept (D) Monoclonal antibodies (E) Methotrexate

[Ref K. D. T 7tW211-12, 871-72; Katzung t2th/642; Goodman & Gilman\ 11th/1942]

Disease modifying Antl-rheumatoid drugs (DMARDs)

Non Biological Drugs

- Immunosuppressants: Methotrexate, Azathioprine,
- Cyclosporine
- Sulfasalazine
- Chloroquine or Hydroxychloroquine
- Leflunomide
- Biological agents
- TNF-a inhibitors: Etanercept, Wiximab, Adalimumab
- IL-1 antagonists: Anakinra

55. Levetiracetam is commonly used for:

a) Juvenile myoclonic epilepsy

b) Absence seizure

c) Generalised Tonic clonic seizure

d) Complex partial seizure

e) Act through GABA

Correct Answer - A:C:D:E

Ans. (A) Juvenile myoclonic epilepsy (C) Generalised Tonic clonic seizure (D) Complex partial seizure (E) Act through GABA

[Ref K D- T 7thl 420-421]

Levetiracetam:

- Treatment of Generalized tonic-chronic seizure & simple partial seizures.
- Treatment of Complex partial seizures.
- Myoclonic & atonic seizures - unresponsive case
- Adjuvant treatment of partial seizures in adults & children for primary generalized tonic- clonic seizure & for the myoclonic seizures of juvenile myoclonic epilepsy
- Approved as adjuvant therapy for focal onset seizure.
- Approved as adjuvant therapy for primary generalized tonic- clonic

56. Penicillinase resistant penicillin is/are:

a) Methicillin

b) Cloxacillin

c) Ampicillin

d) Dicloxacillin

e) Vancomycin

Correct Answer - A:B:D

Ans. (A) Methicillin (B) Cloxacillin (D) Dicloxacillin

[Ref, K. D. T 7th/721]

Penicillinase- Resistant Penicillins:

- Methicillin, cloxacillin, Dicloxacillin
- These congeners have side chains that protect the beta-lactam ring from attack by staphylococcal penicillinase.
- Their only indication is infections caused by penicillinase producing staphylococci, for which they are drug of choice, accept in areas where methicillin resistant staph. Aureus (MRSA) has become prevalent

57. True about Jarisch - Hexheimer reaction:

a) Occur within hours after giving penicillin

b) Develop only after 1 week of Penicillin therapy

c) Aggravation of signs and symptoms of syphilis

d) It occur due to allergy to penicillin

e) Most common in secondary syphilis

Correct Answer - A:C:E

Ans. (A) Occur within hours after giving penicillin
(C) Aggravation of signs and symptoms of syphilis (E) Most common in secondary syphilis

[Ref: K.D.f 7th/720; CMDT 201s/1460; Harison 19th/1140; Neena Khanna 4th/206; G 6 G 11th/1181; Ananthanarayan 9th/377, 384]

Jarisch-Herxheimer Reaction:

- Penicillin injected in a syphilitic patient (particularly secondary syphilis) may produce shivering fever, myalgia, exacerbation of lesions, even vascular collapse
- May occur after institution of chloramphenicol therapy for syphilis, brucellosis & typhoid fever.
- This is due to sudden release of spirochetal lytic products & lasts for 12-72 hours
- It does not recur & does not need interruption of therapy
- Aspirin & sedation afford relief of symptoms

58. For which of the following drug bacteria acquire drug resistance by inactivation or degradation by enzyme:

a) Quninolones

b) Aminoglycosides

c) Vancomycin

d) Ampicillin

e) Chloramphenicol

Correct Answer - A:E

Ans. (A) Quninolones (E) Chloramphenicol

[Ref: K D. T 7th/692-93; Ihtzung 12th/792, 816]

Drug destroying:

- The resistant microbes elaborate an enzyme which inactivates the drug
- Many of aminoglycosides-resistant coliforms have been found to produce enzymes which adenylate acetate phosphorylate specific aminoglycosides antibiotics.
- Chloramphenicol acetyl transferase is acquired by resistant E. coli, H. influenzae & S. tyPhi.

59. Which of the followings are feature of benzodiazepine withdrawal except:

a) Anxiety

b) Increased appetite

c) Hypersomnia

d) Bad dreams

e) Tremor

Correct Answer - B:C

Ans. (B) Increased appetite (C) Hypersomnia

[Ref K. D. T 7th/406; Niraj Ahuja 7th/ 51]

Benzodiazepine withdrawal:

- Withdrawal symptoms are generally mild; may be more intense in case of ultra rapid elimination drugs
- Anxiety, insomnia, restlessness, malaise, loss of appetite, bad dreams is all that occurs in most cases
- Agitation, Panic reaction, tremors & delirium are occasional; convulsions are rare
- Characterized by marked anxiety, irritability, tremors, insomnia, vomiting weakness, automatic hyperactivity with postural hypotension (t seizures
- Depression, transient psychotic episode, suicidal ideation, perceptual disturbances & rarely delirium have also been reported in withdrawal period

60. Which of the following drug is mainly excreted by kidney:

a) Tetracyclines

b) Doxycyclines

c) Ampicillin

d) Acyclovir

e) Rifampicin

Correct Answer - A:C:D

Ans. (A) Tetracyclines (C) Ampicillin (D) Acyclovir

[Ref: K. D. T 7th/735,721; Katzung 12th/794]

- **Ampicillin:** Partly executed in bile & reabsorbed- enterohepatic circulation occurs; primary channel of excretion is kidney.
- **Acyclovir:** Primarily excreted unchanged in urine, both by glomerular filtration dt tubular secretion..
- **Tetracyclines:** Primarily excreted in urine by glomerular rtltration; dose has to be reduced in renal failure; doxycycline is an exception.
- **Rifampicin:** Metabolized in liver to an actively acetylated. metabolite which is excreted mainly in bile, some in urine.

61. Which of the following statements is false about Acyclovir-

a) It inhibits DNA synthesis and viral replication

b) It is effective against influenza

c) It has low toxicity for host cells

d) Renal impairment necessitates dose reduction

e) None

Correct Answer - B

Ans. is 'b' i.e., It is effective against influenza

Acyclovir

It is a deoxygunosine analogue - inhibits DNA synthesis by ?

1. Inhibits herpes virus DNA polymerase competitively.
2. Gets incorporated in viral DNA and stops lengthening of DNA strand. The terminated DNA inhibits DNA polymerase irreversibly.

- **It** is preferentially taken up by the virus infected cells. Because of selective generation of the active inhibitor in the virus infected cells and its greater inhibitory effect on viral DNA synthesis, acyclovir has low toxicity for host cells.
- It is active against herpes group of virus (HSV-I> HSV-2 > VZV = EBV. CMV is not inhibited).
- Acyclovir is primarily excreted unchanged in urine, both by glomerular filtration and tubular secretion. Renal impairment necessitates dose reduction.

62. S/E of clofaziamine includes:

a) Icthyosis

b) Thrombocytosis

c) Skin pigmentation

d) Gastrointestinal disturbances

e) Weight gain

Correct Answer - A:C:D

Ans. (A) Icthyosis (C) Skin pigmentation (D) Gastrointestinal disturbances

Clofazimine: Side effects:

- Ichthyosis
- Pigmentation - Reddish-black discoloration of skin, especially on exposed parts.
- Discoloration of hair & body secretions may also occur.
- Conjunctival pigmentation may create cosmetic problem.
- Gastrointestinal side effects.

63. A person was on chemotherapy for 2 week for some mediastinal tumour. Now he develops high frequency hearing loss. Most probable cause of this condition is use of:

a) Cisplatin

b) Etoposite

c) Doxorubicin

d) Methotrexate

e) None

Correct Answer - A

Ans. (A) Cisplatin

Ototoxic drugs:

- Cytotoxic drugs causing hearing loss are- nitrogen mustard (mechlorethamine), cisplatin & carboplatin.

Cisplatin:

- Tinnitus, deafness,sensory neuropathy & hyperuricemia are other problem

Carboplatin:

- Nephrotoxicity, ototoxicity & neurotoxicity are low as compared to cisplatin

64. In comparison to haloperidol, clozapine causes:

a) Weight gain

b) Agranulocytosis

c) Sedation

d) Severe extrapyramidal symptoms

e) Less eliptogenic potential

Correct Answer - A:B:C
Ans. (A) Weight gain (B) Agranulocytosis (C) Sedation
[Ref K. D. T 7th/'M1; Katzung 12th/509]
Haloperidol:

- Produces fewer autonomic effects, is less epileptogenic, does not cause weight gain, jaundice is rare
- Severe extraPyramidal syndrome.
- Preferred drug for acute schizophrenia

Clozapine:

- Produces few or no extrapyramidal symptoms; tardive dyskinesia is rare & prolactin level does not rise.
- Quite sedative sedation.
- Higher incidence of agranulocytosis.
- Metabolic complications like weight gain, hyperlipidemia & precipitation of diabetes is another major limitation.
- High doses can induce seizures even in non-epileptics.

65. Which of the following condition increase chance of hyponatremia in patient treated with antidepressant:

a) Old age

b) Low weight

c) Cold climate

d) Obesity

e) Female sex

Correct Answer - A

Ans. (A) Old age

[Ref. Niraj Ahuja 7th/188.]

- Cases of SSRI-associated hyponatremia & the syndrome of inappropriate antidiuretic hormone have been seen in some patients, especially those who are older or treated with diuretics.

66. Desmopressin is/are used in:

a) Diabetes insipidus

b) Esophageal varices

c) Haemophilia A

d) Von Willebrand disease

e) Hemophila B

Correct Answer - A:C:D

Ans. (A) Diabetes insipidus (C) Haemophilia A (D) Von Willebrand disease

[Ref. K. D. T 7th/596-97, 616; Katzung 12th/616, 674, 677; G & G 1fir/784-86]

Desmopressin:

- Selective V2 agonist.

Uses:

- Diabetes insipidus, bedwetting in children & nocturia in adults, renal concentration test, Haemophilia & Von Willebrand disease.

67. Which of the following is/are teratogens:

a) Artemisinin

b) Aminoglycoside

c) Carbamezapine

d) Retinoic acid

e) Phenytoin

Correct Answer - B:C:D:E

Ans. (B) Aminoglycoside (C) Carbamezapine (D) Retinoic acid (E) Phenytoin

[Ref K. D. T Ttlr/&g, 8j1; Katzung 10th/975; Katzung 12th/1042-43; G & G 11th/; Drugin Pregnancy & Lactation by G. Briggs 6th/339]

Teratogens:

- **Quinine:** Continues to be the drug of choice for severe falciparum during 1st trimester of pregnancy, because safety of artemisinins is not yet Proven.
- **Artesunate:** Use is limited in second 6 third trimesters of pregnancy only when other drugs are found resistant.
- **Aminoglycosides:** Avoid during pregnancy: Risk of foetal ototoxicity.
- **ACE inhibitors:** 2. 7 fold higher malformation rate in fetus exposed for ACE inhibitors in the first trimester..

68. Which of the following is/are features of Triamcilone with respect to hydrocortisone:

a) Florinated at carbon atom 9

b) Not used in oral form

c) Mineralocorticoid activity present

d) More potent than hydrocortisone

e) Glucocorticoid activity is 5 times of hydrocortisone

Correct Answer - D:E

Ans. (D) More potent than hydrocortisone (E) Glucocorticoid activity is 5 times of hydrocortisone

[Ref K. D. T 7th/289; Katzung 12th/700,703,712]

Triamcinolone:

- Slightly more Potent than prednisolone but highly selective glucocorticoid; 4-i2 mg/day oral; 5-40 mg i. m, intra articular injection.
- Also used topically

69. Death in hanging occurs due to all except:

a) Asphyxia

b) vagal inhibition

c) Vagal stimulation

d) Cerebral ischemia

e) Venous congestion

Correct Answer - C

Ans: c. Vagal stimulation *[Ref Reddy 33rd/339; Parikh 6th/3.40*

Hanging: Causes of Death:

1. Asphyxia: A tension of 15 kg on ligature blocks the trachea
2. Venous congestion: The jugular veins are blocked by a tension in the rope of 2 kg
3. Combined asphyxia & venous congestion: Commonest cause
4. Cerebral anaemia: A tension Of 4-5 kg on ligature blocks carotid arteries & the 20 kg, the vertebral arteries
5. Reflex vagal inhibition
6. Fracture of dislocation of the cervical vertebrae (injury to spinal cord)

Strangulation: Causes of death (Reddy 33rd/347)

1. Asphyxia
2. Cerebral anaemia or Venous congestion
3. Combined asphyxia & venous congestion
4. Reflex vagal inhibition
5. Fracture of dislocation of the cervical vertebrae (rare)

70. Dirt collar or grease collar is seen in:
NEET 13

a) Punctured wound by sharp weapon

b) Lacerated wound

c) Firearm entry wound

d) Stab wound

e) None

Correct Answer - C
Ans. Firearm entry wound
Smudge ring/Lead ring/Grease collar/Dirt collar

- This is due to the wipe of the soft metal of the bullet, or dirt present on it, or grease carried from the barrel & is deposited round the entrance wound internal to the abraded collar
- The smudge ring may therefore be absent when the jacketed bullet has passed through clothing
- The smudging in case of lead shot or unjacketed bullets can be detected microchemically on the target (skin/cloth)
- The forensic value of bullet wipe is to establish a hole as a bullet hole, to determine the entry site, & on occasion the sequence of shots or bullet's passage through multiple objects.

71. Which of the following is/are type of abrasion:

a) Pattern

b) Imprint

c) Graze

d) Stretch

e) Scratch

Correct Answer - A:B:C:E

Ans: a. Pattern , b. Imprint , c. Graze & e. Scratch

- Abrasions or Gravel Rash: It is a destruction of the skin, which usually involves the superficial layers of the epidermis only. They are caused by friction against a rough surface or by compression. Some pressure & movement by agent on the surface of the skin is essential.
- Scratches (linear abrasions): It is an abrasion with length but no significant width. Subtype-point scratch & fingernail abrasions
- Grazes (sliding, scraping or grinding abrasion): They are the most common type. They occur when there is movement b/w the skin & some rough surface in contact with it. Subtype-brush burn, friction burn etc.
- Pressure abrasion (crushing or friction abrasions): e.g., ligature mark in case of hanging & strangulation & the teeth bite marks, Impact abrasion (contact or imprint abrasion): caused by a rough object at or near right angle to the skin surface.Pattern abrasion: Impact abrasion & pressure abrasion

72.

I. P. C Section dealing with punishment for voluntary causing grievous injury:

a) 321 I. P. C

b) 322 I. P. C

c) 323 I. P. C

d) 324 I. P. C

e) 325 I. P. C

Correct Answer - E

Ans: e. 325 I. P. C ***[Ref Reddy 33rd/294-95, 292; Parikh 6th/4. 59-4. 60]***

- S.321, I. C: voluntarily causing hurt
- S.322, I. P. C: voluntarily causing grievous hurt
- S.323, I. P C: Punishment for voluntarily causing hurt: imprisonment up to one year, or fine up to Rs 1000 or both
- S.324, I. C: voluntarily causing hurt by dangerous weapons or means (3 year imprisonment)
- S.325,I. P. C: Punishment for voluntarily causing grievous hurt: Imprisonment for a term extending to seven years & also fine.
- S.326, I. P. C: Voluntarily causing grievous hurt by dangerous weapons or means: Imprisonment up to ten years & also fine

Grievous Injury (Sec 320 IPC)

1.	Emasculation° (cutting off penis, castration, or causing loss of power of erection due to spinal injury)
2.	Permanent privation of either eye°
3.	Permanent privation of either ear°

4.	Privation of any member° (part, organ or limb) or joint
5.	Permanent disfiguration of head or face°
6.	Fracture or dislocation of bone or a tooth°
7.	Destruction or permanent impairing of powers of any member or joint°
8.	Any hurt which endangers life°, or which causes the sufferer to be, during the space of 20 days°, in severe body pain, or unable to follow his daily routine

73. Post- mortem caloricity is/are seen in:

a) Drowning

b) Elderly

c) Strychnine poisoning

d) Sunstroke

e) Cholera

Correct Answer - C:D:E

Ans: c. Strychnine poisoning, d. Sunstroke, & e. Cholera,

This is a normal phenomenon and the rise is 3. 6°F or 2°C

- Septicaemia, Infectious diseases, Bacteremia Tetanus, Rabies, yellow fever Asphyxial Conditions Severe convulsions Tetanus Strychnine Hyperpyrexia at death Heat Stroke (sun stroke) Pontine Haemorrhage High Atmospheric Temperature Peritonitis, Meningitis, Nephritis Alcohol poisoning

74. Mummification is/are favoured by:

a) Dry air

b) Humid air

c) Cold environment

d) Drowning

e) Warm air

Correct Answer - A:E

Ans: a. Dry air & e. Warm air

Factor Necessary for the Production of Mummification

- The absence of moisture in the air
- The continuous action of dry or warmed air

"Mummification: Chronic arsenic or antimony poisoning is said to favour the process of mummification in dry & warm climate" (Parikh 6th/3.31).

75. Which of the following toxic agent is removed by hemodialysis, but not by gut detoxication through activated charcoal:

a) Theophylline

b) Benzodiazepines

c) Phenobarbitone

d) Ethylene glycol

e) Ethanol

Correct Answer - E

Ans: e. Ethanol ***[Ref Reddy 33rd/155; Parikh 6th/3. 8-3. 9]***

- When there has been excessive bacterial activity, as in septicaemic condition, cholera other fevers, the temperature of the body remains raised for the first two hours or so after death.
- Theophylline, ethylene glycol & phenobarbitone (barbiturates) are cleared by both, activated charcoal er haemodialysis, · Benzodiazepines are cleared only by activated charcoal, Ethanol is removed only by haemodialysis not by activated charcoal (so obviously the answer)
- Hemodialysis: It is very useful for removing ethanol, methanol, ethylene glycol, chloral hydrate, lithium, trivalent arsenic, acetaminophen, bromide, Phenobarbital, salicylate, fluoride, sodium chlorate, digitalis, methaqualone, boric acid & thiocynate
- Haemodialysis has been employed for removing barbituratesQ, boric acid, glutethimide, methyl alcoholQ, salicylatesQ and thiocyanates from the blood. Haemperfusion is superior to haemodialysis for removal of lipid soluble drugs. Exchange transfusion is only feasible

with small children and has been applied to poisonings by salicylates, barbiturates, iron salts, carbon monoxide, etc. All toxic substances, including nondialysable ones, are removed by this technique" (Parikh 6th/8.17) "Ethylene glycol poisoning treatment: Activated charcoal, gastric lavage er haemodialysis" (Reddy 33rd/583)

76. Number of permanent teeth at 8 years:

a) 6

b) 8

c) 12

d) 16

e) None

Correct Answer - C

Ans. C. 12

Tooth	**Eruption**
Lateral incisor (upper)	7 to 9 months
Lateral incisor (lower)	10-12 months
First molar	12 to 14 months
Canine	17 to 18 months
Second molar	20 to 30 months

Tooth	**Eruption**
First molar	6 to 7 years
Central incisor	6 to 8 years
Lateral incisor	7 to 9 years
First bicuspid	9 to 11 years
Second bicuspid	10 to 12 years
Canine	11 to 12 years
Second molar	12 to 14 years

Third molar	17 to 25 years (17-21 *in Parikh 6th/2. 7)*

77. Burkdholeria cepacia infection is/are typically associated with:

a) Cystic fibrosis

b) Chronic bronchitis

c) Chronic granulomatous disease

d) Multiple myeloma

e) Myeloperoxidase deficiency

Correct Answer - A:C

Ans: a. Cystic fibrosis & c. Chronic granulomatous disease *[Ref Ananthanarayan 9th/316; Medical microbiology by Greenwood 16th/286-88; Jawetz Microbiology 27th/248-49]*

- Burkholderia cepacia is increasingly being recognized as an opportunist environmental pathogen, particularly in those with cystic fibrosis or chronic granulomatous disease, in whom it causes fatal necrotizing pneumonia" (Ananthanarayan 9th/316; Greenwood 16th/286-88)
- Burkholderia cepacia is an environmental organism that is able to grow in water, soil, plants, animals, and decaying vegetable materials.
- B cepacia grows on most media used in culturing patients' specimens for gram-negative bacteria. Selective media containing colistin also can be used. B cepacia grows more slowly than enteric gram-negative rods, and it may take 3 days before colonies are visible

78. T. saginata is differentiated from T. solium by presence of:

a) Hooks in scolex (head)

b) 4 large pigmented sucker

c) Uterus is thin & dichotomous

d) Short neck

e) Egg is not infective to man

Correct Answer - B:C:E

Ans: b. 4 large pigmented sucker , c. Uterus is thin & dichotomous & e. Egg is not infective to man.*[Ref Paniker's Parasitology 7th/121; Medical microbiology by Greenwood 16th/610-11]*

	Taenia saginata 5-10 Medical Transcriptionists	**Taenia solium 2-3 m**
Scolex	Large quadrate, Rostellum and hooks are Absent, Suckers may be Pigmented	Small and globular, Rostellum and hooks are present, Suckers not pigmented
Neck	Long	Short
Proglottids	1, 000-2, 000	Below 1, 000
Measurement	20 mm x 5 mm	12 mm x 6 mm
Expulsion	Expelled singly	Expelled passively in chains of 5 or 6
Uterus	Lateral branchesl5-30 on each side; thin	Lateral branches 5-10 on each side; thick and

	anddichotomous	dendritic
Vagina	Present	Absent
Accessary lobe of ovary	Absent	Present
Testes	300-400 follicles	150-200 follicles
Larva	Cysticercus bovis;present in cow not in man	Cysticercus cellulosae; present in pig and also in man
Egg	Not infective to man	Infective to man

79. All are true about gas gangrene except:

a) Type 1 gangrene is fournier's gangrene

b) Devitalized tissue predispose to gas gangrene

c) High 02 tension in tissue is important precondition

d) a -toxin is main cause of the toxaemia associated with gas gangrene

e) Mainly caused by C. perfringens

Correct Answer - E

Ans: E. Mainly caused by C. perfringens[Ref Harrison 19th/990-95; Ananthanarayan 9th/257-59; Jawetz 27th/186-87;Greenwood 16th /231-35]

- C. perfringens in association with mixed aerobic and anaerobic microbes can cause aggressive life-threatening type I necrotizing fasciitis or Fournier's gangrene**.**
- Predisposing host factors include debility, old age & diabetes
- a -toxin is generally considered to be the main cause of the toxaemia associated with gas gangrene
- "a-toxin: This is the most important toxin biologically & is responsible for profound toxaemia of gas gangrene"

80. True about Botulinum toxin:

a) Interfere with adrenergic transmission

b) Interfere with Cholinergic transmission

c) Increase release of synaptic vesicles

d) Inhibit release from synaptic vesicles

e) Act also on CNS

Correct Answer - B:D:E

Ans: b. Interfere with Cholinergic transmission, d. Inhibit release from synaptic vesicles & e. Act also on CNS *[Ref K. D. T 7th/99-100, 121; Ananthanarayan 9th/264]*

- ***"***Two toxins interfere with cholinergic transmission by affecting release: botulinum toxin inhibit release, while black widow spider toxin induces massive release er depletion"- K.D. T 7th/99
- A localized injection can be used in treatment of a number of spastic & other neurological conditions due to overactivity of cholinergic nerves like blepharospasm, spastic cerebral palsy, strabismus, spasmodic torticollis, nystagmus, hemifacial spasm, poststroke spasticity, spasmodic dysphonia, axillary hyperhydrosis etc
- It acts by blocking the production or release of acetylcholine at the synapses & neuromuscular junctions
- Onset is marked by diplopia, dysphagia & dysarthria due to cranial nerve involvement
- A symmetric descending paralysis is the characteristic pattern, ending in death by respiratory paralysis

81. Which of the following is/are true about HIV-2:

a) HIV-2 first detected in West Africa in 1986

b) Donated blood is only screened for HIV-1, not HIV-2

c) More virulent than HIV 1

d) More closely related to simian immunodeficiency virus than HIV 1

e) Mode of transmission is like HIV1

Correct Answer - A:D:E

Ans: a. HIV-2 first detected in West Africa in 1986 , d. More closely related to simian immunodeficiency virus than HIV 1 & e. Mode of transmission is like HIV1,

[Ref Ananthanarayan 9th/573, 194-95; Harrison 19th/1216, 1222; Greenwood 16th/527]

- HIV strains first isolated from West Africa in 1986, which react with HIV type 1 antiserum very weakly or not at all have been termed HIV type 2, HIV 2 has only 40% genetic identity with HIV 1.
- It is more closely related to simian immunodeficiency virus than to HIV 1, It is much less virulent than HIV 1
- It is largely confined to West Africa, through isolations have been reported from some other areas, including western & southern India.
- HIV-2 is transmitted by the same routes as HIV-1- Greenwood 16th/535
- Line immune assays (LIAs): These assays allow for application of antigens from more than one virus, thereby allowing them to act as combination assays & to differentiate infection by HIV 1 & HIV 2.

82. Features of stage III HIV infection is/are:

a) Fever > 38. 5 OC

b) Oral hairy leukoplakia

c) Candidiasis

d) Diarrhoea of >20 day duration

e) > 26% CD4 count in adults

Correct Answer - B:C

Ans: b. Oral hairy leukoplakia , c. Candidiasis *[Ref Park 23rd/349; Ananthanarayan 9th/575; Harrison 19th/1215-16, 1257]*

We will answer on applying both criteria CDC & WHO as it is not specifically mentioned .

- The current U. S. CDC classification system for HIV infection and AIDS categorizes people on the basis of clinical conditions associated with HIV infection and CD4+ T lymphocyte measurement.
- A confirmed HIV case can be classified in one of five HIV infection stages (0, 1, 2, 3, or unknown).
- If there was a negative HIV test within 6 months of the first HIV infection diagnosis, the stage is 0, and remains 0 until 6 months after diagnosis.
- Advanced HIV disease (AIDS) is classified as stage 3 if one or more specific opportunistic illness has been diagnosed Otherwise, the stage is determined by CD4 test results and immunologic criteria
- If none of these criteria apply (e.g., because of missing information on CD4 test results), the stage is U (unknown).

83. Microbiological organism can be recoverd from:

a) Sulphur granules of actinomycetes

b) Streptococci from Valve leaflet lesion in rheumatic valvulitis

c) Petechial purpura for Meningococci

d) Corynebacterium in pseudomembrane in throat

e) None

Correct Answer - A:C:D

Ans: a. Sulphur granules of actinomycetes, c. Petechial purpura for Meningococci & d. Corynebacterium in pseudomembrane in throat,

[Ref Ananthanarayan 9th/392; Harrison 19th/979; Greenwood 16th/189-90]

- Isolation in culture: Sulphur granules or pus containing actinomycetes are washed & inoculated" (Ananthanarayan 9th/392)
- Petechial lesion: Meningococci may sometimes be demonstrated in petechial lesions by microscopy & culture" (Ananthanarayan 9th/230)
- Throat samples should be submitted to the laboratory for culture with the notation that diphtheria is being considered. This information should prompt cultivation on special selective medium and subsequent biochemical testing to differentiate C. diphtheriae from other nasopharyngeal commensal corynebacteria:' (Harrison 19th/979)
- The diphtheria bacilli within the membrane continue to produce toxin actively.

- Rheumatic valvulitis is manifestation of rheumatic heart disease. Rhematic fever is an acute, immunologically mediated, multisystem inflammatory disease classically occurring a few week after an episode of group A streptococcal infection.
- Acute rheumatic fever: This occur after 1-3 week after acute infection of S. pyogens so that organism may not be detectable when sequelae set in. Essential lesion is characterized by Aschoff nodules.

84. All are the feature (s) of chancorid except:

a) Ulcer bleed easily

b) Painful

c) Bubo formation

d) Typically indurated

e) Caused by H. ducreyi

Correct Answer - D

Ans: d. Typically indurated, *[Ref Ananthanarayan 9th/331; Robbins 9th/370; Harrison 19th/101213; Greenwood 16th/309]*

- Chancroid or soft sore is characterized by tender non-indurated irregular ulcers on the genitalia
- The infection remains localized, spreading only to the regional lymph nodes which are enlarged & painful
- "Haemophilus ducreyi: After an incubation period of 4-7 days, the initial lesion—a papule with surrounding erythema—appears.
- In 2 or 3 days, the papule evolves into a pustule, which spontaneously ruptures and forms a sharply circumscribed ulcer that is generally not indurated. The ulcers are painful and bleed easily; little or no inflammation of the surrounding skin is evident.
- Approximately half of patients develop enlarged, tender become fluctuant and spontaneously rupture" (Harrison 18th)

85. True about plague:

a) Seasonal spread

b) No vaccine is available

c) Tetracycline is used both for chemoprophylaxis & treatment

d) Caused by gram negative motile bacteria

e) All ages are equally affected

Correct Answer - A:C

Ans: a. Seasonal spread. , c. Tetracycline is used both for chemoprophylaxis & treatment

- Epidemic generally occur in cool, humid seasons that favour the multiplication of fleas, leading to higher flea index
- Fleas do not thrive in hot, dry weather & the transmission of infection is interrupted
- Two types of vaccine have been in use- Killed vaccine (prepared at the Haffkine Institute, Mumbai) & live vaccine (it is no longer recommended)
- Streptomycin, doxycycline & chloramphenicol are effective •• Park 23rd/292-97)
- Outbreaks of plague are usually seasonal in nature. In northern India, the plague season starts from September until may. The disease tends to die out with the onset of hot weather. On the contrary, in south india, there was no definite plague season
- Temperature & humidity: A mean temperature of 20 to 25 deg. C, & a relative humidity of 60% & above are considered favourable for spread of plague
- Agent: Y. pestis- a gram negative, non-motile, cocco-bacillus that exhibit bipolar staining with special stains (e. g Wayson'd stain)

- Source of infection: Infected rodents & fleas & case of pneumonic plague

86. Which of the following is picornaviridae:

a) Polio virus

b) Coxsackievirus

c) Rhinovirus

d) Coronavirus

e) Reovirus

Correct Answer - A:B:C

Ans: a. Polio virus , b. Coxsackievirus & c. Rhinovirus[Ref Ananthanarayan 9th/484-85, 440; Harrison 19th/1289-95; Jawetz 27th/5141

- Rheovirus belongs to reoviridae family ,Corona virus belongs to coronaviridae (Ananthanarayan 9th/441)
- Enteroviruses, members of the family Picornaviridae, are so designated because of their ability to multiply in the gastrointestinal tract.
- Despite their name, these viruses are not a prominent cause of gastroenteritis.
- Enteroviruses encompass more than 100 human serotypes: 3 serotypes of poliovirus, 21 serotypes of coxsackievirus A, 6 serotypes of coxsackievirus B, 28 serotypes of echovirus, enteroviruses 68-71, and multiple new enteroviruses (beginning with enterovirus 73) that have been identified by molecular techniques.
- Human enteroviruses have been reclassified into four species designated A-D. Echoviruses 22 and 23 have been reclassified as parechoviruses 1 and 2 on the basis of low nucleotide homology and differences in viral proteins.
- The Picornaviridae family contains 12 genera Rhinoviruses

historically were placed in separate genus but are now considered to be members of Enterovirus genus.

87. All are true about severe combined immunodeficiency except:

a) B & T cell deficiency

b) Adenosine deaminase deficiency may occur

c) Affected child can survives beyond adolescence without treatment

d) Can transmit either as X-linked or autosomal recessive defect

e) Person susceptible to recurrent & severe infections

Correct Answer - C

Ans: (C) Affected child can survives beyond adolescence without treatment [Ref Ananthanarayan 9th, 174-75; Robbins 9th/239-4

- Adenosine deaminase deficiency: This the first immunodeficiency disease associated with an enzyme deficiency, Deficiency of both humoral & CMI response.
- Persons with SCID are extremely susceptible to recurrent, severe infections by a wide range of pathogens, including Candida albicans, Pneumocystis jiroveci, Pseudomonas, cytomegalovirus, varicella, and a whole host of bacteria.
- The most common form, accounting for 50% to 60% of cases, is X-linked, and hence SCID is more common in boys than in girls. The genetic defect in the X-linked form is a mutation in the common y-chain (yc) subunit of cytokine receptors.
- Autosomal recessive SCID: The remaining forms of SCID are autosomal recessive disorders. The most common cause of autosomal recessive SCID is a deficiency of the enzyme adenosine

deaminase (ADA). Other is Mutations of an intracellular kinaseJak3 & Mutations in recombinaseactivating genes (RAG)

- The SCID syndrome is inherited either as an X-linked or autosomal recessive defect, and affected infants rarely survive beyond 1 year without treatment.

88. True statement regarding NK cells are all except:

a) Also called as Large granular lymphocyte

b) Can kill viral infected cell

c) Forms first line of defence

d) Can kill tumour cell

e) No role in cell mediated immunity

Correct Answer - E

Ans: e. No role in cell mediated immunity [Ref Ananthanarayan 9th/137; Robbins 9th/192; Medical microbiology by Greenwood 16th/129; Harrison 19th/372e6-7]

- NK cells are endowed with the ability to kill a variety of virus-infected cells and tumor cells, without prior exposure to or activation by these microbes or tumors. This ability makes NK cells an early line of defense against viral infections and, perhaps, some tumors
- The function of NK cells is to destroy irreversibly stressed and abnormal cells, such as virus-infected cells and tumor cells. NK cells make up approximately 5% to 10% of peripheral blood lymphocytes.
- NK cell: They have CD 16 & CD 56Q on their surface. They release several cytolytic factors; one of these, perforins, which resembles complement C9, cause transmembrane pores through which cytotoxic factor enter the cell. NK cell activity is augmented by interferon0.
- N K cell: Form part of innate immunity as it does not require prior sensitisation by antigen. Their cytotoxicity is not antibody dependent or MHC restricted.

89. True about Swine flu:

a) Older bird influenza vaccine is equally effective in swine flu

b) Oseltamivir is effective in prevention

c) Zanamivir can be used for treatment

d) Influenza vaccine provides immunity just after vaccination.

e) None

Correct Answer - B:C

Ans: b. Oseltamivir is effective in prevention & c. Zanamivir can be used for treatment [Ref Park 23rd/156-59; Ananthanarayan 9th/503]

- **Swine influenza-** emerged in march 2009 as new H1N1 virus disease, Also called as swine origin influenza, It spread from person to person & caused a pandemic.
- **Pandemic influenza A (H1N1) 2009-** Currently susceptible to oseltamivir zanamivir but resistant to amantadine or rimantadine, Treatment: oseltamivir adult oral dose is 75 mg twice daily for 5 days. Zanamivir dose is two inhalation (2 x 5 mg) twice daily for 5 days
- Chemoprophylaxis: Oseltamivir is drug of choice for chemoprophylaxis. It should be given till 10 days after last exposure, Influenza vaccine only become effective about 14 days after vaccination. Those infected shortly before (1-3 days) or shortly after immunization can still get the disease., Vaccinated individuals can also get influenza caused by a different strain of influenza virus, for which the vaccine does not provide protection

90. Laboratory finding (s) of a patient having chronic hepatitis B infection with low viral load:

a) HBsAg

b) Anti-HBs

c) Anti-HBe

d) Anti-HBc IgG

e) HBeAg

Correct Answer - A:C:D

Ans: a. HBsAg , c. Anti-HBe & d. Anti-HBc IgG [Ref Ananthanarayan 9th/546-48; Park 23rd/215; Harrison 19th/2016-181

- The first virologic marker detectable in serum within 1-12 weeksQ, usually between 8-12 weeks, is HBsAg. Q
- In typical case, HBsAg becomes undetectable 1-2 months after the onset of jaundice and rarely persists beyond 6 months. After HBsAg disappears, antibody to HBsAg (anti-HBs) detectable in serum and remains detectable indefinitely thereafter.
- Testing for IgM anti-HBc may be useful to distinguish between acute or recent infection (IgM anti-HBc-positive) and chronic HBV infection (IgM anti-HBc-negative, IgG anti-HBc-positive).
- Another serologic marker that may be of value in patients with hepatitis B is HBeAg. Its principal clinical usefulness is as an indicator of relative infectivity. Because HBeAg is invariably present during early acute hepatitis B, HBeAg testing is indicated primarily during follow-up of chronic infection.

- Anti-HBs is rarely detectable in the presence of HBsAg in patients with acute hepatitis B, but 10-20% of persons with chronic HBV infection may harbor low-level anti-HBs

91. Which of the following vaccine is C/I in pregnancy:

a) BCG

b) Oral polio vaccine

c) Measles

d) Tetanus

e) Hepatitis B

Correct Answer - A:B:C

Ans. (A) BCG (B) Oral polio vaccine (C) Measles

[Ref Park 23rd/103, 216; Ananthanarayan 9th/83; Park 19th/97-98, 162, 170, 179; Harrison 17th/779; Asma Rahim community medicine Ist/141]

- Pregnancy° is another C/I, for live vaccines unless the risk of infection exceeds the risk of harm to the foetus of some live vaccines The only absolute C/I for killed vaccine is severe local or general reaction to a previous dose.
- Unless specifically indicated, BCG should not be given to patients suffering from generalized eczema°, infective dermatitis°, hypogammaglobulinemia, to those with a history of deficient immunity° (symptomatic HIV infection, known or suspected congenital immunodeficiency, leukemia, lymphoma or generalized malignant disease), patient under immunosuppressive treatment (corticosteroids, alkylating agents, antimetabolites, radiation) & pregnancy°
- Hepatitis B C/I: Individuals with a history of allergic reactions to any of the vaccines components; Neither pregnancy or lactation is a C/I

for use of this vaccine.

- OPV C/I; Immunocompromised, immune deficiencyQ, HIV diseaseQ & active viral infection; Acute infectious diseases, fever, diarrhoea & dysentery

92. Which of the following is not zoonosis:

a) Gonorrhoea

b) Pertussis

c) Anthrax

d) Brucella

e) Salmonella paratyphi B

Correct Answer - A:B

Ans: a. Gonorrhoea. & b. Pertussis *[Ref Ananthanarayan 9th/684; Ananthanarayan 8th/381, 322; Medical Parasitology by Paniker 6th/214; Park 23th/93, 276, 788*

- The term enteric fever includes typhoid fever caused by S. typhi & paratyphoid fever caused by S. paratyphi A, B & C. While Salmonella paratyphi A occur only in human beings, S. paratyphi B can infect animals such as dogs or cows, which may acts as source of human disease"
- Zoonosis: (Infection of animals communicable to man)
- Zoonosis is defined as an infection or infectious disease that is transmissible under natural conditions from vertebrate animals to man Zoonotic disease may be due to infections with viruses, bacteria, protozoa, helminths, fungi or arthropods.
- Zoonosis: 4 Categories: 1. Direct zoonosis, 2. CycloZoonosis, 3.Metazoonosis e.g., arbovirus infection, 4.`Saprozoonosis.

93. Which of the following is/are true regarding reference man & woman except:

a) Reference man is aged b/w 18-29 years & weighs 60kg

b) Reference man is aged b/w 18-29 years & weighs 55 kg

c) Reference man: he is engaged in 8 hours of occupation which usually involves moderate activity

d) Reference woman is aged b/w 18-29 years & weighs 50 kg

e) Reference woman: height of 1. 61 meter & a BMI of 21. 2

Correct Answer - B:D

Ans: b. Reference man is aged b/w 18-29 years & weighs 55 kg, & d. Reference woman is aged b/w 18-29 years & weighs 50 kg,*[Ref Park 23rd/632]*

Reference Indian Adult Man:

- Reference man is aged b/w 18-29 years & weighs 60kg with a height of 1. 73 meter & a BMI of 20.3; is free from disease & physically fit for active work, On each working day, he is engaged in 8 hours of occupation which usually involves moderate activity; while when not at work he spends 8 hours in bed, 4-6 hours in sitting & moving about, 2 hours in walking & in active recreation or household duties.
- Reference Indian Adult Woman: Reference woman is aged b/w 18-29 years, non pregnant non-lactating (NPNL) & weighs 55 kg with a height of 1. 61 meter & a BMI of 21.2, is free from disease & physically fit for active work.· On each working day she is engaged in 8 hour of occupation, which usually involves moderate activity, while when not at work she spends 8 hours in bed, 4-6 hours in sitting & moving about, 2 hours in walking & in active recreation or

household duties.

94. All of the following are true regarding water supply except:

a) Earlier recommended target of supply norm for rural area was 40 1pcd

b) 150-200 liters per capita is considered as an adequate supply to meet the needs for all urban domestic purpose

c) In 8th 5 -yr plan target set was 200 1pcd & accessibility of source of water < 200 meter for rural areas

d) For metro cities with population > 10 lakh, target is 150 1pcd

e) For municipality with population b/w 1-10 lakh, target is 100-135 1pcd

Correct Answer - C

Ans: c. In 8th 5 -yr plan target set was 200 1pcd & accessibility of source of water < 200 meter for rural areas,

[Ref Park 23rd/706; National Health Programmes of India by Jugal Kishore 7th/457-63; http://www. nih. ernet. in/rbis/india_information/ drinking. Htm]

- Water Requirement: The consumption of water depends upon climate conditions, standard of living & habits of people; A daily supply of 150-200 liters per capita is considered as an adequate supply to meet the needs for all urban domestic purpose.

Population Less than 20, 000	**Recommended water supply norm (lpcd)**
a. Population served by stand posts	40
b. Population provided with pipe connections	70

connections	
20, 000 to less than 100, 000	100
100, 000 to less than 1, 000, 00	100 (with no sewerage system) 135 (with sewerage system)
1, 000, 000 and above	150
Rural and hills (per elevation difference of 100 m)	40 or one hand-pump for 250 persons within a Walking distance of 1. 6 km
Rural – additional water for cattle in Desert evelopment Programme (DDP) areas.	30

95. Deprivation index includes:

a) Education

b) Income

c) Working child

d) Drop out of child from school

e) Physical disability

Correct Answer - A:E

Ans: a. Education & B Income & E, Physical disability

- Deprivation Index: The National Knowledge Commission (NKC) has proposed a Deprivation Index formula to assess the backwardness of students.
- The Deprivation Index proposes to look at the "social background, caste, religion and gender, family education history, family income, type of school, place of residence (distinguishing between urban and rural areas, and accounting for regional deprivation) and physical disability.

96. Most common cancer in females in India ?

a) Breast

b) Cervix

c) Ovary

d) Uterus

e) Oral cavity

Correct Answer - A

Ans. is 'a' i.e., Breast ***[Ref Park 24th/e p. 401]***

- Overall cancers in world : Breast > Prostate > Colorectal > Lung > Cervix
- Cancers in males in world : Prostate > Colorectum > Lung > Stomach > Urinary bladder
- Cancers in females in world : Breast > Colorectum > Cervix > Uterus > Thyroid
- Overall cancers in India : Breast > Cervix > Lip / oral cavity > Colorectum > Prostate
- Cancers in males in India : Lip / oral cavity > Prostate > Colorectum > Pharynx (other than nasopharynx) > Larynx
- Cancer in females in India : Breast > Cervix > Ovary > Uterus > Colorectum

97. Which of the following dyads are corrects:

a) Child sex ratio is 914 according to 2011 census

b) CBR- 21. 3 in 2012

c) General fertility rate-88. 6 in 2012

d) CDR- 7 in 2012

e) 18yr- Legal age of marriage for female

Correct Answer - A:D:E

Ans: (A) Child sex ratio is 914 according to 2011 census, (D) CDR- 7 in 2012, & (E) 18yr- Legal age of marriage for female, [*Ref Park 23rd/490; Ananthanarayan 9th/; Indian Year Book 2015/9; Indian Economy by Ramesh Singh 6th/Census 2011; Reddy 27th/73; Parikh 6th/2. 131]*

- General fertility rate- 80.3 (2012) (Park 23rd/490), Total fertility rate- 2.4 (2012) (Park 23rd/490), General marital fertility rate- 114. 9 (2012) (Park 23rd/490) Total marital fertility rate- 4.4 (2012) (Park 23rd/490), Crude birth rate-22. 1 per 1000 (2010); 21. 6 per 1000 (2012) (Park 23rd/490), Crude death rate- 7.2 per 1000 (2010); 7. 0 per 1000 (2012) (Park 23rd/490)
- Gross reproductive rate- 1. 1 (2012) (Park 23rd/490, "The Crude Birth Rate (CBR) at the national level during 2013 stands at 21.4, a decline of 0.2 points over 2012. The maximum CBR has been reported in Bihar (27.6) and the minimum in Kerala (14.7):' (Sample Registration System (SRS) survey)

98. Positive predictive value:

a) Numerator contains positive result by screening test

b) Denominator contains positive result by screening test

c) Numerator contains positive result by diagnostic test

d) Denominator contains positive result by diagnostic test

e) Numerator contains positive result by screening test & diagnostic test both

Correct Answer - B:E

Ans: (b)Denominator contains positive result by screening test & (e) Numerator contains positive result by screening test & diagnostic test both *[Ref Park 23rd/139; Biostatistics by Rao 2nd/70-71, 418; https:// onlinecourses. science. psu. edu/stat507/node/71; http://en. wikipedia. org/wiki/Positive_and_negative_predictive]*

- The positive and negative predictive values (PPV and NPV respectively) are the proportions of positive and negative results in statistics and diagnostic tests that are true positive and true negative results. The PPV and NPV describe the performance of a diagnostic test or other statistical measure. A high result can be interpreted as indicating the accuracy of such a statistic. The PPV and NPV are not intrinsic to the test; they depend also on the prevalence. The PPV can be derived using Bayes' theorem.
- Note: In PPV, numerator contains only true positive (not all positive) & denominator contains all positive.
- positive and negative predictive values are influenced by the prevalence of disease in the population that is being tested. If we test in a high prevalence setting, it is more likely that persons who

test positive truly have disease than if the test is performed in a population with low prevalence…

- Using the same test in a population with higher prevalence increases positive predictive value. Conversely, increased prevalence results in decreased negative predictive value

99. Incubatory carriers are:

a) Polio

b) Diphtheria

c) Anthrax

d) Pertussis

e) Hepatitis B

Correct Answer - A:B:C:E

Ans: a. Polio, b. Diphtheria. , c. Anthrax & e. Hepatitis B ***[Ref Park 23rd/95-96; Ananthanarayan 9th/72]***

- Incubatory carriers: Measles, mumps, polio, pertussis, influenza, diphtheria and hepatitis B, Convalescent carriers: Typhoid fever, dysentery (bacillary and amoebic), cholera, diphtheria and whooping cough.
- Healthy catiers: Poliomyelitis, cholera, meningococcal, meningitis, salmonellosis, and diphtheria
- Temporary carriers: May be included the incubatory convalescent and healthy carries.
- Chronic carriers: Typhoid fever, hepatitis B, dysentery, cerebro-spinal meningitis, malaria & gonorrhoea

100. Which of the following disease have carrier stage:

a) Staph. aureus

b) Group B Streptococcus

c) Hepatitis B

d) Typhoid

e) Haemophilus influenzae

Correct Answer - A:C:D:E

Ans: a. Staph. aureus c. Hepatitis B d. Typhoid. & E Haemophilus influenzae[Ref, Park 23ril/95-96; Ananthanarayan 9th/72, 203-05, 3i0, 216, 296]

- Staphylococcus carriage starts early in life, colonization of umbilical stump being very common in babies born in hospitals. Some carriers, called 'shedders' disseminate very large number of cocci for prolonged periods" (Ananthanarayan 9th/203-04)
- Haemophilus influenzae: Carriage in upper respiratory tract is common, particularly in young children, but such strains are usually non-capsulated & not responsible for acute invasive infection. Rifampicin is given to eradicate the carrier state.

101. True about Silicosis:

a) Birefringent particles are seen under polarized light in lung nodule

b) Fibrosis of lung

c) Stopping the exposure reverse the progression

d) Impairment of total lung capacity

e) Notifiable disease

Correct Answer - A:B:D:E

Ans: a. Birefringent particles are seen under polarized light in lung nodule b. Fibrosis of lung d. Impairment of total lung capacity & *e. Notifiable disease[Ref Park 23rd/806; Harrison 19th/1688]*

- The longer the duration of exposure, the greater the risk of developing silicosis It is found that the incubation period may vary from a few months up to 6 years of exposure, depending upon the above factors
- Pathologically, silicosis is characterized by a dense nodular fibrosis, the nodule ranging from 3 to 4 mm in diameter, Some of the early manifestations are irritant cough, dyspnea on exertion & pain in chest
- With more advanced disease, impairment of total lung capacity (TLC) is commonly present, A X-ray of chest shows "snowstorm" appearance in the lung fields, Silicosis is progressive & what is more important is that silicotics are prone to pulmonary tuberculosis, a conditional called "silico-tuberculosis"
- There is no effective treatment for silicosis. Fibrotic change that have already taken place cannot be reversed, It was made

notifiable disease under the Factories Act 1948 & Mines act 1952

- "Characteristics lung tissue pathology in nodular silicosis consists of fibrotic nodules with concentric `onion-skinned" arrangement of collagen fibers, central hyalinization, and a cellular peripheral zone, with lightly birefringent particles seen under polarized light.

102. True about grommet insertion:

a) Small plastic tube aerating middle ear

b) Maximum duration of grommet insertion is 5 month

c) Healing occurs more quickly after extrusion than after removal

d) It is placed anteriorly on tympanic membrane

e) Surgery is always needed to remove it

Correct Answer - A:C:D

Answer- (A) Small plastic tube aerating middle ear (C) Healing occurs more quickly after extrusion than after removal (D) It is placed anteriorly on tympanic membrane

If a grommet is inserted it may be placed posteriorly or anteriorly depending upon the preference of the surgeon.

The grommet is either rejected spontaneously or may be removed, preferably under an anaathetic because this is momentarily Painful.

At the second or certainly at the third myringotomy, most surgeon will insert a grommet.

Tympanoscelerosis is seen much more frequently in children.

Extrusion of the tube, the majority of iatrogenic TM perforations will heal.

103. True about Vasomotor rhinitis:

a) It is a type of allergic reaction

b) Clinically simulate nasal allergy

c) Nasal mucosa generally congested & hypertrophic

d) Hypertrophy of inferior turbinate is commonly present

e) Anti-histaminics & oral nasal decongestant are used in treatment

Correct Answer - B:C:D:E

Answer- (B) Clinically simulate nasal allergy (C) Nasal mucosa generally congested & hypertrophic (D) Hypertrophy of inferior turbinate is commonly present (E) Anti-histaminics & oral nasal decongestant are used in treatment

It is nonallergic rhinitis but clinically simulating nasal allergy with symptom of nasal obstruction, rhinorrhoea (sneezing).

All the tests of nasal allergy are negative

"VMR: Swelling (or hypertrophy) of inferior turbinate is frequently seen

Clinic features-

- Paroxysmal sneezing excessive rhinorrhoea, nasal obstruction & postnasal drip
- Nasal mucosa over the turbinates is generally congested & hypertrophic

Treatment-

- anti-histaminics, oral nasal decongestant; systemic steroid Surgical treatment: Relieving of nasal obstruction & vidian neurectomy.

104.

Structures preserved in radical neck dissection -

a) Internal jugular vein

b) Carotid Artery

c) Accessory nerve

d) Brachial plexus

e) Sternocleidomastiod muscle

Correct Answer - B:D
Answer- (B) Carotid Artery (D) Brachial plexus
Cervical lymphatics and lymph node
Internal jugular vein
Accessory nerve
Submandibular gland
Sternocleidomastiod muscle
Tail of parotid
Omohyoid muscle

105. Feature of Granulomatosis with polyangiitis:

a) Nasal polyp

b) Perforated Nasal septum

c) Persistant sinus

d) Crusting of nasal mucosa

e) Collapse of nasal bridge

Correct Answer - B:C:D
Answer- (B) Perforated Nasal septum (C) Persistant sinus (D) Crusting of nasal mucosa
Granulomatosis with polyangiitis (Wegener) is a distinct clinicopathologic entity characterized by granulomatous vasculitis of the upper and lower respiratory tracts together with glomerulonephritis.
Disseminated vasculitis involving both small arteries and veins may occur.
Nasal findings include crusting granulations, septal perforation & a saddle nose
Destruction of the septum with a characteristic implosion of the nasal bridge.

106. True about vestibular schwanomma:

a) U/1 hearing loss is common presentation

b) Mostly malignant

c) Most common tumour of CP angle

d) Sensorineural deafness

e) Uncapsulated

Correct Answer - A:C:D
Answer- (A) U/1 hearing loss is common presentation (C) Most common tumour of CP angle (D) Sensorineural deafness
Benign encapsulated, extremely slow growing tumors.
80% of all Cerebello-pontine angle tumors.
Earliest symptoms -Unilateral sensorineural deafness.
The three most common presenting symptoms include insidious hearing loss, high-pitched tinnitus, and disequilibrium.
Superior division of vestibular nerve – most common site of AN.

107. Tensor of vocal cord includes:

a) Arytenoid

b) Thyroarytenoid

c) Interarytenoid

d) Posterior cricoarytenoid

e) Cricothyroid

Correct Answer - E

Answer- E. Cricothyroid

Muscle of Larynx-

- Abductor Posterior cricoarytenoid
- Adductor (3 muscle given in Dhingra): Lateral cricoarytenoid, Interarytenoid (Transverse thyroarytenoid)
- Tensor Cricothyroid & vocalis
- All muscle of larynx are supplied by Recurrent Laryngeal nerves.
- The latter receive its innervation from External Laryngeal nerve.

Sensory -

- Above vocal cords - Internal Laryngeal nerve a branch of Superior Laryngeal nerve.
- Below vocal cords - Recurrent Laryngeal nerve

108. All are true about vocal cord nodule except:

a) Caused by phonotrauma

b) Commonly occur at Junction of middle & posterior 1/3

c) Common at junction of A 1/3 with P 2/3

d) Common in teachers

e) Treatment is speech therapy

Correct Answer - B

Answer- B. Commonly occur at Junction of middle & posterior 1/3

Vocal trauma when person speaks in unnatural low tones for prolonged periods or at high intensities.

Patients complains of hoarseness.

Vocal fatigue & pain in the neck on prolonged phonation are other common symptoms.

They mostly affect teachers, actors, vendors or pop singers

Surgery is required for large nodules or nodules of long standing in adults.

Speech therapy & re-education in voice production are essential to prevent their recurrence.

They appear symmetrically on the free edge of vocal cord, at the junction of anterior one-third, with the posterior two-third.

109. True about allergic fungal sinusitis:

a) Fungal hyphae is present in allergic mucin which is pathological hallmark

b) Invasion of the sinus mucosa with fungus

c) Allergic reaction to fungus

d) Antifungal treatment lead to improvement of symptom

e) Surgical clearance is mainstay of treatment

Correct Answer - A:C:E

Answer- (A) Fungal hyphae is present in allergic mucin which is pathological hallmark (C) Allergic reaction to fungus
(E) Surgical clearance is mainstay of treatment

It is an allergic reaction to the causative fungus & presents with sinunasal polyposis & mucin.

There is no invasion of the sinus mucosa with fungus .

Usually more than one sinus are involved on one or both sides.

Features of refractory sinusitis and nasal polyposis are present.

a Gell and Coombs type I (lgE-mediated) immune response to fungal antigens. Type III and IV immune responses may also be involved.

It consist of consisting of eosinophils, Charcot-Leyden crystals, and scattered fungal hyphae.

Diagnosis

CT scan shows mucosal thickening with hyperdense areas

The diagnosis of AFS is confrmed by demonstration of allergic mucin and culture of the fungus.

Treatment-

Surgical debridement and aeration of the involved sinus followed by

the use of systemic and topical intranasal corticosteroids.

110. True about conductive hearing loss:

a) Presbycusis

b) Cholestetoma

c) Acoustic neuroma

d) Perforation of tympanic membrane

e) Serous otitis media

Correct Answer - B:D:E

Answer- (B) Cholestetoma (D) Perforation of tympanic membrane (E) Serous otitis media

Caused by any disease process interfering with conduction of sound from the external ear to the stapedio-vestibular joint.

Commonest cause of hearing loss in children is Chronic secretory otitis media.

Perforation of tympanic membrane.

Disruption of ossicles-trauma to ossicular chain, CSOM, cholesteatoma

Fixation of ossicles-otosclerosis, tympanosclerosis

Eustachian tube blockage

111. True about Andy Gump deformity:

a) Occurs due defects of the anterior mandibular arch

b) Hemimandibulectomy can cause

c) Marginal mandibulectomy can cause

d) Treatment is adequate reconstruction of anterior mandibular arch with plate & graft

e) None

Correct Answer - A:B:D

Answer- (A) Occurs due defects of the anterior mandibular arch (B) Hemimandibulectomy can cause (D) Treatment is adequate reconstruction of anterior mandibular arch with plate & graft

An altered facial profile due to a mising lower jaw bone, or mandible Resection of the anterior mandibular arch produces the "Andy Gump" deformity.

Causes

- Marginal mandibulectomy
- Segmental mandibulectomy
- Arch preserving mandibulectomy
- Hemimandibulectomy

112. Foreign body in trachea & bronchus can cause:

a) Bronchiectasis

b) Atelectasis

c) Subcutaneous emphysema

d) Pneumothorax

e) All

Correct Answer - A:B:C:D

Answer- (A) Bronchiectasis (B) Atelectasis (C) Subcutaneous emphysema (D) Pneumothorax

Trachea-

- Choking, stridor, wheeze, cough, palpatory thud, audible slap.

Bronchi-

- Cough, wheeze & diminished air entry to lung forms a triad
- Respiratory distress with swelling of foreign body
- Lung collapse, emphysemo, pneumonitis,bronchiectosis or lung obscess are late feature.

113. Periosteum of orbit is strongly attached to:

a) Medial wall of orbit

b) Lateral wall of orbit

c) Floor of orbit

d) Roof of orbit

e) Sutures lines

Correct Answer - E
Answer- (E) Sutures lines
Periorbita: It is the periosteal lining of orbital walls. The periorbita is attached to the suture lines, fissures and foramina of the orbit. Posteriorly the periorbita is continuous with the optic nerve sheath.

114. Poor prognostic factor for retinoblastoma includes:

a) > 4 mm size of tumour

b) > 2mm size of tumor

c) Associated glaucoma

d) Undifferentiated tumour cells

e) Sclera involvement

Correct Answer - A:C:D:E
Answer- (A) > 4 mm size of tumour (C) Associated glaucoma (D) Undifferentiated tumour cells (E) Sclera involvement
(>4mm size of tumor) might have poor prognosis
Children with retinoblastoma who develop glaucoma tend to have a worse prognosis.
Optic nerve involvement, undifferentiated tumour cells and massive choroidal invasion.

115. True about A-V pattern heterotropia squint:

a) The terms A or 'V' pattern squint are labelled when the amount of deviation in squinting eye varies by more than 10° and 15°, respectively, between upward and downward gaze.

b) The terms A! or 'V' pattern squint are labelled when the amount of deviation in squinting eye varies by more than 20° and 25°, respectively, between upward and downward gaze.

c) Usually, overaction of the inferior oblique or weakness of superior oblique leads to a A pattern & overaction of the superior oblique or weakness of inferior oblique to an V pattern

d) Usually, overaction of the inferior oblique or weakness of superior oblique leads to a V pattern & overaction of the superior oblique or weakness of inferior oblique to an A pattern

e) Oblique muscle dysfunction is the commonest cause of AV pattern

Correct Answer - A:D:E

Answer- (A) The terms A or 'V' pattern squint are labelled when the amount of deviation in squinting eye varies by more than 10° and 15°, respectively, between upward and downward gaze. (D) Usually, overaction of the inferior oblique or weakness of superior oblique leads to a V pattern & overaction of the superior oblique or weakness of inferior oblique to an A pattern (E) Oblique muscle dysfunction is the commonest cause of AV pattern

The terms K or 'V' pattern squint are labelled when the amount of deviation in squinting eye varies by more than

deviation in squinting eye varies by more than
l0 and 15, respectively, between upward and downward gaze.
A and'V' esotropia:In A esotropia the amount of deviation increases in upward gazn and, decreases in downward gaze.
The reverse occurs in'V' esotropia.
'A and'V' exotropia:In "A" exotropia the amount of deviation decreases in upward gaze arad, increases in downward gaze.
The reverse occurs in'V' exotropia.

116. True about congenital esotropia:

a) Onset is only after 1 year of age

b) Amblyopia may develop

c) Angle of deviation is usually fixed & large

d) Surgery should done after 2 years

e) None

Correct Answer - B:C

Answer- (B) Amblyopia may develop (C) Angle of deviation is usually fixed & large

As a rule, the deviation is equal to or larger than 35 prism diopters (17.5°)Q and is comitant, measuring roughly the same in all gaze positions, distance and near (i.e. large & stable angle of deviation)

Amblyopia develops in 25-40% of cases

Treatment: Surgery is treatment of choice

Time of surgery: Surgery shotldbe done b/w 6 months to 2 years (preferably before 1 yr of age)

117. True about lens of eye:

a) Avascular

b) Growth takes place throughout life

c) Derive its nutrition from aqueous humour

d) Transparent

e) Ectodermal in origin

Correct Answer - A:B:D:E

Answer- (A) Avascular (B) Growth takes place throughout life (D) Transparent (E) Ectodermal in origin

Lens is a transparent, bi-convex, crystalline structure.

Lens capsule: Thickest at pre- equator region & thinnest at the posterior pole.

"The lens grow in size continuously throughout life.

The lens of the eye is developed from a thickened area of surface ectoderm, the lens placode.

Source of nutrient supply: The crystalline lens, being an avascular structure.

118. Features of ocular ischemic syndrome includes all except:

a) Microaneurysm

b) Dot & blot haemorrhage

c) More common in elderly women than men

d) Disc edema

e) Amaurosis fugax

Correct Answer - C:D

Answer- (C) More common in elderly women than men (D) Disc edema

Ocular ischaemic syndrome refers to a rare condition resulting from chronic ocular hypoperfusion secondary to carotid artery stenosis.

Risk factors- male gender, old age (60-90 years) smoking, for carotid stances hypertension,

Clinical features-

- Amaurosis fugax
- Retinal artery occlusion
- Transient cerebral ischaemic attacks
- Usually unilateral
- Pain-ocular or periorbital
- Fundus examination may reveal:
- Retina show midperipheral dot and blot haemorrhages, microaneurysms and cotton wool spots.

119. All are ocular emergency except:

a) Eye injury

b) Sympathetic ophthalmitis

c) Retinal artery occlusion

d) CRVO

e) Bacterial endophthalmitis

Correct Answer - D

Answer- (D) CRVO

Comon ophthalmic emergencies are :-

- Acute congestive glaucoma
- Ruptured globe
- Ulcerative or traumatic corneal diseases
- Optic neuritis
- Hyphema
- Endophthalmitis
- Acute blindness
- Orbital cellulitis
- Eyelid or conjunctival laceration
- Central retinal arterial occlusion (CRAG)
- Anterior lens subluxation
- Retinal detachment

120. All are true regarding cornea except:

a) Endothelium help in maintaining dehydrated state

b) Oxygen is mostly derived by epithelium directly from the air through tear film

c) Glucose supply for corneal metabolism is mainly derived from the aqueous

d) Corneal thickness is more at center than periphery

e) Richly vascular

Correct Answer - D:E
Answer- (D) Corneal thickness is more at center than periphery (E) Richly vascular
Outer & fibrous coat of EYEBALL.
Transparent, anterior 1/6th segment of eyeball.
Non-vascular
Most of the refraction in eye occur at anterior surface of cornea (air-tear interface) ,i.e., Anterior surface of cornea is the most important refractive structure of eye.
The most actively metabolising layers of the cornea are epithelium & endothelium.

121. Pulmonary blood flow increased in all except:

a) ASD

b) VSD

c) TOF

d) Transposition of great arteries (TGA)

e) PDA

Correct Answer - C
Answer- (C) TOF
Truncus Arteriosus, complete TGA and TAPVC are associated with increased pulmonary blood flow.
TOF- When the RV outllow obstruction is severe, pulmonary blood llow is reduced marked.

122. Cauda equina is differentiated from conus medullaris by presence of:

a) Ankle jerk may lost

b) Knee jerk may lost

c) Motor changes

d) Bladder & bowel involvement as initial presentation

e) Root pain

Correct Answer - B:C:E

Answer-(B) Knee jerk may lost (C) Motor changes (E) Root pain

Conus Medullaris vs. Cauda Equina Syndromes

	Conus medullaris syndrome	**Cauda equina syndrome**
Vertebral level	L1-L2	L2-sacrum
Spinal level	Sacral cord segment and roots	Lumbosacral nerve roots
Presentation	Sudden and bilateral	Gradual and unilateral
Radicular pain	Less severe	More severe
Low back pain	More	Less
Motor strength	Symmetrical, less marked hyperreflexic distal paresis of LL,fasciculation	More marked asymmetric areflexic paraplegia, atrophy more common
Reflexes	Ankle jerks affected	Both knee and ankle jerks affected

Sensory	Localized numbness to perianal area, symmetricaland bilateral	Localized numbness at saddle area, asymmetrical, unilateral
Sphincter dysfunction	Early urinary and fecal incontinence	Tend to present late
Impotence	Frequent	Less frequent

123. Which of the following is/are the feature (s) of headache due to increase in intracranial pressure:

a) Increase on supine position

b) Most commonly presents as severe acute headache

c) Pulsatile in nature

d) Throbbing character

e) Analgesics are not very helpful

Correct Answer - A:E

Answer- (A) Increase on supine position (E) Analgesics are not very helpful

"Headache due to intracranial pathologr or raised intracranial tension worsens during coughing straining or adopting the head in low posture.

Generalized headache that is present on waking and improves as the day goes on.

Headache on rising in the morning or nocturnal headache is ako characteristic of obstructive sleep apnea or poorly controlled hypertension.

Corticosteroid are recommended in acute headache due to raised ICP.

124. Early diastolic murmur is seen in which condition(s) -

a) Mitral stenosis

b) Tricuspid stenosis

c) Aortic regurgitation

d) Pulmonary regurgitation

e) Atrial myxoma

Correct Answer - C:D

Answer- (C) Aortic regurgitation (D) Pulmonary regurgitation

- Aortic regurgitation- The murmur is low intensity, high-pitched, best heard over the left sternal border or over the right second intercostal space.
- An Austin Flint murmur is usually associated with significant aortic regurgitation.
- Pulmonary regurgitation- Pulmonary regurgitation is most commonly due to pulmonary hypertension (Graham- Steell murmur)
- Left anterior descending artery stenosis- This murmur, also known as Dock's murmur.

125. All are true about use of triptans in migraine except:

a) Used in prophylaxis of migraine

b) Efficacy increased with concomitant use of ergot

c) Can be given for long term where NSAIDS is not effective

d) Given when NSAIDS is not effective

e) None

Correct Answer - A:B:C

Answer- (A) Used in prophylaxis of migraine (B) Efficacy increased with concomitant use of ergot (C) Can be given for long term where NSAIDS is not effective

TriPtans are rapidly effective agent for aborting attacks.

Oral Stimulation of S-HT1B/1D receptors can stop an acute migraine attack.

Triptans are selective 5-HT1B/ lD receptor agonists.

126. All are true about renal artery stenosis except:

a) ACE inhibitors can be used in bilateral renal artery stenosis

b) ACE inhibitors can be used in unilateral renal artery stenosis

c) ACE inhibitors are best drug to control DM associated hypertension

d) Excision & Grafting is treatment of choice

e) Angioplasty with or without stenting, and surgical bypass used only in refractory cases

Correct Answer - A:D

Answer- (A) ACE inhibitors can be used in bilateral renal artery stenosis (D) Excision & Grafting is treatment of choice

ACE inhibitors are contraindicated in bilateral renal artery stenosis.
ACE inhibitors are useful in renovascular hypertension.
ARF is precipitated by ACE inhibitors in patients with b/l renal stenosis
Atherosclerotic is chemic renal disease accounts for nearly all cases of renal artery stenosis.
Renal angiography is the gold standard for diagnosis.

127. Which of the following causes glomerular proteinuria:

a) DM

b) Amyloidosis

c) Multiple myeloma

d) ACE inhibitors decreases proteinuria

e) All

Correct Answer - A:B:D
Answer- (A) DM (B) Amyloidosis (D) ACE inhibitors decreases proteinuria
Nephrotic syndrome
Membranoproliferative glomerulonephritis, membranous nephropathy
Hepatitis B and C nephropathy, HIV nephropathy
Reflux nephropathy
Amyloidosis
Postinfectious glomerulonephritis, lgA, nephropathy, Henoch-Schonlein nephritis, lupus nephritis, Alport ,syndrome

128. All are true about Chylous pleural effusion except:

a) Stain positive with sudan III

b) Cutoff level of triglyceride for chylous effusion is > 150 mg/dl

c) Cutoff level of triglyceride for chylous effusion is > 50 mg/ dl

d) Milky colour disappears with alkali

e) Milky colour disappears with ether

Correct Answer - B:C

Answer- (B) Cutoff level of triglyceride for chylous effusion is > 150 mg/dl (C) Cutoff level of triglyceride for chylous effusion is > 50 mg/ dl

Pleural fluid- milky white, triglyceride levels > ll0 mgl dL

Chylomicrons is also diagnostic of a chylothorax & can be used as a confirmatory test if the triglyceride levels are equivocal.

On microscopy, fat globule wiII clear with alkali or ether & will stain with Sudan III.

The most common cause of chylothorax is trauma.

129. Chylous pleural effusion occur in:

a) T. B

b) Malignancy

c) SLE

d) Thoracic duct injury

e) Congestive heart failure

Correct Answer - A:B:D

Answer- (A) T. B (B) Malignancy (D) Thoracic duct injury

- TB
- Malignancy
- Lymphoma
- Filariaisis
- Myxoedema
- Trauma

130. Features of parkinsonism include all except -

a) Intention tremors

b) Flaccidity

c) Mask face

d) Rigidity

e) Resting tremors

Correct Answer - A:B

Answer- A, B, Intention tremors, Flaccidity

- Four cardinal features of PD that can be grouped under the acronym TRAP-
- Tremor at rest, Rigidity, Akinesia (or bradykinesia) and Postural instability.

131. Which of the following causes massive splenomegaly:

a) CLL

b) Multiple myeloma

c) Follicular lymphangitis

d) Gaucher's disease

e) Sjogren's syndrome

Correct Answer - A:D

Answer- (A) CLL (D) Gaucher's disease

The causes of massive splenomegaly include:

- Thalassemia
- Visceral leishmaniasis (Kala Azar)
- Schistosomiasis
- Chronic myelogenous leukemia
- Chronic lymphocytic leukemia
- Lymphomas
- Hairy cell leukemia
- Myelofibrosis
- Polycythemia vera
- Gauchers disease
- Niemann Pick disease
- Sarcoidosis
- Autoimmune hemolytic anemia
- Malaria
- Syphilis

132. ACTH dependent cushing syndrome is/are caused by:

a) Pituitary adenoma

b) Adrenal adenoma

c) Adrenocortical carcinoma

d) Pheochromocytoma

e) All

Correct Answer - A:D
Answer- (A) Pituitary adenoma (D) Pheochromocytoma
Cushing syndrome is caused to ACTH- producing adenoma.
ETIOLOGY

- Pituitary corticotrope adenomas
- Iatrogenic hypercortisolism (most common)
- Ectopic tumour ACTH production
- Cortisol- producing adrenal adenomas
- Adrenal carcinoma
- Adrenal hyperplasia
- Pheochromocytoma

133. Hyperglycemic Hyperosmolar state (HHS) is characterized by:

a) Hyperglycemia

b) Acidosis

c) Dehydration

d) Coma

e) None

Correct Answer - A:C:D
Answer- (A) Hyperglycemia (C) Dehydration (D) Coma
This is a life threatening complication of diabetes mellitus characterized by marked hyperglycemia, dehydration, coma and hyperosmolarity with or without mental obtundation in the absence of significant ketoacidosis

134. Which of the following is true about Pheochromocytoma:

a) Sestabimi scan is done before surgery

b) Mostly are malignant

c) Surgery is mainstay of treatment

d) Prior a blocker is given

e) Prior p blocker is given

Correct Answer - C:D:E

Answer- (C) Surgery is mainstay of treatment (D) Prior a blocker is given (E) Prior p blocker is given

Sestambi scanning is the preferred way in which to localize diseased parathyroid glands prior to operation.

Pheochromocytoma & paraganglioma are catecholamines producing tumours derived from sympathetic and parasympathetic nervous system.

They are derived from Chromaffin cells.

Treatment-

- Laproscopic resection
- Alpha adrenoreceptor blocker (phenoxybenzamine)- block catecholamine excess
- Beta blockade- tachycardia or arrhythmias
- Central venous catheter & invasive arterial monitoring used.
- Adult Dose of Clonidine for Clonidine Suppression test is 0.3 mg (0.3mg/70kg) administered orally. Clonidine Suppression Test
- Complete tumor removal is the uhimate therapeutic goal, ,can be achieved by partial or total adrenalectomy.

135. Treatment of crohn's disease includes:

a) Steroid

b) 5-Aminosalicylic acid agents

c) Azathioprine

d) Daclizumab

e) Adalimumab

Correct Answer - A:B:C:E

Answer- (A) Steroid (B) 5-Aminosalicylic acid agents (C) Azathioprine (E) Adalimumab

Treatment-

- 5-ASA agents (mesalamine) not used now
- Mild to moderate disease involving terminial ileum or ascending colon– Budesonide
- Severe disease involving proximal small intestine or distal colon – Prednisone
- Immunomodulators (Azathioprine, mercaptopurine, methotrexate) and for maintenance of remission or
- induction of remission along with steroids in severe disease
- Anti-TNF therapy (Infliximab, adalimumab, certolizumab) -first-line agents to induce remission in moderate to severe disease and to maintain remission
- Anti-integrins: Natalizumab (anti-a4 integrin) – if no response to anti-TNF agents

136. Energy selection in CPR according to AHA 2010 guideline is/are:

a) Monophasic 120-200J, Biphasic 360 J

b) Monophasic 200 J, Biphasic 360J

c) Monophasic 120 J, Biphasic 200J

d) Monophasic 360 J, Biphasic 120-200 J

e) Monophasic 360J, Biphasic 220J

Correct Answer - D
Answer- (D) Monophasic 360 J, Biphasic 120-200 J
2010 AIIA guideline for CPR Contrary to previous recommendation of 3 succesive shocks (200, 300, 360J) nowadays lst & all subsequent shocks are of 360 Joules with monophasic & 120-200 loules with biphasic.

137. Which of the following lesion represent tertiary syphilis:

a) Condylomata lata

b) Matted lymph node

c) Condylomata acuminata

d) Tabes dorsalis

e) Gumma formation

Correct Answer - D:E
Answer- (D) Tabes dorsalis (E) Gumma formation
Gumma, neurosyphilis/tabes dorsalis
Ostitis, periostitis
Aortitis, aortic insufficiency, coronary stenosis and nocturnal angina

138. Which of the following statement (s) is/are correct regarding syphilis in pregnancy & congenital syphilis:

a) Foetus has more chance of infection in 3rd T. M

b) Syphilis can be prevented by giving penicillin in neonate

c) If infant showing signs of syphilis, he/she should be given single dose of crystalline penicillin

d) If infant does not have any signs of syphilis, he/she should be given benzathine penicillin

e) Foetus is most likely affected if mother is suffering from primary or secondary syphilis than late syphilis

Correct Answer - A:B:D:E

Answer- (A) Foetus has more chance of infection in 3rd T. M (B) Syphilis can be prevented by giving penicillin in neonate (D) If infant does not have any signs of syphilis, he/she should be given benzathine penicillin (E) Foetus is most likely affected if mother is suffering from primary or secondary syphilis than late syphilis

Congenital Syphilis

(a) Early Congenital Syphilis:

- Snuffles (rhinitis)is the earliest feature.
- Lesions are vesiculobullous and snail track ulcers on the mucosa

(b) Late Congenital Syphilis:

- Characterized by Hutchinson's triad interstitial keratitis
- 8th nerve deafness
- Hutchinson's teeth i.e. pegged central upper incisors

- Saddle nose, sabre tibia, mulberry molars
- Bull dog's jaw (protrusion of jaw)
- Rhagades (linear fissure at mouth, nares)
- Frontal bossing, hot cross bun deformity of skull
- Clutton's joint (painless swelling of joints, most commonly both knee)

Syphilis in pregnancy-

- All pregnant women should have a nontreponemal serologic test for syphilis at the time of the first prenatal visit.
- The only acceptable treatment for syphilis in pregnancy is penicillin in dosage schedules appropriate for the stage of disease.
- Penicillin prevents congenital syphilis in 90% of cases, even when treatment is given late in pregnancy.
- Syphilitic women to her foetus may occur at any stage of pregnancy.

139. Ascitic fluid with T SAAG & Talbumin is/are found in:

a) T. B

b) CHF

c) Cirrhosis

d) Pancreatitis

e) Nephrotic syndrome

Correct Answer - B
Answer- B. CHF
Serum-ascites albumin gradient (SAAG) is useful for distinguishing ascites caused by portal hlpertension from nonportal hypertensive ascites.
A SAAG >1. 1 g/dl- reflects the presence of portal hypertension
A SAAG <1. 1 g/dl- tuberculous peritonitis, peritoneal carcinomatosis, or pancreatic ascites.
For high-SAAG (>1.1) ascites-
An ascitic protein level of >2. 5 g/dl indicates that the hepatic sinusoids occurs in cardiac ascites, sinusoidal obstruction syndrome, or early Budd-Chiari syndrome.
An ascitic protein level <2. 5 g/dl, indicates cirrhosis, late Budd-Chiari syndrome, or massive liver metastases.

140. For cancer pain, ladder 2 step in WHO's pain step ladder includes:

a) Oral morphine

b) Injectable morphine

c) Codeine

d) Fentanyl

e) Tramadol

Correct Answer - C:E
Answer- (C) Codeine (E) Tramadol
Second step: Intermediate strength opioids: codeine, tramadol or dextropropoxyphene.

141. True about peptic ulcer:

a) H. pylori causes peptic ulcer

b) Eradcation therapy better than PPI therapy

c) Eradication therapy also contain PPI

d) Duodenum ulcer is more commonly associated with H. pylori than gastric ulcer

e) Gastric ulcer is more commonly associated with H. pylori than duodenal ulcer

Correct Answer - A:B:C:D

Answer- (A) H. pylori causes peptic ulcer (B) Eradcation therapy better than PPI therapy (C) Eradication therapy also contain PPI (D) Duodenum ulcer is more commonly associated with H. pylori than gastric ulcer

H pylori infection.

Medical treatment: Proton pump inhibitors or H2 blockers; H.pylori eradication

Eradication of H. pylori and therapy/prevention of NSAID-induced disease is the mainstay of treatment.

Combination regimens that use two or three antibiotics with a proton pump inhibitor.

142. Features of Constrictive pericarditis which differentiate with restrictive cardiomyopathy:

a) Prominent y descent more common

b) Pericardial knock

c) Third heart sound

d) Thickened pericardium

e) Right ventricular hypertrophy

Correct Answer - A:B:D

Answer- (A) Prominent y descent more common (B) Pericardial knock (D) Thickened pericardium

Diastolic pressure are equalized in constrictive pericarditis but not in Restrictive cardiomyopathy Thickenned pericardium is seen in constrictive pericarditis but not in Restrictive cardiomyopathy Right ventricular size is usually normal in both and pericardial effusion is usually absent in both, RV size and pericardial effusion, therefore can not distinguish between constrictive pericarditis and Restrictive cardiomyopathy.

143. CURB-65 criteria for severe pneumonia includes:

a) Confusion

b) Uremia

c) Respiratory rate 30/min

d) Systolic Blood pressure 80 mmHg

e) Diastolic blood pressure, systolic 50 mmHg

Correct Answer - A:B:C

Answer- (A) Confusion (B) Uremia (C) Respiratory rate 30/min

The CURB-65 assesses five-

- Confusion
- Uremia
- Respiratory rate
- Blood pressure
- Age >65

144. Which of the following feature favours emphysema rather than interstitial fibrosis:

a) TFEV1

b) LFEV1/FEV6

c) TRV

d) TTLC

e) 4,Peak expiratory flow

Correct Answer - B:C:D:E

Answer- (B) LFEV1/FEV6 (C) TRV (D) TTLC (E) 4,Peak expiratory flow

Interstitial lung disease like interstiul fibrosis are characterized by a normal or elevated FEV IFVC ratio which is characteristically> 0.7. PFT results comparing obstructive and restrictive disease (may not be applicable for all forms of lung (disease)

FEVI=forced expiratory volume in one second; FVC=Forced Vital Capacity; FEF25_75=Forced Expiratory Flow at 25%=75% vital capacity; TLC= Total Lung Capacity; DLCO= Diffusion Capacity of the Lung for Carbon monoxide.

145. Not true about kaposi sarcoma -

a) Caused by HHV-8

b) Classical form is associated with HIV

c) Is an angioproliferative disorder

d) Monocentric tumor

e) May involve GIT

Correct Answer - B:D

Answer- (B) Classical form is associated with HIV
(D) Monocentric tumor

- KaPosi sarcoma is multicentric vascular tumor caused by Human herpes virus-8 (HHV-8) also called Kaposi sarcoma associated herpes virus (KSHV).

There are four forms of Kaposi sarcoma-

l) Classical form (European or Mediterranean KS)

- There is no association with HIV. There are skin plaques and nodules.

2) African form (Endemic form or Equatorial form)

- There is no association with HIV. There is lymphadenopathy

3) Transplant associated (immunosuppression associated) KS
4) AIDS cssociated (Epidemic) KS

- It is associated with HIV infecfion

146. Which of the following is/are feature(s) of hypomagnesemia

a) Tremors

b) Improvement seen with calcium supplementation

c) Atheroid movements

d) Seizure

e) Bradycardia

Correct Answer - A:B:C:D

Answer- (A) Tremors (B) Improvement seen with calcium supplementation (C) Atheroid movements (D) Seizure

Clinical features are mostly:

1. Neuromuscular & CNS hyperirritability: Tetany, Seizura, tremer, muscle weakness, ataxia, nystagmus, vertigo, atheroid movement, depression, irritability, delirium and psychosis.
2. Cardiac arrhythmias : Sinus tachycardia, other supraventricular tachycardia, and ventricular arrhythmias.

147. Feature of unstable angina:

a) T Troponin

b) Transient elevation of ST segment

c) Depression of ST segment

d) Q wave

e) T wave inversion

Correct Answer - B:C:E

Answer- (B) Transient elevation of ST segment (C) Depression of ST segment (E) T wave inversion

In UA, ST-segment depression, transient ST-segment elevation, and/or T- wave inversion occur in 30 to 50% of patients.

The Presence of new ST-segment deviation.

T-wave changes are sensitive for ischemia deep T- wave inversions.

148. All are true about rheumatoid factor except:

a) Also found in Sjogren syndrome

b) May also present normally

c) It is basically IgM

d) Its presence is diagnostic of rheumatoid arthritis

e) None

Correct Answer - A:B:C
Answer- (A) Also found in Sjogren syndrome (B) May also present normally (C) It is basically IgM
-IgM, IgG, and IgA isotypes of RF occur in sera from patients with RA.
Serum IgM RF has been found in 75-80% of patients with RA.
Found in other connective tissue diseases, such as primary Sjogren's syndrome, systemic lupus erythematosus, and type II mixedessential cryoglobulinemia.
Anti-CCP antibodies are the most specific blood test for rheumatoid arthritis

149. Which of the following is the feature (s) of posterior cranial fossa fracture:

a) Bleeding from ear

b) Discolouration of skin & collection of blood occur in the region of mastoid process

c) Boggy swelling in the nape of the neck

d) Bleeding from nose

e) CSF rhinorrhoea

Correct Answer - B:C

Answer- (B) Discolouration of skin & collection of blood occur in the region of mastoid process (C) Boggy swelling in the nape of the neck

Extravasation of blood in the suboccipital region causing boggy swelling in the nepe of the neck.

9th, 10th & llth cranial nerves may be inyolved

Battle sign: Discolouration of siin & collection of blood occur in the region of mastoid process.

150. Symptom of overactive bladder are:

a) Increased day time frequency

b) Nocturia

c) Hesitancy

d) Dysuria

e) Urgency

Correct Answer - B:E

Answer- (B) Nocturia (E) Urgency

Symptoms of overactive bladder (OAB) result from sudden and involuntary contractions ofthe bladder muscles, leading to-

- Sudden need to urinate (urinary urgency) and/or
- Urinary incontinence (leakage of urine)
- urinary frequency (having to urinate often) &
- Nocturia (urinating frequently at night)

151. True about undescended testis

a) U/L more common than B/L

b) Missing testis on palpation may be due to agenesis

c) 10% bilateral

d) Undescended testis may be associated with absent kidney

e) Stephen fowler technique involves renal artery ligation

Correct Answer - A:B:C:D

Answer- A,U/L more common than B/L B,Missing testis on palpation may be due to agenesis C, 10% bilateral D,Undescended testis may be associated with absent kidney

- Cryptorchidism is the most common congenital abnormality of the genitourinary tract.
- Cryptorchidism means hidden testis.
- An absent testis may be due to agenesis or atrophy secondary to intrauterine vascular compromise also known as the "vanishing testis syndrome".
- Bilaterally absent testes is anorchia which is 10% cases.
- More common on Right Side.
- Complications of undescended testes
- Torsion can be seen in incomplete testicular descent
- Sterility is seen in bilateral cases (especially intra-abdominal testes)
- Incomplete testicular descent predisposes to malignant disease; cancer is more common in an incompletely descended testes-orchidopexy may or may not diminish the risk.
- Atrophy of an inguinal testes before puberty may possibly be caused by recurrent minor trauma.

152. True about Psoas abscess:

a) Hip extension increases pain

b) Staphylococcus is most common cause

c) Presented with back pain

d) TB can cause

e) Causes referred pain to the hip & groin

Correct Answer - A:C:D:E

Answer- (A) Hip extension increases pain (C) Presented with back pain (D) TB can cause (E) Causes referred pain to the hip & groin

Psoas abscesses may be primary or secondary

Primary psoas abscesses, which occur without associated disease of other organs, are caused by hematogenous spread of Staphylococcus aureus.

The most common cause is Crohn's disease.

Mycobacterium tuberculosis as the major causative organism.

153. All are true about Abdominal aneurysm except:

a) Atherosclerosis is the commonest cause

b) Most commonly arises from above the level of renal artery

c) For asymptomatic aneurysms, repair is indicated if the diameter is >5.5 cm

d) Endovascular placement of an aortic stent is use for repair

e) Mostly asymptomatic

Correct Answer - B

Answer- B. Most commonly arises from above the level of renal artery

- 90% of abdominal aortic aneurysm (AAA) of size > 4cm in diameter is due to atherosclerosis.
- Male are more frequently affected than female.
- The aneurysm most commonly arises below the level of renal artery.

154. True about incisional hernia:

a) Incidence is about 10-15% of all abdominal wall hernia

b) Less chance in obese person

c) More common in woman

d) Commonly caused by lower abdominal surgery

e) May occur due to improper healing of abdominal incision

Correct Answer - A:C:D:E

Answer- (A) Incidence is about 10-15% of all abdominal wall hernia (C) More common in woman (D) Commonly caused by lower abdominal surgery (E) May occur due to improper healing of abdominal incision

These arise through a defect in the musculofascial layers of the abdominal wall in the region of a postoperative scar.

Incisional hernias are twice as connnon in women as in men.

"Incisional hernias account for l5% to 20% of all abdominal wall hernias.

Etiology-

Poor surgical technique. Inadequate fascial bites, tension on the fascial edges.

Age

Obesity

ascites,

pregnancy,

155. Which of following is/are true in accordance to revised gastric carcinoma staging:

a) All gastric tumours whose epicentre is within 5 cm of the gastrooesophageal junction and extend into the oesophagus are now classified according to the revised gastric staging

b) 5 Node involvement- N2

c) T1N2M0- Stage II

d) Peritoneal spread is MO

e) Any tumour that perforates the serosa is now classified as T4 disease

Correct Answer - B:C:E

Answer- (B) 5 Node involvement- N2 (C) T1N2M0- Stage II (E) Any tumour that perforates the serosa is now classified as T4 disease

Stage	TNM	Features
0	Ti,NOMO	Node negative; limited to mucosa
IA	T1NOMO	Node negative; invasion of lamina propria or submucosa
IB	T2NOMO T1N1M0	Node negative; invasion of muscularis propria
II	T1N2M0 T2N1M0	Node positive; invasion beyond mucosa but within wall
	T3NOMO	Node negative; extension through wall
IIIA	T2N2M0 T3N1-2M0	Node positive; invasion of muscularis propria or through wall

IIIB	T4N0-1M0	Node negative; adherence to surrounding tissue
IIIC	T4N2M0	Node positive; adherence to surrounding tissue
	T1-4N0-2 M1	Distant metastases

156. Dumping syndrome is characterized by all of the following except:

a) Colic

b) Tremors and giddiness

c) Hyperglycemia

d) Epigastric fullness

e) None

Correct Answer - C
Answer- C. Hyperglycemia
Dumping syndrome is a relatively rare disorder in which the stomach contents are delivered too quickly to the small intestine.
It occurs as a physiological reaction to the consumption of too much simple or refined sugar in some persons, when simple sugar exits the stomach too rapidly it attracts fluid into the upper intestine, and the blood volume decreases as it attempts to absorb the sugar.
The vasomotor symptoms comprise general weakness, pallor, sweating, palpitation and light headedness.
symptoms of gastrointestinal disturbance such as epigastric discomfort, nausea, vomiting and possibly an episode of diarrhea is observed.
The biochemical changes that occur in dumping syndrome are hyperinsulinaemia followed by hypoglycaemia

157. Which of the following is/are true Boerhaave syndrome:

a) Occur due to increase in thoracic esophageal pressure

b) More common on left lateral wall of the esophagus

c) Caused by severe vomiting

d) Causes hudro-pnemothorax as complication

e) May be misdiagnosed as myocardial infarction

Correct Answer - A:B:C:D:E

Answer- (A) Occur due to increase in thoracic esophageal pressure (B) More common on left lateral wall of the esophagus (C) Caused by severe vomiting (D) Causes hudro-pnemothorax as complication (E) May be misdiagnosed as myocardial infarction

Boerhaave's syndrome is when a person vomits against a closed glottis causing full thickness oesophageal rupture.

Pressure in oesophagus results in bursting in the lower third which is commonest site.

Clinical features-

- Severe chest pain
- Abdominal pain
- Subcutaneous emphysema
- Shock
- Hanmann's sign- crunching effect of chest
- Mackel's triad- vomiting, chest pain & subcutaneous emphysema
- Most perforations are found above the GEJ on the left lateral wall of the esophagus.

- The pressure in the esophagus rapidly increases & it bursts at its weakcst point in the lower third
- MC site of perforation is at the midthoracic esophagus on the right side at the level of the azygos vein.
- May be misdiagnosed as myocardial infarction or as perforated Peptic ulcer or pancreatitis.

158. Features of Reidel thyroiditis are:

a) Presents as a goitre

b) Painful

c) Associated with IgG4 related systemic diseases

d) Fibrosis of interstitial thyroid stroma

e) Present with hypothyroidism

Correct Answer - A:C:D

Answer- (A) Presents as a goitre (C) Associated with IgG4 related systemic diseases (D) Fibrosis of interstitial thyroid stroma

It is a rare disorder that typically occurs in middle-aged women.
It presents with an insidious, painless goiter wilh local symptoms due to compression of the esophagus, trachea, neck veins, or recurrent laryngeal nerves.
Dense fibrosis disrupts normal gland architecture.
Thyroid dysfunction is uncommon.
Treatment is directed to surgical relief of compressive symptoms.
Tamoxifen may also be beneficial

159. True about Sick euthyroid syndrome:

a) Normal TSH

b) T4 to T3 conversion impaired

c) High TSH

d) T4 high

e) Increased reverse T3

Correct Answer - A:B:E

Answer- (A) Normal TSH (B) T4 to T3 conversion impaired (E) Increased reverse T3

The most common hormone pattern in sick euthyroid syndrome (SES) is a decrease in total end unbound T3 levekl(low T3 syndtome) with normal levels of T4 aad TSH.

160. All are true about salivary gland tumor except:

a) Parotid gland is most common site of involvement

b) Warthin tumour almost always found in the parotid gland

c) Minor gland tumours are mostly malignant

d) Parotid tumours are mostly malignant

e) Superficial parotidectomy is done in pleomorphic adenoma

Correct Answer - D

Answer- D. Parotid tumours are mostly malignant

"Warthin's tumor arises almost exclusively in the parotid gland (the only tumor virtually restricted to the parotid)"

The parotid gland is the most common site for salivary tumours.

Tumours involving fhe sublingual gland are extremely rare and are usually.

Tumours of the submandibular gland are uncommon and usually present as a slow-growing painless swelling within the submandibular triangle

161. True about cleft lip:

a) Occurs d/t defect in fusion of frontal & nasal process

b) Only bilateral cases are associated with cleft palate

c) Repaired in neonatal period

d) Unilateral cases are more common in left side

e) All

Correct Answer - D

Answer- D. Unilateral cases are more common in left side

A midline cleft lip is present when there is failure of fusion between Medial nasal processes.

Left side unilateral cleft is common.

Commonest type of cleft lip is Combined with cleft palate.

Clefting of the lip and/or palate is felt to occur around the eighth week of embryogenesis, either by failure of fusion of the medial nasal process and the maxillary prominence or by failure of mesodermal migration and penetration between the epithelial bilayer of the face.

Repair-

Rule of tens: For increased anesthetic safety, an infant should

1. Be 10 weeks old.
2. Weigh 10 pounds.
3. Have a hemoglobin level of at least 10 mg/dL

162. Preferred shunt procedure in patient with portal hypertension having acceptable operative risk and adequate liver function is -

a) End to side portocaval shunt

b) End to end portocaval shunt

c) Mesocaval shunt

d) Distal splenorenal shunt

e) None

Correct Answer - D

Answer- D. Distal splenorenal shunt

Portosystemic shunt procedures such as splenorenal shunt and mesocaval shunt, may be indicated in patients with complication of portal hypertension.

Given the early occlusion rate and the need for constant surveillance, it is generally advised that TIPS should be reserved for Child C classification of cirrhosis, whereas a distal splenorenal shunt is safe, durable, preferred and effective treatment in patients with acceptable operative risk and still good liver function.

163. Which of the following is/are true regarding management of a trauma presenting with shock:

a) Transfusion of PCV:FPP:Platelet should be in 1:1:1 ratio

b) First hemodynamic stabilize the patient, then go for CT scan

c) First go for CT scan, then stabilize the patient

d) CVP line should be placed

e) None

Correct Answer - B:D

Answer- (B) First hemodynamic stabilize the patient, then go for CT scan (D) CVP line should be placed

Hypovolemic shock is the most common type of shock seen in trauma patient & occurs secondary to acute blood loss.

The subclavian tb internal jugular vein should be reserved for those patients in whom major venous intra-abdominal injuries or pelvic fractures prevent effective use of femoral approach.

Resuscitation consists of an initial bolus of 2 L of crystalloid solution.

164. All are true about acute appendicitis except:

a) Clinically indifferent from Meckel diverticulum in children

b) Lymphoid hyperplasia may causes acute appendicitis

c) Pain shift to right iliac fossa

d) Ultrasound is more diagnostic than CT scan

e) None

Correct Answer - D
Answer- D. Ultrasound is more diagnostic than CT scan
Pain is the earliest feature, which is frequently first noticed at the periumbilical region
Soon the pain shifts to the RIF and changes in character
E.coli is the most common organism; enterococci is most common.
Risk factors for perforation of appendix
Immunosuppression
Diabetes mellitus
Fecolith obstruction
Pelvic appendix
Previous abdominal surgery
Contrast-Enhanced CT (CECT) – investigation of choice specially in unclassical cases
Ultrasound is more diagnostic than CT scan

165. Which of the following is true about esophageal adenocarcinoma:

a) Obesity is a risk factor

b) Most common in middle & lower 1/3

c) Incidence in Barrett's oesophagus

d) Squamous metaplasia is a risk factor

e) Chronic gastroesophageal reflux an etiology of adenocar-cinoma

Correct Answer - A:C:E

Answer- (A) Obesity is a risk factor (C) Incidence in Barrett's oesophagus (E) Chronic gastroesophageal reflux an etiology of adenocar-cinoma

Risk factors for esophageal adenocarcinoma (Current Gastroenterology)

Barrets esophagus

Gastroesophageal Reflux Disease (GERD)

Scleroderma

Smoking

Alcohol

History of colon cancer

Medications Long term use (> 5 years) of Theophylline & agonists.

The most common site of adenocarcinoma esophagus is the lower 1/3rd of esophagus

166. True about intestinal pseudoobstruction:

a) May be caused by hypokalemia

b) Bezoars can cause pseudo-obstruction

c) Neostigmine used in treatment

d) May be associated with diverticulosis

e) Colonoscopy is contraindicated

Correct Answer - A:C

Answer- (A) May be caused by hypokalemia (C) Neostigmine used in treatment

Intestinal pseudo obstruction is caused by the following

.. Disorders of the nervous system (Familial autonomic dysfunction, Hirschsprung disease, Chagas disease)

2. Diseases affecting muscles and nerves (Muscular dystrophy, SLE, Ehlers-Danlos syndrome, hypokalemia)

3. Disorders of the endocrine system (DM, Hypothyroidism, Hyperparathyroidism), and

4. Medication (Narcotics, Laxatives, Tricyclic antidepressants, Phenothiazines).Ogilive's syndrome is acute intestinal pseudo obstruction.

167. True about sigmoid volvulus:

a) Most common spontaneous type in adult

b) Less fiber diet is a risk factor

c) Treatment include resuscitation & decompression

d) Most common type of colonic volvulus

e) Low recurrence after conservative management

Correct Answer - A:C:D

Answer- (A) Most common spontaneous type in adult
(C) Treatment include resuscitation & decompression (D) Most common type of colonic volvulus

Most common site of volvulus

Rotation in sigmoid volvulus nearly always occur in anticlockwise direction

PREDISPOSING FACTOR:

- Age
- Institutionalized or neurologically impaired or psychiatric patients
- Band of adhesion
- Long pelvic meso colon with Narrow attachment
- The initial management is resuscitation followed by endoscopic decompression and detorsion.

168. True about diverticular disease of colon:

a) Right side more common

b) Sign & symptoms indistinguishable from irritable bowel syndrome

c) Profuse & painless bleeding

d) Sigmoid is most common site

e) None

Correct Answer - B:C:D

Answer- (B) Sign & symptoms indistinguishable from irritable bowel syndrome (C) Profuse & painless bleeding (D) Sigmoid is most common site

Diverticula most commonly affect the sigmoid colon.
Diverticula are most often asymptomatic (diverticulosis).
Present clinically with sepsis or haemorrhage.
Complications of Diverticular Disease-
Pain and inflammation (Diverticulitis).
Perforation
Intestinal obstruction
Haemorrhage
Fistula formation
Hemorhage from colonic diverticula is typically painless & profuse.

169. Which of the following is true about primary lymphoedema:

a) May be congenital

b) Lymphoedema congenita more commonly occur bilaterally

c) Condition improves with massage

d) Lymphatic hyperplasia

e) All

Correct Answer - A:B:C

Answer- (A) May be congenital (B) Lymphoedema congenita more commonly occur bilaterally (C) Condition improves with massage

It is due to an inherited abnormality of the lymphatic system, sometimes termed'congenital lymphatic dysplasia'.

Primary lymphoedema is much more common in the legs than the arms.

Lymphoedema congenita is more common in males.

Lymphoedema praecox (onset from 2 to 35 years) is three times more common in females

170. All are true about thymoma except:

a) MC tumor in anterior mediastinum

b) Treatment is thymectomy

c) Symptomatic cases present as endocrine abnormalities

d) May be associated with myasthenia gravis

e) Associated with thyroiditis

Correct Answer - C
Answer- C. Symptomatic cases present as endocrine abnormalities
Charachteristic Syndromes
Myaesthenia Gravis (most common)
Acquired Hypogammaglobulinemia (10%)
Pure Red Cell Aplasiac

171. True about invasive thymoma:

a) Benign in nature

b) May be associated with EBV

c) Malignant in nature

d) Epithelial cells are most commonly of the cortical variety

e) None

Correct Answer - A:B:D

Answer- (A) Benign in nature (B) May be associated with EBV (D) Epithelial cells are most commonly of the cortical variety

Invasive thymoma refers to a tumor that is cytologically, benign but locally invasive.

- These tumors are much mote lilecly to metastasize.
- The epithelial cells are most commonly of the cortical variety, with abundant cytoplasm and rounded vesicular nuclei, and are usually mixed with numerous thymocytes.
- By definition, invasive thymomas Penetrate through the capsule into surrounding structures.

172. True about cystosarcoma phylloides:

a) Usually bilateral

b) Usually occur in female over age of 40

c) Not involve nipple-areola complex

d) Treatment is mastectomy of malignant lesions

e) All are benign in nature

Correct Answer - B:C:D

Answer- (B) Usually occur in female over age of 40 (C) Not involve nipple-areola complex (D) Treatment is mastectomy of malignant lesions

It is a malignant tumour

It often metastasises to axillary nodes

It is treated by radical mastectomy

Usually occur in women over the age old 4O years.

173. True about anorectal abscess:

a) Ischiorectal is most common type

b) Primary modality of treatment is antibiotic without drain

c) Rupture can cause fistula formation

d) Common in diabetics

e) Drainage of pus with antibiotics is mainstay of treatment

Correct Answer - C:D:E

Answer- (C) Rupture can cause fistula formation (D) Common in diabetics (E) Drainage of pus with antibiotics is mainstay of treatment

There are four types- abscess-perianal (most common), ischiorectal, submucous & pelvirectal.

Anorectal abscess can rupture inside as well as outside resulting in a fistula.

Treatment is drainage of pus in first instance together with appropriate antibiotics.

174. Which of the following indicate poor prognosis in both Ranson & Glasgow scale of acute pancreatitis:

a) Albumin

b) Alanine aminotransferase

c) Aspart ate aminotransferase

d) Lactate dehydrogenase

e) Base deficit

Correct Answer - A:B:C:D

Answer- (A) Albumin (B) Alanine aminotransferase (C) Aspart ate aminotransferase (D) Lactate dehydrogenase

Early predictors of severity at 48 hours included 3 Ranson's signs and APACHE II score 8.

A recent scoring system for the early prediction of mortality was developed in acute pancreatitis. This scoring system known as the Bedside Index of Severity in Acute Pancreatitis (BISAP), incorporates five clinical and laboratory parameters obtained within the first 24 hours of hospitalization. BUN >25, Impaired mental status, SIRS, Age >60 years, Pleural effusion on radiography. Presence of three or more of these factors was associated with increased risk for in-hospital mortality.

Modified Glasgow/PANCREAS score

- PaO2 <8kPa (60mmhg)
- Age > 55 years
- Neutrophils: WBC>15×109/l

- Calcium < 2mmol/l
- Renal function: (Urea > 16mmol/l
- Enzymes: (AST/ALT>200 iu/Lor LDH > 600 iu/L)
- Albumin <32g/l
- Sugar: (Glucose >10mmol/L)

175. Which of the following causes neonatal jaundice:

a) Sickle cell anaemia

b) ß-Thalassemia

c) Meningitis

d) G6PD deficiency

e) Rh incompatibility

Correct Answer - B:D:E
Ans. b. ß-Thalassemia; d. G6PD deficiency; e. Rh incompatibility
ETIOLOGY:
Non Conjugated: Haemolytic:
Intrinsic causes :

- Membrane conditions
- **Spherocytosis(50%)**
- Hereditary elliptocytosis
- Systemic conditions
- Sepsis
- Arteriovenous malformation
- Enzyme conditions
- **G6PD deficiency**
- Pyruvate kinase deficiency
- Globin synthesis defect
- Sickle cell disease
- Alpha-thalassemia, e.g. HbH disease

Extrinsic causes :

- Alloimmunity
- Hemolytic disease of the newborn (ABO)
- Rh disease
- Hemolytic disease of the newborn (anti-Kell)
- Hemolytic disease of the newborn (anti-Rhc)
- Other blood type mismatches

Non-hemolytic causes :

- **Breast milk jaundice**
- Cephalohematoma
- Polycythemia
- Urinary tract infection
- Sepsis
- **Hypothyroidism**
- Gilbert's syndrome
- Crigler-Najjar syndrome
- High GI obstruction

Conjugated : Hepatic causes:

- Infections
- Sepsis
- Hepatitis A
- Hepatitis B
- TORCH infections vertically transmitted infections
- T – Toxoplasmosis / Toxoplasma gondii
- O – Other infections
- R – Rubella
- C – Cytomegalovirus
- H – Herpes simplex virus-2 or neonatal herpes simplex
- Metabolic
- **Galactosemia**
- Alpha-1-antitrypsin deficiency
- Cystic fibrosis
- Dubin-Johnson Syndrome
- Rotor syndrome
- Drugs
- Total parenteral nutrition
- Idiopathic

Post-hepatic:

- Biliary atresia or bile duct obstruction
- Alagille syndrome
- Choledochal cyst

176. Which of the following milestone is developed by child b/w 6 to 9 month:

a) Can point something with index finger

b) Swap some object from one palm to another

c) Can hold object with thumb & index finger

d) Can voluntary drop object

e) Can extend arm

Correct Answer - B:C:D

Ans. b. Swap some object from one palm to another ; c. Can hold object with thumb & index finger; d. Can voluntary drop object

6 MONTH:

Gross Motor:

- Sits unsupported.
- Puts feet in mouth in supine position

Visual-Motor/Problem-Solving:

- Unilateral reach.
- Uses raking grasp

Language:

- Babbles

Social/Adoptive

- Recognizes strangers

7 MONTH:

Gross Motor:

- Creeps

Language:

- Orients to bell((localized indirectly)

8 MONTH:

Gross Motor:

- Comes to sit.
- Crawls

Visual-Motor/Problem-Solving:

- Inspects objects

Language:

- “Dada” indiscriminately

Social/Adoptive

- Fingerfeeds

9 MONTH:

Gross Motor:

- Pivots when sitting .
- Pulls to stand
- Cruises

Visual-Motor/Problem-Solving:

- Uses pincer grasp
- Probes with forefinger
- Holds bottle, throws objects

Language:

- “Mama” indiscriminately
- Gestures, waves bye-bye
- Inhibits to “no”

Social/Adoptive

- Starts to explore environment
- Plays gesture games (eg, pat-a-cake)

177. True about osteum primum defect:

a) It is found in ASD

b) More commonly associated with ASD than VSD

c) May be associated with Down syndrome

d) Osteum primum ASD is more common than osteum secondum ASD

e) All the above

Correct Answer - A:B:C

Ans. a. It is found in ASD b. More commonly associated with ASD than VSD c. May be associated with Down syndrome

- The most common type of atrial septal defect is the ostium secundum type.
- Children with **Down syndrome**, however, are frequently afflicted with the ostium primum type of atrial septal defects, which may be accompanied by tricuspid and mitral valve malformations.
- More complex atrioventricular septal defects may also occur in this disorder.
- Children exhibiting these lesions should be specifically evaluated for chromosomal abnormalities.
- Clinically, the lesions produce left-to-right shunts with late cyanosis (after the right ventricle hypertrophies in response to developing lung disease from the increased blood flow in the pulmonary system).
- Neither **cystic fibrosis** nor **Gaucher disease** is specifically associated with cardiovascular defects.
- Dissecting aortic aneurysm is associated with **Marfan syndrome .**

178. True about minimal change disease -

a) Hypertension is commonly present

b) Most common cause of nephrotic syndrome in adults

c) High dose steroids results in remission in most cases

d) Commonly progress to chronic renal failure

e) Reversible loss of podocyte function

Correct Answer - C:E

Answer- (C) High dose steroids results in remission in most cases (E) Reversible loss of podocyte function

Minimal change disease:

- Also k/a lipoid nephrosa, foot process disease & Nil deposit disease
- The disease sometimes follows a respiratory infection or routine prophylactic immunization'
- The onset may be preceded by an upper respiratory infection, atopic allergy or immunisation.
- The disease characteristically respond to steroid therapy
- The benign disorder is characterized by diffuse effacement of foot processes of visceral epithelial cell (podocytes).
- most frequent cause of nephrotic syndrome in children
- The visceral epithelial changes are completely reversible afrer corticosteroid therapy, concomitant with remission of the proteinuria.
- There is commonly no hypertension or hematuria.
- The appearance of acute renal failure in adults.

179. Vesico-ureteric reflex is commonly diagnosed by:

a) Micturating cystography

b) Radioisotope renography

c) IVU

d) CT scan

e) All

Correct Answer - A:B

Ans. a. Micturating cystography ; b. Radioisotope renography

- The recommended radiographic evaluation for VUR includes a VCUG, renal-bladder ultrasonography and nuclear renal scan (DMSA).
- Perform VCUG and renal-bladder ultrasonography in any child with documented UTI before age 5 years, any child with pyelonephritis, and any male child with a symptomatic UTI.
- A renal-bladder ultrasonography may be used to screen older children with UTI. If ultrasonographic findings are abnormal, conduct further workup studies with VCUG to rule out VUR.
- During the initial workup in a patient with suspected reflux, perform the standard VCUG, which provides clear anatomic detail and allows accurate grading of the reflux degree. By filling and emptying the bladder several times (cycling) with the catheter still in the bladder, as described by Lebowitz, the yield of identifying VUR is clearly enhanced.
- The conventional cystography provides more anatomical accuracy than nuclear cystography; however, nuclear cystography is

advantageous (used widely to monitor VUR) because of lower radiation exposure and increased sensitivity.

180. True about Tanner stage II:

a) Penis increases in length

b) Penis increases in width

c) Scanty hair at base of penis

d) Darkening of scrotum

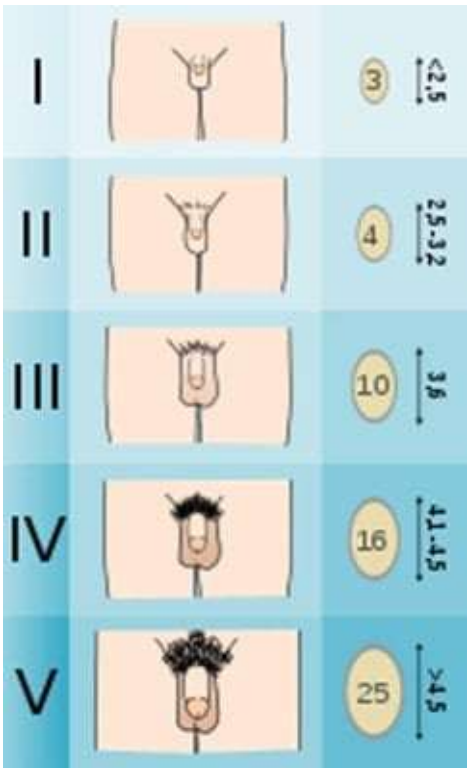
e) More growth occur in boys than girls

Correct Answer - A:C

Ans. a. Penis increases in length; c. Scanty hair at base of penis

DEVELOPMENT:

Genitals (male):



- Illustration of the Tanner scale for males.

Tanner I

- testicular volume less than 1.5 ml; small penis (prepubertal; typically age nine and younger)

Tanner II

- testicular volume between 1.6 and 6 ml; skin on scrotum thins, reddens and enlarges; penis length unchanged (9–11)

Tanner III

- testicular volume between 6 and 12 ml; scrotum enlarges further; penis begins to lengthen (11–12.5)

Tanner IV

- testicular volume between 12 and 20 ml; scrotum enlarges further and darkens; penis increases in length (12.5–14)

Tanner V

- testicular volume greater than 20 ml; adult scrotum and penis (14+)

Pubic hair (both male and female)

Tanner I

- no pubic hair at all (prepubertal) (typically age 10 and younger)

Tanner II

- small amount of long, downy hair with slight pigmentation at the

base of the penis and scrotum (males) or on the labia majora (females) (10–11.5)

Tanner III

- hair becomes more coarse and curly, and begins to extend laterally (11.5–13)

Tanner IV

- adult-like hair quality, extending across pubis but sparing medial thighs (13–15)

Tanner V

- hair extends to medial surface of the thighs (15+

181. True about Locking compression plate:

a) In steoporotic patients, it should not be used

b) Can be used as buttress plate

c) Usually cause perosteal injury

d) Mechanically superior to a conventional plate

e) Can not be used as compression plate

Correct Answer - B:D

Ans. b. Can be used as buttress plate ; d. Mechanically superior to a conventional plate

Locking Compression Plate:

- The latest development in plating technique is locking compression plate (LCP) .
- It has rigid plate, Screw construct, which has been found to be mechanically superior to conventional plate .
- LCP can be used as compression plate, as neutralization plate, as a buttress plate, as a bridging plate & as a locked plate .
- It is Particularly suitable for periarticular fractures & fractures in osteoporotic bones

182. Osteosclerotic metastases is/are common in cancer of:

a) Prostate

b) Breast

c) Lung

d) Malignant melanoma

e) Renal cell carcinoma

Correct Answer - A:B

Ans. a. Prostate; b. Breast

- Metastases are most commonly seen in the pelvis, ribs, vertebral bodies, and proximal limbs.
- These lesions typically have a lytic appearance on plain radiographs, although breast and prostate metastases can be sclerotic or mixed with lytic and sclerotic features.
- Overall, metastases are the most common tumor of bones.
- **Adults:** Approximately 75% of metastases to the bone are derived from prostate, breast, kidney, and lung carcinomas.
- **Children:** Neuroblastoma, Wilms tumor, osteosarcoma, and Ewing sarcoma.
- Kidney and thyroid neoplasms are known for producing a solitary metastasis.
- Metastases to hand and foot bones are uncommon and, if present, the source is usually a lung, colon, or renal neoplasm.

183. Following are immediate complications of fracture:

a) Vascular ischemia

b) Neuronal injury

c) Malunion

d) Compartment syndrome

e) Avascular necrosis

Correct Answer - A:B

Ans. a. Vascular ischemia ; b. Neuronal injury

Immediate Complications:

Systemic:

- Hypovolaemic shock
- Local
- Injury to major vessels
- Injury to muscles & tendon
- Injury to joints
- Injury to viscera

Early complications:

Systemic:

- Hypovolaemic shock
- ARDS: Fat embolism syndrome
- DVT & Pulmonary embolism;
- Aseptic traumatic fever;
- Septicaemia;
- Crush syndrome
- Local

- Infection
- Compartment syndrome

Late complications:

Imperfect union of fracture:

- Delayed union; Non-union; Malunion; Cross union

Others:

- Avascular necrosis; Shortening; Joint stiffness; Sudeck's dystrophy; Osteomyelitis; ischaemic contracture; Myositis ossificans; Osteoarthritis

184. Which of the following cause malunion except:

a) Open #

b) Infection

c) Bone grafting

d) Soft tissue interposition

e) Proper alignment of fracture

Correct Answer - C:E

Ans. c. Bone grafting ; e. Proper alignment of fracture

- Bone grafting is used in treatment of malunion
- Infection: Both biology & stability of bone healing are hampered by active infection

185. True about atypical CTEV

a) Foot is flexed downward

b) Sole crease are not found

c) Difficult to treat than typical variety

d) May occur due to neurological disorder

e) May be associated with Meningomyelocele

Correct Answer - A:C:D:E

Ans. a. Foot is flexed downward; c. Difficult to treat than typical variety; d. May occur due to neurological disorder; e. May be associated with Meningomyelocele

Atypical Idiopathic Clubfoot:

- A short and fat or swollen foot.
- The big toe is short and points upward
- A crease runs across the bottom (sole) of the foot from side to side.
- There is a deep crease in the skin above the heel.
- The heel area is rigidly tilted inward.
- The foot is rigidly flexed downward and, the heel cord is very tight, wide, and long.
- The calf muscle is very small and bunched up under the back of the knee.

Causes of CTEV

- CTEV may be either primary or secondary

1. Primary or Idiopathic

- It is the most common type of CTEV
- Foot deformity (CTEV) is the only manifestation, otherwise musculoskeletal system is normal.

2. Secondary

- CTEV is a local manifestation of a systemic syndrome.
- Causes are :-

1. Neurological disorders & neural tube defects eg myelomeningocele, & spinal dysraphism
2. Paralytic disorder (due to muscular imbalance) as polio, spina bifida, myelodysplasia, & Fredreich's ataxia
3. Arthrogiyposis multiplexa
4. Larsen syndrome
5. Freeman- Sheldon syndrome
6. Diastrophic dwarfism
7. Sacral agenesis, tibial deficiency, constriction rings & amniotic bands

186. In young person most common cancer among following is:

a) Giant cell

b) Osteosarcoma

c) Chondrosarcoma

d) Ewing sarcoma

e) All

Correct Answer - B

Ans. b. Osteosarcoma

- Osteosarcoma is the second most common tumour.
- These tumours occur b/w the ages of 15-25 years, constituting the commonest musculo-skeletal tumour at that age

187. All are true about septic arthritis except:

a) Staph. Aureus is most common causative organism

b) Common in children

c) Affect growth plate

d) E. coli is the commonest causative organism

e) Aspiration of joint fluid is used for diagnosis

Correct Answer - D

Ans. d. E. coli is the commonest causative organism

- It is more common in children & males
- Staphylococcus aureus is the commonest causative organism, other organism are strepto-pneumo & Gonococcus.
- Aspirate the joint & examine the fluid. A WBC & gram stain should be carried out immediately. Sample of fluid are also sent for full microbiological examination & tests for antibiotic sensitivity.

188. Features of fat embolism:

a) Bradycardia

b) Hypoxia

c) Hypotension

d) Tachypnoea

e) Petechial rash

Correct Answer - B:D:E

Ans. b. Hypoxia ; d. Tachypnoea; e. Petechial rash

Fat embolism syndrome:

- Tachycardia
- Slight rise of temperature
- Breathlessness
- Hypoxia from involvement of lung
- Tachypnoea
- Petechial rash
- Respiratory failure
- Drowsy
- Restless
- Coma

189. Straight leg raising test is/are positive in:

a) Spinal stenosis

b) Spinal abscess

c) Also called as Trendelenburg test

d) Prolapsed intervertebral disc

e) Sciatica

Correct Answer - D:E

Ans. d. Prolapsed intervertebral disc; e. Sciatica

- Pain & limitation of Straight leg raising (SLR) is a feature of prolapsed intervertebral disc when there is irritation or compression of one of the roots of the sciatic nerve.
- Straight leg raising test: This is a test to detect nerve root compression.

190. Which of the following is/are true about the gait in sensory deficit

a) Antalgic gait

b) Apraxia

c) Trendelenburg

d) Positive Romberg sign

e) Apraxia gait

Correct Answer - D

Ans. d. Positive Romberg sign

In sensory ataxia the patient is able to maintain the upright position while the eyes are open, but when the eyes are closed he sways. This is a positive Romberg sign.

ABNORMAL GAIT:

- Antalgic gait: occurs in painful conditions of the lower limb .
- Charlie-Chaplin gait: Occurs in tibial torsion.
- Circumduction gait: Occurs in hemiplegia
- Waddling gait: Occurs in bilateral congenital hip dislocation
- High stepping gait: Occurs in foot drop
- Scissoring gait: Occurs in cerebral palsy
- Stiff hip gait: Occurs in ankylosis of the hip
- Trendelenburg gait: Occurs in unstable hip due to congenital dislocation of hip, gluteus medius muscle weakness

191. Which of the following is lower segment vertical incision:

a) Simon

b) Selheim

c) Kronig

d) Kerr

e) None

Correct Answer - B:C

Ans. b. Selheim c. Kronig

- Low cervical incision may be a low cervical transverse (LCT) incision (Monroe/Kerr) or a low cervical vertical (LCV) incision (Kronig/ Selheim)

192. Appropriate time of IUCD insertion is/are:

a) Immediately after delivery

b) 1 week after delivery

c) Post-puerperal Period

d) Before menstruation

e) Any time during lactation period

Correct Answer - A:B:C:E

Ans. a. Immediately after delivery; b. 1 week after delivery; c. Post-puerperal Period; e. Any time during lactation period

- It is advisable to insert IUCD during or soon after menstruation & after abortion or MTP
- Lately, immediate postpartum insertion within l0 min of placental expulsion or within 24 hr of delivery is practiced & is found effective. This save the woman second visit to the clinic.
- IUCD insertion can also be taken up during the first week after delivery before the women leaves the hospital (immediate postpartum insertion), but carries risk of perforation & high expulsion
- A convenient time for insertion is 6-g weeks after delivery (post-puerperal insertion).

193. Which of the following is/are true about combined oral contraceptive pills:

a) Reduces risk of venous thromboembolism

b) Reduces risk of benign breast disease

c) Protects against endometrial cancer

d) Decreased Bone density

e) None

Correct Answer - B:C

Ans.(b)Reduces risk of benign breast disease, (c) Protects against endometrial cancer

OCPS

ADVANTAGES:

- Controls fertility
- Treats Menorrhagia & polymenorrhoea.
- Relieve dysmenorrhoea and premenstrual tension
- Prevents anaemia
- Lowers chances of
  - Fibrocystic disease
  - Ovarian cyst
  - Ovarian ,uterine & anorectal malignancy
  - PID
  - Ectopic pregnancy
- Useful in acne, PCOD and endometriosis
- Prevent RA

Non contraceptive benefits of OCPs:

- Cycle stabilization

- Cure of menstrual disorder- useful in menorrhagia & polymenorrhea
- Prevents anemia.
- Reduces the incidence of ectopic pregnancy.
- Protection against cancer – Ovarian ,Endometrial
- Benign tumour - Benign breast disease, Ovarian functional cyst, Fibromyoma uterus
- Protects - PID, Anemia, Endometriosis, PCOD, Acne, hirsutism, Rheumatoid arthritis, Osteoporosis

194. True about implanon:

a) Releases > 67 µg/day of drug

b) Prevent STD

c) Life span is 3 Years

d) Contains LNG

e) Has 6 implants

Correct Answer - C

Ans. c. Life span is 3 Years

- Implanon is a single rod subdermal implant with 68 mg of the progestin etonogestrel (ENG), and an ethylene vinyl acetate copolymer cover.
- It can be used as contraception for 3 years and then replaced at the same site or opposite arm.
- It is placed in the medial surface of the upper arm 6 to 8 cm from the elbow in the biceps groove within 5 days of onset of menses.
- Prolonged and frequent bleeding is the most common adverse effect.

195. True about Progestogen only pill:

a) It is taken daily on the same time

b) Higher failure rate than COC

c) Fertility return to normal after discontinuation without any delay

d) Suited for lactating women lactating women

e) Ectopic pregnancy risk are same as COC

Correct Answer - A:B:D

Ans. a. It is taken daily on the same time ; b. Higher failure rate than COC; d. Suited for lactating women lactating women

Progestogen only Pill (POP) /Minipil

- Does not have some major side effects of combined pills & well suited for lactating women; some progestogens, in fact, increase milk secretion .
- Side-effect: weight gain, irregular menstrual bleeding, depression, breast cancer, thromboembolism .
- Advantage: Lactating women, women over 35 years, those with focal migraine, those intolerant to estrogen or oestrogen contraindicated, diabetic, hypertensive, sickle cell anaemia
- As regards to return of fertility, faster than COC users
- Contraindication: C/I to POP are previous are previous ectopic pregnancy, ovarian cyst, breast & genital cancer, abnormal vaginal bleeding active liver & arterial disease, porphyria, liver tumour.

196. True about Dysgerminoma:

a) Rare tumor in pregnancy

b) Always b/l

c) Total abdominal hysterectomy is usually done

d) Unilateral salpingo-oophorectomy is generally done

e) Constitute 30% of all malignant germ cell tumour

Correct Answer - D:E

Ans. d. Unilateral salpingo-oophorectomy is generally done; e. Constitute 30% of all malignant germ cell tumour

Dysgerminoma is the most malignant germ cell tumour (not a virilising tumour).

- Seen in young females like other GCT (not in post menopausal women).
- It is unilateral.
- Its cut section is soft due to degeneration (gritty cut section is seen in Brenner's tumour).

Tumour markers for Dysgerminoma are :

- LDH
- Alpha fetoprotein is normal in dysgerminoma.
- Placental alkaline phosphatase.
- Beta HCG

Management of Dysgerminoma:

- Surgical — including resection of the primary lesion (unilateral oophorectomy) and proper surgical dissection
- Metastatic Disease — Chemotherapy or Radiation therapy

197. True about placental abruption:

a) Pre-eclampsia is a risk factor

b) Common in multigravida

c) Common in primigravida

d) Premature separation of normal implanted placentae

e) Character of bleeding is bright red blood

Correct Answer - A:B:D

Ans. a. Pre-eclampsia is a risk factor; b. Common in multigravida; d. Premature separation of normal implanted placentae

Abruptio placentae:

- It is a form of antepartum hemorrhage where bleeding occurs due to premature separation of normally situated placenta.
- Hypertension in the pregnancy is important predisposing factor

ETIOLOGY:

- Primary cause of A P is uncertain

Several associated conditions identified:

- Increase in age & parity: 1.3-1.5%
- Pre-eclamsia: 2.1-4%
- Chronic hypertension: 1.8-3%
- Preterm ruptured membranes: 2.4-4.9%
- Multifetal gestation: 2.1%
- Cigarette smoking: 1.4-1.9%
- Cocaine abuse: NA
- Folic acid deficiency
- Prior abruption: 10-25%
- Uterine leiomyoma: NA

- Hydromnios: 2%

Symptoms

- Vaginal Bleeding (78%)
- Abdominal Pain (66%)-May be severe and constant, posterior placenta may present with back pain Signs
- Vital signs suggestive of cardiovascular compromise-Tachycardia, orthostatic changes in Blood Pressure and pulse
- Evaluate for external signs of trauma
- Uterus hypertonic or tense (Couvelaire Uterus)-Fundus tender to palpation

198. True statement regarding investigation in endometrial cancer:

a) MRI is superior to CT in detecting myometrial involvement

b) CT is superior to MRI in detecting omental metastasis

c) USG is initial investigation to be performed

d) USG is the best investigation

e) None

Correct Answer - A:B:C

Ans. a. MRI is superior to CT in detecting myometrial involvement ; b. CT is superior to MRI in detecting omental metastasis and c. USG is initial investigation to be performed

Diagnosis of Endometrial Carcinoma

- CT scan of pelvis and abdomen may be used to detect lymph node metastases" .
- MRI candetect Myocardial invasion
- Sensitivity of PET in detecting pelvic node metastases is 80% compared to MRI(70%) and CT(48%)"
- "CT is useful in the diagnosis of lymph node metastasis and depth of myometrial invasion in endometrial cancer"
- "MRI is superior to CT or ultrasound in diagnosing adenomyosis, myomas and endometrial cancer(including myometrial invasion)

199. True about Klinefelter syndrome:

a) Leg are more in length than trunk

b) Intrauterine fertilization can not be successful even with TESA & ICSI

c) Gynaecomastia

d) FSH and luteinizing hormone (LH) are decreased

e) All

Correct Answer - A:C

Ans. a. Leg are more in length than trunk; c. Gynaecomastia

Klinefelter syndrome :?

- Klinefelter syndrome is the most common chromosomal disorder associated with male hypogonadism and infertility.
- It is defined classically by a 47, XXY karyotype with variants demonstrating additional X and Y chromosomes. (Other variants can have 48 XXXY, rarely 49 XXXXY or mosaics can be there with some cells containing normal 46, XY and others 47, XXY). Classically, it results from meiotic non-dysjunction of sex chromosomes (40% during spermatogenesis and 60% during oogenesis). Mostly, non-dysjunction occur during 1" meiotic division.
- The patient has male phenotype with feminizing features due to extra X-chromosome (note : presence of one Y chromosome is sufficient for male phenotype. Thus XY, XXY, XXXY all are males). Extra inactive chromosome appears as Barr body.
- Important clinical features include microorchidism with normal external genitalia, mental retardation, gynecomastia, lack of secondary sexual characteristics with eunuchoid body habits, disproportionately long arms and legs, hypogonadism, increased

incidence of tumors (breast carcinoma, germ cell tumors), increased incidence of autoimmune disorders (e.g. SLE), and cardiac problems (most common is mitral valve prolapse). Testosterone levels are decreased, whereas levels of gonadotropins (FSH/LH) are elevated.

200. All are true about polycystic ovarian disease (PCOD) except:

a) Testosterone > 2 ng/ml

b) Infertility

c) High FSH/LH ratio

d) ↑ Insulin level

e) ↑ E2/oestrone (E1) ratio

Correct Answer - C:E

Ans. c. High FSH/LH ratio; e. ↑ E2/oestrone (E1) ratio

Hormone levels in PCOD

Raised:

- E2 (oestradiol), LH, androgens, testosterone, epiandrostenedione, fasting insulin, prolactin.

Decreased:

- FSH, FSH/ LH ratio, sex hormone binding globulin, osetradiol (E2)/ oestrone (El) ratio

201. True about endometriosis:

a) Laparoscopy is gold standard for diagnosis

b) COC is used to relieve mild Pain

c) GnRH antagonist is used to relieve severe pain

d) Can be managed expectantly in asymptomatic cases

e) None of the above

Correct Answer - A:B:D

Ans. (A)Laparoscopy is gold standard for diagnosis; (B). COC is used to relieve mild Pain; (D) Can be managed expectantly in asymptomatic cases

- Friends this is the most often asked question on endometriosis. It is worth while to know a few details on this topic.
- Empirical treatment : is for pain presumed to be due to endometriosis. (in absence of definitive diagnosis) and includes :—

1. Counselling
2. Analgesia
3. Nutritional therapy
4. Progestin or OCP's

- Analgesia : Studies have shown NSAID's except niflumic acid are more effective in chronic pain relief due to endometriosis or dysmenorrhea suspected to be due to endometriosis.

Hormonal medical treatment :

- Basis of management : Since estrogen is known to stimulate the growth of endometriosis, hormonal therapy has been designed to suppress estrogen synthesis, thereby inducing atrophy of ectopic endometrial implants or interrupting the cycle of stimulation and bleeding.

- Indication : — Mild pelvic endometriosis in young women.°
- Treatment of residual and recurrent disease following conservative surgery.

202. A young lady can be counselled for sterilization operation in all except:

a) A woman having no or few children may undergo sterilization

b) Woman with HIV either taking or not taking ART can go for sterilization

c) Husband consent is Present

d) Young lactating women more than 25 years can go for sterilization

e) If the couple has 3 or more living children, the lower limit of age of the husband or wife may be relaxed at the discretion of the operating surgeon

Correct Answer - A

Ans. a. A woman having no or few children may undergo sterilization

Guidelines for sterilization:

- Age of husband not less than 25 years and should not be over 50 years
- Age of wife: not less than 20 years or not more than 45 years
- Should be having 2 living children
- If couple has three or more living children the lower limit of age may be relaxed
- If the acceptor declares having obtained the consent of his / her spouse to undergo sterilization operation without outside pressure, inducement or coercion, and that he/she knows that for all practical purposes, the operation is irreversible and also that the spouse has not been sterilized earlier.

203. Nulliparous women have high risk of following cancer:

a) Cervical cancer

b) Vaginal cancer

c) Breast cancer

d) Ovarian cancer

e) Endometrial Ca

Correct Answer - C:D:E

Ans.c. Breast cancer; d. Ovarian cancer; e. Endometrial Ca

Nulliparity is the risk factor for:

- Breast cancer
- Ovariancancer
- Endometrial Ca

Vaginal cancer is seen after 70 years of age

Cervical cancer are more commonly seen in multipara

204. Screening test used in first trimester for aneuploidy –

a) PAPP-A &estradiol

b) PAPP-A & AFP

c) PAPP-A &beta HCG

d) Beta HCG & inhibin

e) Estradiol& AFP

Correct Answer - C

Ans. is'c'i.e., PAPP-A &beta HCG

1st trimester aneuploidy screening:

- Human chorionic gonadotropin (either intact or free (β-hCG).
- Pregnancy-associated plasma protein A (PAPP-A).

Fetal Down syndrome in 1st trimester:

- Higher serum free beta-hCG level.
- Lower PAPP-A levels.

Trisomy 18 & 13:

- Lowered levels of both HCG PAPPP-A.

2nd trimester analytes:

- Serum integrated screening.

Accuracy of aneuploidy detection:

- Greater on combination with,
- Sonographic NT measurement.

205. True about testosterone in female:

a) > 50% testosterone secreted from ovary

b) > 80% testosterone secreted from ovary

c) 0. 5 ng/ml is plasma concentration

d) Slight decrease in the secretion at time of ovulation

e) Daily production of testosterone is 0. 2-0.3% mg

Correct Answer - A:C:E

Ans. a. > 50% testosterone secreted from ovary; c. 0. 5 ng/ml is plasma concentration; e. Daily production of testosterone is 0. 2-0.3% mg

Testosterone in females

- It is secreted by the ovary (50%) and also derived from the peripheral conversion of androstenidione (40%), which is secreted in equal amounts by the ovary and adrenals.
- Total daily production of testosterone is 0.2-0.3% mg & the plasma level is 0.2-0.8 ng/ml
- The normal increase in stromal tissue at ovulation causes a slight increase in the secretion of these hormone
- After the menopause, the increased ovarian stroma is responsible for the rise in these hormones & the development of hirsutism in some postmenopausal women

206. True about Nonoxynol-9:

a) Decrease risk of HIV

b) Prevent STD infection

c) Remain effective for 1-2 hr after application

d) Spermicidal action

e) Causes itching of vagina in female & itching of penis in male

Correct Answer - C:D:E

Ans. c. Remain effective for 1-2 hr after application d. Spermicidal action e. Causes itching of vagina in female & itching of penis in male

TODAY :

- It is mushroom shaped polyurethane disposable sponge.
- It is contains lgm of NONOXYNOL - 9 and is provided with a loop for easy removal.
- It is a barrier contraceptive which prevents entry of sperm into the cervical canal and contains a spermicidal agent.
- It should be placed high up in the vagina with concave side covering the cervix.
- It remains effective for 24 hours regardless of the frequency of coitus.
- It is to be used only once.
- It should be left in vagina and removed 6 hrs after sexual intercourse.
- Failure rate = 9-30 / HWY

Side effects :

- Allergic reactions
- Vaginal dryness, soreness or itching

- It can lead to genital lesions which may damage the vaginal mucosa and enhance HIV transmission.

Note :

Different books have a different say on role of today in preventing STD's and toxic shock syndrome. But *Leon Speroff is* the most authentic book for this issue. It says –

- There is no risk of toxic shock syndrome, intact non oxynol 9 retards staphylococcal replication and toxin production.
- It decreases the risk of infection with gonorrhea trichomonas and chlamydia.

207. Feature of false labor:

a) Steady intensity of Pain

b) Cervical dilation

c) Discomfort is in the back and abdomen

d) Intervals remain long

e) Discomfort usually is relieved by sedation

Correct Answer - A:D

Ans. a. Steady intensity of Pain; d. Intervals remain long

Pain intensity:

- Intensity:Intrauterine pressure:190-300 Montevideo units
  - 40–50 mm Hg in first stage
  - 100–120 mm Hg in second stage

Duration:

- First stage:30 seconds

Frequency:

- First stage:at intervals of 10–15 minutes
- In second stage:every 2–3 minutes.
- Pain of **uterine contractions** is distributed along cutaneous nerve distribution of T10 to L1
- Pain of cervical dilatation and stretching is referred to back through the sacral plexus

Effects of retraction on labor:

- Dilatation and effacement of the cervix
- Expulsion of the fetus
- Maintain the descent produced by uterine contraction
- Reduce surface area of uterus favouring separation of placenta.
- Hemostasis after separation of placenta

208. Which of the following is true about Partial mole:

a) Karyotype is 69 XXY or 69XYY

b) High malignant Potential

c) ßHCG level is <50000

d) Thecan lutein cysts common

e) Immunostaining (p57KIP2) positive

Correct Answer - A:C:E

Ans. a. Karyotype is 69 XXY or 69XYY; c. ßHCG level is <50000; e. Immunostaining (p57KIP2) positive

Partial moles

- Partial moles or incomplete molar pregnancy means that along with the hydatidiform changes some element of fetal tissue is present
- **They have a triploid karyotype (69 chromosomes),** the extra haploid set of chromosomes usually is derived from the **father.**
- **Characteristic pathological features** of partial mole

.. Chorionic villi of varying sizes with focal hydatiform swelling, cavitation and trophoblastic hyperplasia
2. Marked villous scalloping
3. Prominent stromal trophoblastic inclusions
4. Identifiable embryonic or fetal tissue.
5. Features like hyperemesis, hyperthyroidism and Theca lutein cysts are rare in partial mole.

Diagnosis

- The USG criteria for diagnosis of partial mole is
- ßhcg levels > 200 m IU/rni, after evacuation of partial mole in the

third through the eighth week are associated with a 35% risk of persistent trophoblastic disease.

- The most significant recent development in the pathological analysis of H. mole is the use of P57KIP2 immunostaining to make a definitive diagnosis of androgenetic complete H. Mole as opposed to an hydropic abortion or a partial mole.Staining is negative in complete mole in contrast to partial moles, hydropic abortion & normal placenta

.. Presence of focal cystic areas in the placental tissues .
2. Increase in transverse diameter of gestational sac.

209. True about acute paronychia:

a) Pus under nail bed

b) Pus may extend to base of nail

c) Swelling of nail fold

d) Candida is most common causative organism

e) None

Correct Answer - A:B:C

Ans. A,Pus under nail bed B,Pus may extend to base of nail & C,Swelling of nail fold

Acute Paronychia:

- **Paronychia:** Inflammation of nail folds.
- **Etiology:** StaphyLococcus enter the nail fold
- **Clinical feature:** Nail fold is swollen, red and tender. Pus visible under nail fold / nail bed.

210. True about Campbell de Morgan spots:

a) Benign

b) Malignant

c) Proliferation of blood vessel

d) Very painful

e) Cherry red in color

Correct Answer - A:C:E

Ans. (A) Benign (C) Proliferation of blood vessel (E) Cherry red in color

[Ref L & B 26th/599; http:l/www. dermhealth. com/campbell-de-morgan- spots. html; http : / / ww14,. pcds. org. uA technical-guidance/ cherry - angioma - syn. - campbell- de - morgan - sP ot]

Campbell De Morgan spots:

- Also known as campbell de morgan angiomas, cherry angiomas, cherry spots and senile angiomas, are benign (non-cancerous) skin growths made ofblood vessels.
- Growths are bright red, often described as"cherry-ret'.
- Hence they are often referred to as cherry angiomas.
- They can appear anywhere on the body, but most often appear on thc torso

Causes:

- Hereditary
- Hormonal changes during pregnancy.
- Appear most commonly in adults over the age of 30 but people of any age can get them.

211. Which of the following disease is associated with hepatitis C infection:

a) Lichen planus

b) Psoariasis

c) Sjogren's syndrome

d) HUS

e) HSP

Correct Answer - A:C

Ans. (A) Lichen planus (C) Sjogren's syndrome

[Ref: Neena Khanna 4th/56; Ilarrison 19th/2041; Roxburg 16th/; Hepatology by Kuntz 2nd/443]

Hepatitis C Associated disease:

- Attention has been drawn as well to associations between hepatitis C and such cutaneous disorders as Porphyria cutanea tarda and lichen planus.

Extrahepatic manifestations in Viral Hepatitis C:

- Agranulocytosis
- Aplastic anaemia
- Corneal ulceration
- CryoglobulinaemiaQ
- Diabetes mellitus (type I)
- Erythema exsudativum multiforme
- GlomerulonephritisQ
- Guillain-Barre syndrome
- Hyperlipasaemia
- Lichen Planus

- Non-Hodgkin lymphoma
- Polyarteritis nodosa
- Polyarthritis
- Polyneuritis
- Porphyria cutanea tardaQ
- Sialadenitis
- Sjogren syndrome/Sicca syndrome
- Thrombocytopenia
- Thyroiditis

212. Which of the following statement is/are correct about Scabies:

a) Number of lesion correspondent to number of mite

b) Ivermectin not used for treatment

c) Itching worsen at night

d) Not involve face in children

e) None

Correct Answer - C

Ans. C. Itching worsen at night

[Ref: Neena Khanna 4th/341-<14, 3rd/297; Harrison 19th/27t14-45; KDT 6th/863-64]

- The number of mites normally present in an individual patient varies, being less than 7-8 in an adult.
- Most lesions in scabies are due to hypersensitivity.

Scabies (sarcoptes scabiei var. hominis)

Morphology:

- Pruritic, erythematous papules, burrows, and vesicles in web spaces, tolar wrtsk, waist, genitals and axillae.
- Scalp,face, Palm & soles are characteristically involved in infants/children

Scabicides used are:

- Permethrin creamQ (5%), Gamma benzene hexachloride (G-BHCI%), Crotamiton (10%o)' Benzyl benzoate (25%) 6 ivermectin (single oral dose 200 mg/ kg)

213. **The following statement is TRUE for Pityriasis Rosea:**

a) Self limiting

b) Chronic relapsing

c) Life threatening infection

d) Caused by dermatophytes

e) None

Correct Answer - A

Ans. A. Self limiting

- Pityriasis rosea is an acute exanthematous papulosquamous eruption often with a characteristic self limiting course.
- The etiology is not known.
- HHV-7 more frequently, Ht{V-6 less frequently
- (It is not caused by dermatophytes).
- It is present during the spring and fall.

Morphology:

- Herald patch, Fir tree or Christmas tree appearance

Site:

- Trunk along line of cleavage; sometimes (20%) lesions occur predominantly on extremities & neck (inverse pattern)

Ref: Harrison’s Principles of Internal Medicine 16thEdition Page 292; Roxburgh's-Common Skin disease 17th Edition Page 17; Fitzpatrick's Dermatology 5th Edition Page 7369; Illustrated Textbook of Dermatology: Pasricha 3rd Edition Page 7134; Illustrated Synopsis of Dermatology & STDs, Neena Khanna 1st Edition Page 742-44

Accordign to ananthanarayan microbiology book 9th ed/p.595:

- Causatiye agent: yeast like fungus malassezia furfur (formely Pityro sp orum orbiculare) .
- Site: Upper trunk, neck 6 upper arm .
- This a chronic, usually asytnptomatic, invohtement of the startum corneum .
- The old name tinea versicolor should be discarded as pityrtasis eersicolor is not caused by dermatophytes.

214. Which of the following is/are true regarding anaesthetic gas:

a) N20- increases efficacy of other inhalational agents

b) Halothane- agent of choice in children

c) Sevoflurane is agent of choice in children

d) Isoflurane- smooth induction

e) None

Correct Answer - A:C

Ans. (A) N20- increases efficacy of other inhalational agents
(C) Sevoflurane is agent of choice in children

Nitrous Oxide:

- Good analgesia
- It is not complete anaesthesia (used as a supplement to anesthesia)
- When given along with other inhalational agent it increases the alveolar concentration of that agent (second gas effect)
- Not a muscle relaxant

Sevoflurane:

- Odour is sweet so induction is smooth
- Faster, pleasant & smooth induction with no significant systemic toxicity makes sevoflurane is the agent of choice for induction in children

215. Which one of the following anaesthetic agents does not trigger malignant hyperthermia ?

a) Halothane

b) Isotlurane

c) Suxamethonium

d) Thiopentone

e) None

Correct Answer - D

Ans. is 'd' i.e., Thiopentone

Drugs causing Malignant hyperthermia

- Succinylcholine
- Enflurane
- Methoxyflurane
- Phenothiazines
- Halothane
- Sevoflurane
- MAO inhibitors
- Lignocaine
- Isoflurane
- Destlurane
- TCA

Succinylcholine is the most common cause of MH.

Amongst anaesthetics, halothane is most common cause.

Combination of Sch and Halothane has a much higher incidence.

216. True about Endotracheal tube:

a) Most common used size for adult male is 8-8. 5

b) Most common used size for adult female is 7-7. **5**

c) PVC tube is reusable by cleaning

d) In children cuffed tube is not used

e) Cuff is for aspiration of secretions

Correct Answer - A:B:D

Ans. (A) Most common used size for adult male is 8-8. 5 (B) Most common used size for adult female is 7-7. 5 (D) In children cuffed tube is not used

[Ref Ajay Yadav 5th/43-46; Lee 13th/209; Miller 7th/Chap10; Morgans clinical anesthesia 5 th/ 321]

- The size of the tracheal tube is normally described as the internal diameter (ID) in millimeters.
- Tracheal tube size of 8 mm (ID) for moles and 7. 5 mm (ID) for females are often used.
- Two types- red rubber (reusable, costlier, non-transParent) & PVC (disposable, cheap, transparent).
- Cuff prevent leakage between the ETT & the trachea- both leakage of gas outwards during IPPV & of gastric contents, blood & mucus into the lungs.
- In children less than 10 years of age uncuffed tube should be used &-there should be slight leak to avoid barotraumas if inspiratory pressure exceeds above 30 cm H2O.

217. True about subarachnoid block (spinal anesthesia):

a) Cannot be used in infant & children

b) Can be given by unskilled doctor

c) May be used when **I.** V access is not possible for intravenous drugs

d) Hypotension is most common side-effect

e) None

Correct Answer - D

Ans. D. Hypotension is most common side-effect

[Ref Ajay Yailav 5th/155-61; Lee 13th/479; Oxford Handbook of Anesthesia 3rd/832]

Subarachnoid block:

- Most commonly used anaesthetic technique
- Adult level is usually L3-4

Indications:

- Orthopaedics surgery general surgery (pelvic & perineal), gynecological & obstetrical surgery' urological surgeries etc.,
- Most commonly drugs used in India are- xylocaine (lignocaine) & Sensoricaine (bupivacaine)
- Hypotension is most common side-effect:
- Managed by preloading & intraoperative fluids vasopressors. For this good i.V access is very imPortant.

218. Indication of CVP line is/are:

a) CVP monitoring in shock patient

b) Prior to major surgery

c) For administering inotropics through CVP line in shock patients

d) In every case of caesarean section

e) For giving blood in patient with severe haemorrhage

Correct Answer - A:B:C:E

Ans. (A) CVP monitoring in shock patient (B) Prior to major surgery (C) For administering inotropics through CVP line in shock patients (E) For giving blood in patient with severe haemorrhage

[Ref Ajay Yadav 5th/59; Morgan's clinical anesthesia 5th/100]

Indication of CVP:

- Major surgeries where large fluctuations in haemodynamics are expected
- Open heart surgeries
- Fluid management in shock
- As venous access in patients with poor peripheral veins
- Parenteral nutrition
- Aspiration of air embolism
- Cardiac pacing

219. Water lily sign is seen in:

a) Hydatid cyst of lung

b) Aspergilloma lung

c) T. B

d) Silicosis

e) Hemartoma lung

Correct Answer - A

Ans. (A) Hydatid cyst of lung

[Ref Review of Radiology by Sumer Sethi 6th/59; Dahnert Radiology manual 5th/493]

Hydatid Lung

- No or rare calcification in lung
- Water lily sign or Camalote sign (in chest X-ray)

Lung Echinococcosis:

Water lily sign:

- Completely collapsed crumpled cyst membrane floating on the cyst fluid
- Sign of Camelot
- Serpent sign
- Cumbo sign
- Meniscus sign
- Crescent sign
- **Hamartoma lung**.
- Carney's triad & calcification
- **Silicosis**: Eggshell calcification.

220. Which of the following do not use radiation:

a) MRI

b) CT

c) USG

d) SPECT

e) PET

Correct Answer - A:C
Ans. (A) MRI (C) USG
[R4 L 6 B 26th/174; Review of Radiology by Sumer Sethi 6th/5' 9; Dahnert Radiology manuat sth/ 1070-71]
Ultrasound:

- Second commonest method of imaging.
- It relies on high-frequency sound waves generated by a transducer containing piezoelectric material.

MRI:

- MRI relies on the fact that nuclei containing an odd number of protons or electrons have a characteristic motion in a magnetic field (precession) and produce a magnetic moment as a result of this motion.
- A brief radiofrequency pulse is then applied to alter the motion of the nuclei.

221. Which of the following is non-ionising radiation:

a) X-ray

b) 13 -rays

c) a -rays

d) Microwave

e) y rays

Correct Answer - D
Ans. (D) Microwave
[Ref Robbins 9th/428; Review of Radiology by Sumer Sethi 6th/166; L 6.8 26th/172]

- The energy of nonionizing radiation such as UV and infrared light, microwave & sound waves, can move atoms in a molecule or cause them to vibrate.

222. On x-ray, small bowel can be differentiated by large bowel by having:

a) String of beads sign

b) Haustarions

c) Peripherally placed concave coil of intestine

d) Air fluid level

e) Valvulae conniventes

Correct Answer - A:D:E

Ans. (A) String of beads sign (D) Air fluid level (E) Valvulae conniventes

[Ref. BDC 6th/Vol. II 438; Review Radiology by Sumer Sethi 6th/123; Grainger & Allisoni Diagnostic Radiology 6th/598, 602; Dahnert Radiology manual 5th/767; L 6 B 26th/ I 143-44]

- Dilated loops of small intestine are readily identified if they are gas filled on supine radiographs.
- The strings of beads sign, caused by a line of gas bubbles trapped b/w the valvulas contents, is seen only when very dilated small bowel is almost comPletely filled with fluid & is virtually diagnostic of small bowel obstruction.

223. For radiotherapy an isotope is paced in or around canecr site. It is called as:

a) Brachytherapy

b) Teletherapy

c) External beam therapy

d) Intensity Medulated radiotherapy

e) None

Correct Answer - A

Ans. (A) Brachytherapy

[Ref. Radiology by Sumer Sethi 6th/176; Grainger & Allison\ Diagnostic Radiology 6th/1737]

Brachytherapy:

- It refers to situations in which a radioisotope is placed onto or inside the patient.
- The source can be placed into the target tissues or tumour itself such as prostate or breast (interstitial brachytherapy, into a body cavity such as the uterine cavity, oesophagus or bronchus (intracavity/ intraluminal brachytherapy) ot onto the skin surface to treat a cutaneous malignancy

224. Normal brain calcification is /are present in:

a) Pineal gland

b) Choroids plexus

c) Thalamus

d) Duramater

e) Hypothalamus

Correct Answer - A:B:D
Ans.(A) Pineal gland (B) Choroids plexus (D) Duramater
[Review of Radiology by Sumer Sethi 6th/ 137]
Normal Intracranial Calcification:

- Pineal,habenulae
- Choroid Plexus
- Dura (falx, tentorium, over vault)
- Ligaments (petroclinoid & interclinoid)
- Pacchionianbodies
- Basal Ganglia dentate nucleus
- Pituitary
- Lens

225. Exposure & response prevention technique is/are used in:

a) Schizophrenia

b) OCD

c) Phobia

d) Mania

e) Depression

Correct Answer - B:C

Ans. (B) OCD (C) Phobia

[Ref Ahuja 7th/94,214-15,80; Kaplan & Sadock ltth/42s, 1266-67]

In OCD:

- The principal behavioral approaches in OCD are exposure and response prevention. Desensitization, thought stopping, flooding, implosion therapy, and aversive conditioning have also been used in patients with OCD.
- In behavior therapy, patients must be truly committed to improvement.

In Phobia:

- If properly planned, behavior therapy (flooding, systematic desensitization; exposure & response prevention (relaxation technique) is usually successful.

226. Most common disorder (s) after trauma is:

a) Major depression

b) Mania

c) Schizophrenia

d) PTSD

e) Acute stress reaction

Correct Answer - D:E

Ans. (D) PTSD (E) Acute stress reaction

[Ref: Ahuja 7th/1 1 1-12; Kaplan 6 Sadock 11th/437-40,449]

Posttraumatic stress disorder (PTSD):

- Starts as a delayed & protracted response to an exceptionally stressful or catastrophic life event or situation, which is likely to cause pervasive distress in almost any person (e.g disasters, war, rape or torture, serious accident.
- Symptoms may develop, after a period of latency, within six months after the stress or may be delayed beyond this period.

Acute stress reaction:

- Immediate & clear temporal relationship b/w an exceptional stressor (such as death of a loved one, natural catastrophe, accident, rape) & the onset of symptoms.
- Symptoms range from a dazed condition, anxiety, depression, anger, despair, overactivity or withdrawal constriction of field of consciousness.
- Resolve rapidly (within a few hours usually), if removal from the stressful environment is possible.

- If stress continues or cannot be reversed, resolution of symptoms begin after l-2 days & is usually minimal after about 3 days.

227. A woman has mild depression after few days of delivery & disappeared after 2 week in postpartum period. It may be due to:

a) Post-partum blue

b) Mania

c) Post-partum depression

d) Mild depression

e) Postpartum psychosis

Correct Answer - A

Ans. (A) Post-partum blue

- Normally around 25-50% of all women can develop psychological symptoms in the puerperal period.
- Commonest type of presentation is mild depression & irritability, often known as postnatal blues.
- Pass off within a few days.
- Severe psychiatric symPtoms included depressive episode with psychotic symPtoms (most common), schizophrenia like symptoms, manic episode & delirium (least common).

invalid question id