1. A 25 year old female presents with generalized restriction of eye movement in all direction, intermittent ptosis, proximal muscle weakness and fatigability.Which is the MOST useful test in making the diagnosis?

a) CPK

b) Edrophonium test

c) EMG

d) Muscle biopsy

Correct Answer - B

This patient is showing signs and symptoms of Myasthenia gravis. Edrophonium test is the most useful test in making a diagnosis of this condition because of the rapid onset and short duration of its effect. This test is considered to be positive if there is any improvement in the weakness of this patient after administration of edrophonium.

Other diagnostic tests used for diagnosing myasthenia gravis are:

- **Acetyl choline receptor antibodies:** Presence of this antibodies is virtually diagnostic of MG, but a negative test does not exclude the disease.
- **Rapid nerve stimulation test:** In this test electric shocks are delivered at a rate of 2 or 3 per second to the appropriate nerves, and action potentials are recorded from the muscles. In these patients there is a rapid reduction of >10–15% in the amplitude of the evoked responses.

Ref: Drachman D.B. (2012). Chapter 386. Myasthenia Gravis and Other Diseases of the Neuromuscular Junction. In D.L. Longo, A.S. Fauci, D.L. Kasper, S.L. Hauser, J.L. Jameson, J. Loscalzo (Eds), Harrison's Principles of Internal Medicine, 18e.

2. **Kayser- Fleischer rings (KF rings) are seen in:**

a) Pterygium

b) Hematochromatosis

c) Wilson's disease

d) Menke's kinked hair syndrome

Correct Answer - C
Wilson's disease

3. **All are features of Abetalipoproteinemia, EXCEPT:**

a) Plasma levels of cholesterol and triglyceride are extremely low

b) Manifest in early childhood with diarrhea

c) Progressive pigmented retinopathy seen

d) Neurological manifestation as ataxia in first decade

Correct Answer - D
Plasma levels of cholesterol and triglyceride are extremely low in this disorder, and chylomicrons. Abetalipoproteinemia usually presents in early childhood with diarrhea and failure to thrive.

The neurological manifestations like decreased distal lower extremity vibratory and proprioceptive sense, dysmetria, ataxia, and the development of a spastic gait, often by the third or fourth decade.

Patients also develop a progressive pigmented retinopathy presenting with decreased night and color vision.

Ref: Harrisons Principles of Internal Medicine, 18th Edition, Page 3153

4. **Which of the following findings is diagnostic of iron deficiency anemia?**

a) Increased TIBC, decreased serum ferritin

b) Decreased TIBC, decreased serum ferritin

c) Increased TIBC, increased serum ferritin

d) Decreased TIBC, increased serum ferritin

Correct Answer - A

Iron deficiency anemia is associated with increased Total iron binding capacity (TIBC) and decreased serum ferritin (storage form of iron)

Ref: Harrison's Principles of Internal Medicine, 17th Edition, Page 631, 663; Davidson's principles and practice of Medicine, 20th Edition, Chapter 24, Page 1025-1027 &1030

5. **Which of the following endocrine tumors is most commonly seen in MEN I?**

a) Insulinoma

b) Gastrinoma

c) Glucagonoma

d) Somatostatmoma

Correct Answer - B

Amongst the options provided, gastrinomas are the most common enteropancreatic tumors associated with MEN I with insulinomas being the second most common.

Ref: Harrison's Principles of Internal Medicine, 17th Edition, Page 2358 & 2359; 16th/ 2232; Davidson's principles and practice of Medicine, 20th Edition, Chapter 20, Page 803

6. **All of the following statements regarding Sickle Cell Anemia is true, EXCEPT:**

a) Patients require frequent blood transfusions

b) Patients usually presents before the age of 6 months

c) There is a positive correlation between HBS and polymerization of HBS

d) Reccurent infections is the most common cause of death

Correct Answer - B

Sickle cell anemia is an autosomal recessive disorder, caused by an amino acid substitution of valine for glutamine in the sixth position on the beta-globin chain. Onset of the disease starts during the first year of life especially after 6 months of age, when hemoglobin F levels falls, as a signal is sent to switch from production of gamma globin to beta globin.

Hemoglobin S is unstable and polymerizes during hypoxemia and acidosis, leading to sickling of red blood cells. Patients develops jaundice, pigmented gallstones, spleenomegaly, and poorly healing ulcers over the lower tibia. Acute painful episodes can occur due to acute vaso-occlusion by clusters of sickled red cells during infection, dehydration, or hypoxia. Common sites of acute painful episodes include the bones and the chest.

Ref: Current Medical Diagnosis and Treatment 2012, Chapter 13 ; Medical Assisting: Administrative and Clinical Competencies By Lucille Keir, 6th Edition, Page 471

7. Leukoerythroblastic picture may be seen in all of the following conditions, except:

a) Myelofibrosis

b) Metastatic carcinoma

c) Gaucher's disease

d) Thalassemia

Correct Answer - D

Leukoerythroblastosis refers to the presence of immature nucleated RBCs, immature white blood cells, and megakaryocyte fragments on the peripheral blood smear. It occur due to bone marrow infiltration.

When marrow infiltration causes anemia or pancytopenia, it is referred to as myelophthisic anemia. The most common cause of myelophthisis includes metastatic carcinoma of the lung, breast, or prostate. Other causes include hematologic malignancies (leukemia, lymphoma), infections (tuberculosis, fungi), and metabolic diseases (Gaucher disease, Niemann-Pick disease). *Thalassemia is not associated with leukoerythroblastosis.*

Ref: CURRENT Diagnosis & Treatment in Family Medicine, 3rd Edition, Chapter 31

8. **All of the following are major complications of massive transfusion, except:**

a) Hypokalemia

b) Hypothermia

c) Hypomagnesemia

d) Hypocalcemia

Correct Answer - A
Ans:A.)Hypokalemia.

Complications usually seen with massive blood transfusion are

- 1) hyperkalemia,
- 2) hypocalcemia,
- 3)hypomagnesemia
- 4) hyperammonemia,
- 5) hypothermia,
- 6) Acidosis
- 7)dilutional coagulopathies and DIC (most worrisome problem after massive transfusion and is the usual cause of death after massive blood transfusion) and
- 8) ARDS.

The lethal triad of acidosis, hypothermia, and coagulopathy associated with MT is associated with a high mortality rate.

9. **Richter's syndrome refers to which of the following malignant transformation?**

a) CLL evolving into aggressive lymphoma

b) Hairy cell leukemia evolving to AML

c) Blast crisis in CML

d) Splenic infiltration in NHL

Correct Answer - A
Ans. A. CLL evolving into aggressive lymphoma
Richter's transformation or Richter's syndrome is a complication of B cell chronic lymphocytic leukemia (CLL) or hairy cell leukemia (HCL) in which the leukemia changes into a fast-growing diffuse large B cell lymphoma.

10. **Sickle cell anemia leads to resistance towards?**

a) P. falciparum

b) P. ovale

c) P. malariae

d) P. vivax

Correct Answer - A

Individuals with sickle cell trait (hemoglobin genotype AS) are resistant to the lethal effects of **Plasmodium falciparum** infection.
This is because the sickle cell traits prevents the development of high parasitemia, probably partly as a result of parasitized red cells sickling in the circulation and being removed by the spleen before they can develop into schizonts.
Absence of RBC Duffy antigen confers resistance to P. Vivax.

Ref: Harrison's 17th ed chapter 213 ; Essentials of clinical immunology by Helen Chapel, Man;e. Haeney, Siraj Misbah, 5th edition, Page 48 ; Lecture Notes: Tropical Medicine edited by G. V. Gill, Nick Beeching, 2011, Page 62.

11. **Romiplostim acts on which of the following receptors:**

a) Thrombopoeitin

b) IL 6

c) IL 8

d) PGE 1

Correct Answer - A

Romiplostim: Genetically engineered protein in which the Fc component of a human antibody is fused to two copies of a peptide that stimulates the thrombopoietin receptors; approved for treatment of idiopathic thrombocytopenic purpura

Ref: Katzung 11th edition Chapter 33.

12. **Oncogene associated with burkitt's lymphoma is:**

a) BCL-1, IgH

b) BCL-2, IgH

c) C-MYC

d) ALK

Correct Answer - C

Disease	Cytogenetic Abnormality	Oncogene
Mantle cell lymphoma	t(11;14)(q13;q32)	BCL-1, IgH
Follicular lymphoma	t(14;18)(q32;q21)	BCL-2, IgH
Diffuse large cell lymphoma	t(3;-)(q27;-) t(17;-)(p13;-)	BCL-6 p53
Burkitt's lymphoma, Burkitt's leukemia	t(8;-)(q24;-)	C-MYC
CD30+ Anaplastic large cell lymphoma	t(2;5)(p23;q35)	ALK
Lymphoplasmacytoid lymphoma	t(9;14)(p13;q32)	PAX5, IgH

Ref: Harrison, E-18,P-921

13. **FALSE statement regarding the ECG in acute pericarditis is:**

a) T wave inversion develop before ST elevations return to baseline

b) Global ST segment elevation is seen in early pericarditis

c) Sinus tachycardia is a common finding

d) PR segment depression is present in majority of patients

Correct Answer - A

T wave inversion develop after ST elevations return to baseline.

There are four stages of ECG changes in the evolution of acute pericarditis. In **stage 1,** there is widespread elevation of the ST segments, often with upward concavity, involving two or three standard limb leads and V2 to V6, with reciprocal depressions only in aVR and sometimes V1, as well as depression of the PR segment Usually there are no significant changes in QRS complexes. In **stage 2**, after several days, the ST segments return to normal, and only then, or even later, do the T waves become inverted (**stage 3**). Ultimately, weeks or months after the onset of acute pericarditis, the ECG returns to normal in **stage 4.**

Ref: Harrisons principles of internal medicine, 18th edition, Page: 1971

14. **Omalizumab is used in treatment of:**

a) Breast carcinoma

b) Asthma

c) Rheumatoid arthritis

d) None of the above

Correct Answer - B

Omalizumab is a blocking antibody that neutralizes circulating IgE without binding to cell-bound IgE; it thus inhibits IgE-mediated reactions.

This treatment has been shown to reduce the number of exacerbations in patients with severe asthma and may **improve asthma control.** However, the treatment is very expensive and only suitable for highly selected patients who are not controlled on maximal doses of inhaler therapy and have a circulating IgE within a specified range.

Ref: Harrison's principle of internal medicine 17th edition, chapter 248.

15. **The pathognomonic finding in miliary TB is which of the following?**

a) Bone marrow infiltrations

b) Choroid tubercles

c) Miliary mottling in chest X-Ray

d) Histological finding in liver biopsy

Correct Answer - B

Eye examination may reveal choroidal tubercles, which are pathognomonic of miliary TB, seen in up to 30% of cases.

Reference:
Harrisons Principles of Internal Medicine, 18th Edition, Page 1349

16. **All are important pathogens causing pneumonia in COPD patients, EXCEPT:**

a) Haemophilus influenzae

b) Pseudomonas aeruginosa

c) Legionella spp

d) Klebsiella pneumoniae

Correct Answer - D

All are important pathogens causing pneumonia in COPD patients

- Haemophilus influenzae
- Pseudomonas aeruginosa
- Legionella spp
- S. pneumoniae
- Moraxella catarrhalis
- Chlamydia pneumoniae
- Klebsiella is an important pathogen causing pneumonia in chronic alcoholism.

Ref: Harrison, E-18, P-2132

17. PNH patients will be having deficient surface proteins that normally protect the red cells from activated compliments. What are the two deficient surface proteins?

a) CD 45 and CD 59

b) CD 51 and CD 59

c) CD 55 and CD 59

d) CD58 and CD 59

Correct Answer - C
The definitive diagnosis of PNH is based on the demonstration that a substantial proportion of the patient's red cells have an increased susceptibility to complement (C), due to the deficiency on their surface of proteins (particularly CD59 and CD55).
Reference: Harrisons Principles of Internal Medicine, 18th Edition, Page 884

18. Which of the following biochemical test is used to diagnose Dubin Johnson syndrome?

a) Serum transaminases

b) Bromsulphalein test (BSP)

c) Hippurate test

d) Gamma glutamyl transferase level

Correct Answer - B

Bromsulphalein test (BSP) is the diagnostic test for Dubin-Johnson Syndrome. Biliary excretion of numerous anionic compounds such as Bromsulphalein (BSP) is compromised in Dubin-Johnson Syndrome (DJS). In this test, BSP is administered as IV bolus and its clearance from plasma is determined. BSP levels show a characteristic rise in patients with DJS after 90 minutes of injection, due to reflux of conjugated BSP into the circulation from the hepatocyte.

Ref: Davidson's principles and practice of Medicine, 20th Edition, Chapter 23, Page 945; Harrison's Principles of Internal Medicine, 16th Edition, Page 1821; Digestive Diseases and Sciences Vol/17 numbers 6.

19. **Cholecystokinin is produced from:**

a) Hepatocyte

b) Gastric mucosa

c) Duodenal mucosa

d) Epithelial cells of distal common bile duct

Correct Answer - C

The major factor controlling the contraction of the gallbladder is the hormone cholecystokinin (CCK), which is released from the duodenal mucosa (I cells) in response to the ingestion of fats and amino acids.

Reference:

Harrisons Principles of Internal Medicine, 18th Edition, Page 2616

20. **Esophageal manometry is useful all this conditions EXCEPT:**

a) Achalasia

b) Diffuse esophageal spasm

c) To assess the peristaltic integrity prior to the surgery for GERD

d) Malignancy

Correct Answer - D

Esophageal manometry, or motility testing, entails positioning a pressure sensing catheter within the esophagus.

Manometry is used to diagnose

1. Motility disorders (achalasia, diffuse esophageal spasm)
2.To assess peristaltic integrity prior to the surgery for reflux disease.

Esophageal malignancy is not diagnosed with esophageal manometry. Upper GI endoscopy is the effective method for malignancy and biopsy can be taken.

Ref: Harrison, Edition-18,Page-2430

21. **Which of the following drugs is useful in the prophylaxis of migraine?**

a) Propranolol

b) Sumatriptan

c) Domperidone

d) Ergotamine

Correct Answer - A

Drugs such as topiramate, valproate, propanolol, timolol, candesartan, verapamil and amitryptilline are indicated in migraine prophylaxis.

Migraine prophylaxis is indicated when migraine headaches occur more than two or three times a month or when it is associated with significant disability. After initiation of therapy,it should be continued for several months. Once the patient remains headache free, the dose is tapered and the drug is eventually withdrawn. Botulinum toxin type A was approved by the US Food and Drug Administration (FDA) for migraine prevention in late 2010.

Ref: Current Medical Diagnosis and treatment 2012, Chapter 24

22. **All of the following are true about treatment of migraine, EXCEPT:**

a) Naratriptan acts longer than sumatryptan

b) Sumatryptan is used in acute attack of migraine

c) Sumatryptan acts on 5HT 1B/1D receptors in great vessels

d) Sumatryptan is used for chronic migraine

Correct Answer - D

Sumatriptan is an agonist at 5-HT serotonin receptors, in particular $5HT_{1B/1D}$ receptors. It is used in the treatment of acute migraine attacks but is not recommended for migraine prophylaxis. The drug provides rapid relief of migraine headache as well as relief of the associated manifestations of migraine including nausea, vomiting, photophobia and phonophobia.
Short-acting, rapidly effective triptans include almotriptan, sumatriptan, rizatriptan, zolmitriptan, and eletriptan, whereas naratriptan and frovatriptan have the longest half-lives.

$5HT_{1B/1D}$ receptor agonists are sumatriptan, naratriptan, rizatriptan, and zolmitriptan.

Ref: Instant Pharmacology By Kourosh Saeb-Parsy, Ravi G. Assomull, Fakhar Z. Khan, Kasra Saeb-Parsy, Eamonn Kelly, 1999, Page 300 ; Harrison's 17th ed chapter 15

23. **Lateral medullary syndrome is due to the occlusion of which of the following vessels?**

a) Posterior superior cerebellar artery

b) Anterior inferior cerebellar artery

c) Basilar artery

d) Vertebral artery

Correct Answer - D

Lateral medullary syndrome is otherwise known as Wallenberg's syndrome or PICA syndrome or vertebral artery syndrome.
Occlusive disease of the intracranial segment of the vertebral artery is a much more frequent cause of the lateral medullary syndrome.
Signs and symptoms include:
Ipsilateral side
Horner's syndrome
Decrease in pain and temperature sensation on ipsilateral side of face
Cerebellar signs (ataxia)
Contralateral side:
Decreased pain and temperature on contralateral body
Dysphagia, dysarthria, hoarseness, paralysis of vocal cord
Vertigo, nausea, vomiting, hiccups
Nystagmus, diplopia
No facial or extremity muscle weakness seen in this syndrome.

Ref: Physical Medicine and Rehabilitation Board Review By Sara Cuccurullo, 2004, Page 11 ; Harrison's Internal Medicine 17th ed Chapter 364. Cerebrovascular Diseases, Brainstem disorders by Peter P Urban, Louis R Caplan page 205-207.

24. **POEMS Syndrome includes all, EXCEPT:**

a) Polyneuropathy

b) Organomegaly

c) Endocrinopathy

d) Multiple sclerosis

Correct Answer - D

The features of this syndrome are **polyneuropathy, organomegaly, endocrinopathy, multiple myeloma, and skin changes (POEMS).**

Patients usually have a severe, progressive sensorimotor polyneuropathy associated with sclerotic bone lesions from myeloma. Polyneuropathy occurs in ~1.4% of myelomas, but the POEMS syndrome is only a rare subset of that group.

Unlike typical myeloma, hepatomegaly and lymphadenopathy occur in about two-thirds of patients, and splenomegaly is seen in one-third.

Ref: Harrison's principle of internal medicine 17th edition, Chapter 106.

25. Barr body is found in the following phase of the cell cycle:

a) Interphase

b) Metaphase

c) GI phase

d) Telophase

Correct Answer - A
A i.e. Interphase
The inactive X can be seen in the interphase nucleus as a darkly staining small mass in contact with the nuclear membrane known as the Barr body or X chromatin. Barr body is the inactivated X chromosome. In non dividing interphase cells it remains tightly coiled and can be seen as a dark staining body within the nucleus.

26. All of the following statements about Pulsus Bigeminus are true, except:

a) Must be distinguished from Pulsus Alternans

b) Is a sign of digitalis toxicity

c) Compensatory pause is absent

d) Rhythm is Irregular

Correct Answer - C
Answer is C (Compensatory pause is absent):
Pulsus Bigeminus is associated with a compensatory Pause. Compensatory pause is absent in Pulsus Alternans
Pulsus Bigeminus is a disorder of rhythm (Irregular rhythm) caused by a normal heat alternating with a premature contraction and a compensatory pause resulting in alternation of the strength of pulse. The stroke volume of the premature beat is diminished in relation to that of the normal beats, and the pulse varies in amplitude accordingly. Pulsus Bigeminus most closely mimics Pulsus Alternans from which it must be distinguished. In Pulsus Alternans the rhythm is regular and the compensatory pause is absent.

27. Pulsus Bigeminus is seen in therapy with:

a) Digitalis

b) Beta Blockers

c) ACE Inhibitors

d) Calcium Channel Blockers

Correct Answer - A
Answer is A (Digitalis)
Pulsus Bigeminus is recognized as a cause of digitalis toxicity. Pulsus Bigeminus is a disorder of rhythm (Irregular rhythm; arrhythmia) most commonly caused by Premature Ventricular Contractions that results in a pulse with irregular rhythm that alternates in amplitude (pressure) from beat to beat. The most common cause of Pulsus Bigeminus is Digitalis and Pulsus Bigeminus is recognized as a cause of digitalis toxicity.

28. Wide pulse pressure is seen in all except:

a) PDA

b) Aortic stenosis

c) Aortic Regurgitation

d) A.V. malformation

Correct Answer - B
Answer *is* B (Aortic Stenosis)
Aortic Stenosis is associated with a narrow pulse pressure. Patent Ductus Arteriosus (PDA), Aortic Regurgitation and AV Malformations (Arteriovenous shunting) are all associated with a wide pulse pressure.

29. Erb's Point in cardiology refers to:

a) Right 2nd intercostal space

b) Left 2nd intercostal space

c) Right 3rd intercostal space

d) Left 2nd intercostal space

Correct Answer - C

Answer *is* C (Right 3rd intercostal space)

In cardiology, Erb's point refers to the third intercostal space on the left sternal border where both components of S2 (A2 and P2) can be well appreciated.

Both components of S2 (A2 and P2) are usually well transmitted to the Erb's point. The physiological splitting of S2 into A2 and P2 is believed to be appreciated best at the Erb's point or in the pulmonic area.

- A2 is best heard over the aortic area in the right second intercostal space
- P2 is best heard over the pulmonic area in the left second intercostal space
- *Second heart sound (S2) is best heard over the pulmonic area (Since both A2 and P2 can be heard at the pulmonic area) and at the Erb's Point. Note that even at the pulmonic area A2 is louder than P2*

1. Aortic area	Second intercostal space to the right of the sternum (along right upper sternal border)
2. Pulmonic area	Second intercostal space to the left of the sternum (along left upper sternal border)
3. Erb's point	Third intercostal to the left of the sternum(along left sternal border)

4.	Tricuspid area	Fourth or Fifth intercostal space to the left of the sternum (along left lower sternal border)
5.	Mitral area (Apex)	Fifth intercostal space on the left midclavicular line.

30. S2 is best appreciated in:

a) 3rd left intercostal space

b) 2nd right intercostal space

c) 4th left intercostal space

d) 5 left intercostal space

Correct Answer - A
Answer *is* A (3rd left intercostal space)
Best areas to auscultate for both components of the second heart sound (A2 and P2) are either the left sternal border at the level of second intercostal space (Pulmonic area) or the left sternal border at the level of third intercostal space (Erb's point).
The second heart sound has two components A2 (from Aortic closure) and P2 (from pulmonary closure). P2 is a soft sound that is poorly transmitted. It is best heard at the pulmonic area and is transmitted only as far as the Erb's point. A2 is a loud sound best heard over the aortic area but since it is widely transmitted it may be heard across all areas of the chest even as far as the apex. Second heart sound (S2) is best heard over the pulmonic area (Since both A2 and P2 can be heard at the pulmonic area). Note that even at the pulmonic area A2 is louder than P2. The other area to auscultate for both components of the second heart sound is at the left sternal border of the third intercostal space (Erb 's point)

31. Paradoxical splitting of second heart sound is seen in?

a) RBBB

b) ASD

c) LBBB

d) VSD

Correct Answer - C
Answer is C (LBBB)
Left Bundle Branch Block (LBBB) is typically associated with Reversed or Paradoxical Splitting of S2
Paradoxical splitting of second heart sound is caused by delayed A2 or early P2. Left Bundle Branch Block (LBBB) is associated with delayed Aortic closure (delayed A2) due to delayed electrical activation of the left ventricle.
ASD and RBBB are associated with a wide physiological (non-paradoxical) split of second heart sound due to delayed pulmonic closure (Delayed P2) while VSD is associated with a wide physiological (non-paradoxical) split second heart sound from early aortic closure (Early A2).

32. All of the following statements about third Heart sound (S3) are true, except:

a) Occurs due to rapid filling of the ventricles during atrial systole

b) Seen in in Constrictive Pericarditis

c) Seen in Atrial Septal Defect (ASD)

d) Seen in Ventricular Septal Defect (VSD)

Correct Answer - A

Answer *is* **A (Occurs due to rapid filling of the ventricles during atrial systole)**

Third heart sound occurs at the end of early rapid filling phase of the ventricle but not at the time of atrial systole. The heart sound associated with ventricular filling during atrial systole is the fourth heart sound (S4)

Fourth Heart sound occurs in association with an effective atrial contraction() (It is presumably caused by in-rush of blood into the ventricles when the atria contracts and hence it is also called the 'Atrial Heart Sound)

Pathological Third Heart Sound (S3) may be associated with ASD and VSD

`A pathological S3 is often present in large left to right shunts due to high flow across the mitral valve with VSD or patent ductus arteriosus and with high flow across the tricuspid valve with ASD. The presence of this sound in these conditions does not imply congestive heart failure, and such patients may maintain normal myocardial contractility for years after the S3 is detected'- 'Hurst: The Heart' 11th/271

Congenital Heart Diseases associated with Loud S3

- Ventricular septal Defect (VSD)()

- Patent Ductus Arteriosus (PDA)Q
- Atrial Septal Defect (ASD)Q

Pathological Third Heart Sound (S3) may be associated with Constrictive Pericarditis

Constrictive pericarditis is characterixstically associated with pericardial knock which is a distinct form of third heart sound (S3)

`Pericardial knock is S_3 that occurs earlier (0.1 to 0.12 after A2) and is higher pitched than normal. Its presence depends upon the restrictive effects of the adherent pericardium which halts diastolic filling abruptly'

33. Left Axis Deviation is seen as

a) Positive in Lead I and Positive in Lead II

b) Positive in Lead I and Negative in Lead II

c) Negative in Lead I and Negative in Lead II

d) Negative in Lead I and positive in Lead II

Correct Answer - B
Answer is B (Positive in Lead **I** and Negative in Lead **II)**
Left axis deviation is seen as positive deflexion in Lead I and a Negative deflection in Lead II.
Calculating the cardiac axis:

	Normal Axis	Right axis deviation	Left axis deviation
Lead I	Positive	Negative	*Positive*
Lead II	Positive	Positive or negative	*Negative*
Lead III	Positive or negative	Positive	*Negative*

Note:
Lead I : POSITIVE BETWEEN -90 TO +90 (CLOCKWISE) Lead II : POSITIVE BETWEEN -30 TO +150 (CLOCKWISE) Lead III : POSITIVE BETWEEN +30 TO -150 (CLOCKWISE)

34. P wave is due to:

a) Atrial depolarization

b) Atrial repolarization

c) Ventricular depolarization

d) Ventricular repolarization

Correct Answer - A
Answer *is* A (Atrial Depolarization)
P wave is produced due to atrial depolarization.

Intervals	Events in the Heart During Interval
P wave	*Atrial depolarization*
PR interval	*Atrial depolarization and conduction through AV node*
QRS duration	*Ventricular depolarization and atrial repolarization*
QT interval	*Ventricular depolarization plus ventricular repolarization*
ST interval (QT minus QRS)	*Ventricular repolarization*

35. Absent P Wave is seen in:

a) Atrial Fibrillation

b) Cor-pulmonale

c) Mitral Stenosis

d) COPD

Correct Answer - A

Answer is A (Atrial Fibrillation)

P wave is typically absent in Atrial Fibrillation. COPD and Cor-Pulmonale are associated with tall p waves from Right Atrial Enlargement (P-Pulmonale) while Mitral Stenosis is typically associated with a wide and notched p wave from Left Atrial Enlargement (P-Mitrale)

Causes of Absent Wave:

- Atrial fibrillation (p' wave is absent or replaced by fibrillary T wave)
- Atrial flutter (p' wave is replaced by flutter wave, which shows saw-tooth appearance).
- SA block or sinus arrest
- Nodal rhythm (usually abnormal, small p wave).
- Ventricular ectopic and ventricular tachycardia.
- Supraventricular tachycardia (p' wave is hidden within QRS, due to tachycardia).
- Hyperkalemia.
- Idioventricular rhythm

Right Atrial Enlargement(RAE) is typically associated with tall P waves *P Pulmonale*

(COPD and Cor-Pulmonale are associated with tall p waves from RAE)

Left Atrial enlargement(LAE) is typically

associated with wide P waves	*P Mitrale*
(Mitral Stenosis is typically associated with a wide and notched p wave from LAE	

36. A patient in regular rhythm presents with absent P waves on ECG. Leads II, III and AVF reveal a Saw-Tooth Pattern. Which of the following is the most likely diagnosis:

a) Atrial Fibrillation

b) Atrial Flutter with Variable Block

c) Atrial Flutter with Fixed Block

d) Multifocal Atrial Tachcardia

Correct Answer - C

Answer *is* C (Atrial Flutter with Fixed Block)

*The absence of any discernible P waves on ECG, together with the presence of Saw Tooth Flutter waves in inferior leads (Leads **II, III** and AVF) strongly suggests a diagnosis of Atrial Flutter. The presence of a regular rhyti,,o suggests a Fixed Block .*

Findings/Features	**Diagnosis**
Irregular Rhythm with no discernible P wave (Chaotic base line with fibrillary f waves)	Atrial Fibrillation
Irregular rhythm with no discernible P wave (Saw tooth ¸Ilutter waves especially in inferior leads and VI)	*Atrial Flutter with variable block*
Regular rhythm with no discernible P waves (Saw tooth flutter waves especially in inferior leads and V1)	*Atrial Flutter with fixed block*
Irregular Rhythm with multiple P wave morphologies (P waves Discernible) and Varying PR intervals	Multifocal Atrial Tachycardia

37. A wide and notched P wave is typically seen in:

a) Mitral Stenosis

b) Cor-Pulmonale

c) COPD

d) Pulmonary embolism

Correct Answer - A
Answer *is* A (Mitral Stenosis)
Mitral Stenosis is typically associated with a Wide and Notched P wave from Left Atrial Enlargement (LAE) Cor-Pulmonale, COPD and Pulmonary embolism are all associated with Right Atrial Enlargement resulting in a Tall P wave (not a wide p wave)

38. A QRS duration between 100 and 120 milliseconds suggests all of the following, Except:

a) Normal

b) Left anterior Fascicular Block

c) Left posterior Fascicular Block

d) Left Bundle Branch Block

Correct Answer - D
Answer *is* D (Left Bundle Branch Block)
Left Bundle Branch block is typically associated with a QRS duration greater than 120 milli seconds.
Partial Blocks (Fascicular or hemiblocks) in the left bundle system (left anterior or posterior fascicular blocks) generally do not prolong the QRS duration substantially and QRS duration typically remains less than 120 milliseconds.

39. Low QRS voltage on ECG with left ventricular hypertrophy on Echocardiography suggests a diagnosis of:

a) Pericardial effusion

b) Cardiac Amyloidosis

c) Corpulmonale

d) Infective endocarditis

Correct Answer - B
Answer is B (Cardiac Amyloidosis)
Low QRS voltage on ECG with left ventricular hypertrophy on Echocardiography suggests a diagnosis of infiltrative cardiomyopathy like amyloidosis.
The combination of low QRS voltage plus a thick left ventricle on echocardiogram strongly suggests the diagnosis of infiltrative cardiomyopathy like cardiac amyloidosis. The increased thickness is the amyloid. It is not muscle (not true hypertrophy), does not depolarize and therefore adds nothing to QRS voltage

40. Tall T waves on ECG are seen in:

a) Hyperkalemia

b) Hypokalemia

c) Hypercalcemia

d) Hypocalcemia

Correct Answer - A
Answer is A (Hyperkalemia)
Hyperkalemia is typically associated with Tall peaked narrow based frnted T wave.

41. ST elevation is seen in all of the following conditions *except :*

a) Myocardial infarction

b) Coronary artery spasm

c) Constrictive pericarditis

d) Ventricular aneurysm

Correct Answer - C
Answer is C (Constrictive pericarditis)
ST segment is measured from the end of QRS complex to the beginning of the T wave, and represents the time interval between ventricular depolarization and repolarization.

42. The most common reentrant tachycardia associated with WPW syndrome is

a) Orthodromic AV reentry

b) Antidromic AV reentry

c) Rapidly conducting AF

d) None

Correct Answer - A
Answer is A (Orthodromic AV reentry)
123.The most common macro-reentrant tachycardia associated WPW syndrome is orthodromic AV reentry.
The most common macro-reentrant tachycardia associated with WPW syndrome is referred to as Orthodromic AV reentry'

43. Athletic syndrome is characterized by:

a) Increased amplitude of QRS

b) Tachycardia

c) Decreased QT interval

d) U-waves

Correct Answer - A
The answer is A (Increased amplitude of QRS complex):
Athletic Heart Syndrome

- Athletic Heart Syndrome is a benign condition consisting of physiologic adaptations to the increased cardiac workload of exercise in trained athletes.
- It represents a constellation of clinical findings that are the result of normal physiologic adaptation to strenuous physical activity.
- In response to the increased physical demand, the left ventricles dilate and wall thickness increases. The mass to volume ratio, however, does not change.

Physical examination

- Decreased body fat and increased muscle mass (generally very physically fit)
- Pulse slow and often irregular (sinus bradycardia or bradycardia with first-and second-degree blocks)
- Grade I or II mid-systolic murmurs (benign functional ejection murmur resolves with Valsalva maneuver)
- Third and fourth heart sounds very common (benign filling sounds)
- Blood pressure typically remains normal

Electrocardiogram rhythm

- Rhythm
  - Sinus bradycardia of 40 to 55 beats /min while at rest

- Sinus pauses of more than 2.0 seconds due to increased vagal tone
- Wandering atrial pacemaker found only in dynamic athletes
- First degree atrioventricular block present only at rest; P-R interval normalizes with exercise
- Second degree atrioventricular block present only at rest: Mobitz I (wenckebach block) common in marathon runners; Mobitz II rare in athlete's heart.

- *Voltage:* TORS *voltage (Amplitude)*
  - Left ventricular hypertrophy found in 85% of Olympic marathon runners
  - Right ventricular hypertrophy common in dynamic athletes but rarely seen in sedentary controls and static athletes sedentary control and static athletes
- Repolarization
  - S-T segment elevation with peaked T waves normalizes with exertion
  - S-T segment depression may be rarely found in athletes

T-wave inversion in lateral leads associated with interventricular septal hypertrophy in static athletes (can be a normal finding in dynamic athletes)

Chest radiography

- The heart is globular in appearance, particularly in endurance athletes.
- Cardiomegaly (cardiothoracic ratio >0.50)

44. Predisposing factors for coronary artery disease include, all Except:

a) Homocysteinemia

b) ↑ Lipoprotein B

c) ↑ Fibrinogen

d) ↑ plasminogen activator inhibitors 1

Correct Answer - B
Answer is B (↑· Lipoprotein B)
Predisposing factors for coronary artery disease include an increased lipoprotein 'a' and not lipoprotein '6'.

45. 40 year old male patient presents to the Emergency department with central chest pain for 2 hours. The ECG shows ST segment depression and cardiac troponins are elevated. Patient has a positive history of previous PCI 3 months back. He is administered Aspirin, Clopidogrel, Nitrates and LMWH, in the Emergency Department and shifted to the coronary are unit. The best recommended course of further action should include.

a) Immediate Revascularization with Thrombolytics

b) Early Revascularization with PCI

c) Continue conservative management and monitoring of cardiac enzymes and ECG

d) Continue conservation management and plan for delayed Revascularization procedure after patient is discharged

Correct Answer - B
Answer is B (Early Revascularization with PCI)
The patient presenting as a case of NSTE M I to the emergency department.
The presence of elevated cardiac troponins and history of previous PCI place the patient into a high 'risk category'.
*The Patient in question is th **10** a 'high risk' patient with NSTEMI*

Such patients are candidates for early invasive management with PCI/CABG.

46. The most common toxin causing Dilated Cardiomyopathy is:

a) Alcohol

b) Chemotherapeutic agents

c) Heavy metal

d) Occupational exposure

Correct Answer - A

Answer is A (Alcohol)

Chronic Alcohol Consumption is the most common cause of Toxic Dilated Cardiomyopathy. Alcohol is the most common toxin implicated in chronic dilated cardiomyopathy'

Note :

Dilated cardiomyopathy is the most common type of cardiomyopathy The most common cause of dilated cardiomyopathy is Idiopathic (Two-Thirds) Alcohol Consumption is the most common cause of Toxic Dilated Cardiomyopathy

47. The 9 month old child of a diabetic mother presents with tachypnea and hepatomegaly. Echocardiography of the heart showed normal cardiac morphology with asymmetric septal hypertrophy. Which of the following you will give to treat this child :

a) Digoxin

b) Frusemide

c) Propranolol

d) Isoptin

Correct Answer - C
Answer is C (Propranolol)
The symptoms of the patient and echocardiographic finding of asymmetrical septal hypertrophy almost confirms the diagnosis of Hypertrophic cardiomyopathy. Beta Blockers should be the initial drug Q in symptomatic individuals
Management of HOCM

- Avoidance of strenuous physical activity
- Beta Blockers should be the initial drug Q in symptomatic individuals. They reduce:

- Heart rate

- Blood pressure

- Stiffness of left ventricle

- Fatal arrythmias

- Calcium channel Blockers[Q] (verapamil and diltiazem) are alternative drugs.

  - They reduce-stiffness of ventricle

  - Elevated diastolic pressures

- Amiadarone may be used to reduce arrythmias.
- Surgical myomectomy

48. Kussmaul's sign is classically described in:

a) Restrictive Cardiomyopathy

b) Pericardial Tamponade

c) Constrictive pericarditis

d) Right Ventricular Infarct

Correct Answer - C
Answer is C (Constrictive pericarditis)
Kussmaul's sign is classically described in association with Constrictive Pericarditis.
Kussmaul's sign refers to paradoxical elevation of JVP/CVP during inspiration (In healthy persons venous pressure falls during inspiration because pressures in the right heart decrease as intrathoracic pressures fall) The Kussmaul's sign is classically described in association with Constrictive pericarditis. Kussmaul's sign is however also seen in association with Right Ventricular Infarction, Restrictive Cardiomyopathy, Pulmonary Embolism and Advanced Systolic Severe Heart Failure

49. Hypertension with Hypokalemia is seen in:

a) Bartter Syndrome

b) Liddle's Syndrome

c) Gitelman's Syndrome

d) All of the above

Correct Answer - B

Answer is B (Liddle's Syndrome)

Liddle's Syndrome is typically associated with Hypokalemia and Hypertension. Rartter's Syndrome and Gitelman's Syndrome are also associated with hypokalemia but without hypertension.

Liddle's Syndrome : Review

Pathophysiology:

- *Autosomal dominant disorder.*
- *Genetic defect in the collecting tubule sodium channel, resulting in in of inhibition by higher levels of intracellular sodium*

Age of Presentation

- *Often diagnosed at young age, but can present in adulthood due to p*

Clinical presentation

- *Classic triad of hypertension, metabolic alkalosis, and hypokalemia.*
- *Consider iffamily history of hypertension and/or hypokalemia. at you*

Lab data

- *Metabolic alkalosis, hrpokalemia (although some are low normal), lo*

Treatment:

- *Lifelong. Potassium-sparing diuretic which closes the sodium channe*

Spironolactone does not work because aldosterone is not causing the s

50. Which of the following statements about atrial myxomas is true

a) Most common in Left Atrium

b) More common in Males

c) Distant metastasis are seen

d) Most myxomas are familial

Correct Answer - A
Answer is A (Most common in Left Atrium)
Cardiac Myxomas are usually located in the atria, most common in the left.
Cardiac myxomas

- Are the most common type of primary cardiac tumors[Q]
- Occur at *all ages* and show *no sex preference (mixes equally with both sexes)*[Q]
- *Most cardiac myxomas are sporadic,* while some may be familial

Sporadic myxomas :

- Are solitary [Q]
- Located in Atria, most commonly in the left [Q]
- Unlikely to have post-op recurrence [e]
- Occur in younger individuals [Q]

Familial myxomas :

- Are multiple °
- More likely to have post op recurrence *e*

Myxomas are benign tumors and therefore distant metastasis are not seen.?

51. Which condition is most commonly associated with coarctation of aorta?

a) PDA

b) Bicuspid aortic valve

c) Aortic stenosis

d) VSD

Correct Answer - B

Answer is B (Bicuspid Aortic Valve)

The most common associated cardiac anomaly with coarctation of aorta is bicuspid aortic valve (Harrison's 17th /1462) *Coarctation of aorta is associated with a bicuspid aortic valve in more than 70% of cases* - (Nelson 18th / 1900)

Associated anomalies with coarctation of Aorta Q	**Shone complex**
• *Bicuspid Aortic valve(' (commonest)* • *PDAQ* • *VSDQ* • *Tubular hypoplasia of aortic arch('* • *Aortic stenosisQ (valvular / subvalvular)*	Coarctation of Aorta Left sided obstructive lesions *(Mitral valve abnormalities and subaortic stenosis)*

Other Associated lesions that have been asked previously

- *Mitral valve abnormalities (Subvalvular mitral ring /parachute mitral valve)*
- *Turner's syndrome('*

52. Acute Infective Endocarditis with abscess formation is most commonly associated with

a) Listeria

b) Staphylococcus

c) Streptococcus

d) Enterococcus

Correct Answer - B
Answer is B (Staphylococcus)
Acute Infective Endocarditis with abscess formation is most commonly associated with staphylococcus.
`The most common organism causing acute infective endocarditis overall is staphylococcus aureus. Staphylococcus aureus endocarditis is particularly virulent and associated with annular and myocardial abscess formation and a higher mortality'

53. In Marfan's syndrome, Aortic aneurysm occurs most commonly in:

a) Ascending aorta

b) Descending aorta

c) Abdominal aorta

d) Arch of aorta

Correct Answer - A
The answer is A (Ascending Aorta)
Aortic aneurysms in Marfan's syndrome occur most frequently in the ascending aorta.
Cardiovascular lesions in Marfan's syndrome
Cardiovascular lesions are the most life-threatening features of Marfan's syndrome.
Mitral valve prolapse(MVP)

- Loss of connective tissue support in mitral valves leaflets makes them soft and blowy creating the so-called *'floppy valve'.*
- Mitral regurgitation frequently results.

Dilatation of Ascending Aortae

- The media undergoes cystic necrosis (cystic medionecrosis).
- Loss of medial support results in progressive dilatation of aortic valve ring and root of the aorta
- Severe aortic incompetence Aortic dissections

54. Which of the following is not expected in a case of Microcytic Hypochromic Anemia:

a) Reduced serum Iron

b) Reduced Total RBC distribution Width

c) Normal Ferritin levels

d) Increased TIBC

Correct Answer - B

Answer *is* **B (Reduced Total RBC distribution width**

Microcytic Hypochromic Anemias are typically associated with a Normal or High Red Cell Distribution Width

Condition Test (normal values)	Iron deficiency	Thalassemia	Sideroblastic anemia	Anemia of chron disease
Smear Microcytic (MCV<80)	Microcytic hypochromic	Microcytic hypochromic	Microcytic hypochromic	Normocytic normochromic > Micro/hypochrom (but Micro/Hypo may be present
Serum iron (50-150n/d1)	Low (<30)	Normal	Normal	.1. (<50)
TIBC (300-360 µg/dl)	High (>360)	Normal	Normal (Chandrasoma Taylor)	,i, (<300)
% Saturation	< 10 (J')	N or Ted	N or "l'	4,

Saturation **(30-50%)**		**(30-80)**	**(30-80)**	**(10-20)**
Ferritin (R/1) **(50-200 µg/L)**	< 15 (f[ed])	T **(50-300)**	T (50-300)	Normal or T **(30-200)**
Hemoglobin pattern	Normal	Abnormal	Normal	Normal
Free Erythrocyte Protporphrin	Ted	Normal	Ted	Ted
RDW	Ted	Normal	Normal	Normal

55. Megaloblastic anemia should be treated with both folic acid vitamin B_{12} because :

a) Folic acid alone causes improvement of hematologic symptoms but worsening of neurological symptoms

b) It is a Co factor

c) It is enzyme

d) None of the above

Correct Answer - A

Answer is A (Folic acid alone causes improvement in hematologic in symptoms but worsening of neurological symptoms)

Megaloblastic anemia may be caused by a deficiency of vitamin B12 (cobalamine) or deficiency of folate. Unless it is clearly established, which of the two deficienceis / folate or cobalamine) is the cause anemia treatment should include administration of both folk acid and vitamin Bp. If only folic acid is administered in a patient with mezaloblastic anemia due to vitamin BI2 deficiency, worseninz of neurological symptoms (cobalamine neuropathy) is seen despite an improvement in the hematological .symptoms (anemia)

'Although prompt hematologic response heralded by reticulocytosis follows the administration of folic acid, it should he cautioned that the hematologic symptoms of a vitamin $B_{,2}$ deficiency anemia also respond to folate therapy. However Mate does not prevent and may even exacerbate the progression of neurological deficits typical of vitamin B_{12} deficiency states'

Before large doses of folic acid are given, cobalamine deficiency must be excluded and if present corrected, otherwise cobalamine neuropathy may develop despite a response of the anemia of

cobalamine deficiency to Palate therapy.

56. Indirect Coomb's test detects:

a) Antibodies attached to RBC Surface

b) Antibodies in the serum

c) Antigens attached to RBC Surface

d) Antigens in the serum

Correct Answer - B
Answer is B (Antibodies in the serum)
Indirect Coomb's test detects IgG antibodies in the serum (e.g. Anti-D Antibodies). Direct Coomb's test detects IgG Antibodies (or complements) attached to the surface of RBCs.
Direct Antihuman Globulin Test *Detects RBCs sensitized with IgG or Complements(C3B or C3d)*
(DAT; Coomb's; Direct Coomb's) Detects IgG Antibodies (or complements) attached to the surface of RBCs.
Indirect Antihuman Globulin Test
Direct Coomb's Test
In the Direct Coomb's test, red blood cells (RBCs) sensitized with IgG antibodies (or C3b, C3d) are agglutinated when Coomb's reagent (Rabbit Anti-IgG antibody) is added to the test tube
Detects Antibodies in the Serum
Indirect Coomb's Test In the Indirect Coomb's test IgG antibodies (e.g. Anti-D) in the serum must first bind to blood group Type 0 Test RBCs added to the test tube. Addition of Coombs Reagent, then causes the sensitized Type 0 Test RBCs to agglutinate, indicating that IgG antibodies are present in the serum.

57. Direct Coomb's test detects:

a) Antibodies attached to RBC Surface

b) Antibodies in the serum

c) Antigens attached to RBC Surface

d) Antigens in the serum

Correct Answer - A
Answer is A (Antibodies attached to RBC Surface)
Direct Coomb's test detects IgG Antibodies (or complements) attached to the surface of RBCs. Indirect Coomb's test detects IgG antibodies in the serum (e.g. Anti-D Antibodies).

58. Haemoglobin F is raised in:

a) Juvenile chronic myeloid leukemia

b) Hereditary spherocytosis

c) Congenital red cell aplasia

d) Mysthania gravis

Correct Answer - A

Answer **is** A (Juvenile **CML)**

Fetal Haemoglobin levels (HbF) are increased in most cases of Juvenile CML –

Causes of Raised HbF levels (Interpretation of Diagnostic Test 8th/411, 412)

- Haemoglobinopathies
  - β thalassemia major
  - β thalassemia minor
  - Sickle cell disease
- Hereditary Persistance of HbF
- Anemia:
  - Non Hereditary refractory normoblastic anemia
  - Pernicious anemia
  - Aplastic anemia
- Leukemia specially Juvenile Myeloid Leukemia
- Multiple myeloma
- Molar pregnancy
- Patients with Trisomy 13 or Trisomy 21 (Down's syndrome)
- Some chronic viral infections (eg CMV, EBV)

59. HAM test is based upon :

a) GPI Anchor Proteins

b) Complement

c) Spectrin protein

d) Mannose binding proteins

Correct Answer - B
Answer is B (Complements)
HAM test is based upon susceptibility of RBC's to complement mediated lysis in patients with PNH.
HAM test is usedfbr the diagnosis of PNH (Paroxysmal Nocturnal Haemoglobinuria). HAM test (Acidified serum lysis test) demonstrates lysis of RBC after activation of complement by acid. In acidified serum complement is activated by the alternate pathway. In patients with PNH, RBC are unusually susceptible to complement, and undergo lysis when incubated with acidified fresh serum.

60. Which is the most common cytogenetic abnormality in adult myelodysplastic syndrome (MDS) -

a) Trisomy 8

b) 20q?

c) 5q?

d) Monosmy 7

Correct Answer - C

Answer is C (5q-)

`Monosomy 7 is by far the most common cytogenetic abnormality in children (pediatric MDS) whereas 5q- ***is*** *observed most frequent!,' in adults' – Myelodysplastic Syndromes by John Bennett (2002)/300*

Cytogenetic Abnormalities in MDS: Facts to Remember

Monosomy 7 is the most frequent cytogenetic abnormality in children.Q Deletion 5q (5q) is the most frequent cytogenetic abnormality in adults Q. Trisomy 8 is the most frequent tri.somyQ.

Differences between Myelodysplastic Syndromes in children and Adults (`Myelodysplastic Syndromes' 2002/300; 'Childhood Leukemias' 2'"/549)

Feature	**Adults**	**Children**
• Frequency	Less common	More common
• Presence of sideroblasts	Uncommon (<2%)	More common (,--25%)
• Cytogenetic Abervations		
-7/7q-	Most common	Less common

	(r,30%)	(,=-40%)
-5/5q-	Uncommon (--L-1-2%)	Most common (z20%)

61. Gaisbock syndrome is known as

a) Primary Familial Polycythemia

b) High Altitude Erythrocytosis

c) Spurious Polycythemia

d) Polycythemia Vera

Correct Answer - C
Answer is C (Spurious Polycythemia)
Gaisbock syndrome refers to Spurious Polycythemia or Relative Erythrocytosis due to decreased plasma volume.

62. All of the following statements about Burkitt's lymphoma are true, Except:

a) B cell lymphoma

b) 8, 14 translocation

c) Can present as an abdominal mass

d) Radiotherapy is the treatment of choice

Correct Answer - D

Answer is D (Radiotherapy is the treatment of choice)

The treatment of choice for Burkitt's Lymphoma is chemotherapy and not Radiotherapy.

'Burkitt's lymphoma responds well to short term high dose chemotherapy. Treatment of Burkitt's lymphoma in both children and adults should begin within 48 hours of diagnosis and involves the use of intensive combination chemotherapy regimens' – Harrisons

Burkitt's Lymphoma is a B cell lymphoma

Burkitt's Lymphoma are tumors of mature B cells – Robbins 7th/677

t (8;14) translocation is the most common translocation in Burkitt's Lymphoma Burkitt's lymphomas are associated with translocation of the c-MYC gene on chromosome 8. Translocation

t (8; 14)

t (8; 22)

t (2; 8)

Burkitt's Lymphoma may present with an abdominal mass

Most Burkitt's Lymphoma presents at extranodal sites but may present with lymphadenopathy

Extranodal sites of involvement include the mandible and abdominal viscera

`*Burkitt's Lymphomas may present with peripheral lymphadenopathy*

or an intraabdominal mass' – Harrison

CNS involvement is frequent

The disease is rapidly progressive and has a propensity to metastasize to CNS, prophylactic therapy to CNS is therefore mandatory.

Burkitt's Lymphoma is the most rapidly progressive human tumor

63. 'Hairy cell leukemia' is a Neoplastic proliferation of :

a) T. cells

b) B. cells

c) Myeloid cells

d) Macrophages

Correct Answer - B
Answer is B (B Cells)
Wain' Cell is a rare hut distinctive B-cell neoplasm.
Hairy cell leukemia review :
***Presentation* is with a triad of :**
1. Splenomegaly [Q] :often massive. However hepatomegaly is less common while lymphadenopathy is rare.
2. Pancytopenia [Q] and thereby, resulting infections.
3. Vasculitis like syndrome [Q] :Erythema nodosum and cutaneous nodules due to perivasculitis and PAN.

Course : Hairy cell leukemia follows an indolent course.[Q]

64. Chemotherapeutic Agent of Choice for the treatment of CML is:

a) Imatinib

b) Vincristine

c) Cyclophosphamide

d) Methotrexate

Correct Answer - A

Answer is A (Imatinib):

Tyrosine Kinase Inhibitors (Imatinib) are the chemotherapeutic agents for choice in the management of CML. Tyrosine Kinase inhibitors target the 'constitutively active tyrosine kinase' implicated in the pathogenesis of CML. Although they do not cure the disease, these agents are able to achieve long term control of CML in the majority of patients. Most recent texts (Including Harrisons) recommend Tyrosine Kinase Inhibitors (Imatinib) as the initial treatment of choice for newly diagnosed CML reserving Allogeneic Stem Cell Transplantation (SCT) for those who develop Imatinib Resistance.

65. The immunoglobulin most commonly involved in Multiple Myeloma is :

a) IgG

b) IgM

c) IgA

d) IgD

Correct Answer - A
Answer *is* A(IgG)
The M component in Multiple Myeloma can be made up of the immunoglobulins IgG, IgM, IgD, IgA, and IgE; light chains alone; or heavy chains alone. IgG Myeloma is the most common form of Multiple Myeloma while IgD (2%) and IgE (Rare) are the least common.
Distribution of immunoglobulin types in patients with multiple myeloma

Type of protein	Percentage (%)
IgG	52
IgA	22
IgM	12
IgD	2
IgE	Rare

66. The most common translocation seen in patients with Multiple Myeloma is

a) t(11;14)

b) t(4;14)

c) t(14;16)

d) t(14;20)

Correct Answer - A
Answer is A (t(11;14))
The most common translocation seen in patients with Multiple Myeloma is 01;14).
`The most common translocation seen in patients with Multiple Myeloma is t(11;14)(q13;q32) involving the BCL1 locus on chromosome 11g13 and the immunoglobulin heavy (IgH) chain locus on chromosome 14q13 which leads to overexpression of Cyclin D1 '- The Washington Manual of Surgical Pathology
`The two most common translocation seen in patients with Multiple Myeloma are t(11;14)and t(4; 14). Both these translocations occur with almost similar frequencies, however the incidence of translocation 1(11; 14) appears to be marginally higher. Patients with t(4; 14) fall within a poor prognosis subgroup, while those with 1(11; 14) have a standard risk' - The Principles of Clinical Cytogenetics
The two most common translocation seen in patients with Multiple Myeloma

- t(11;14)(q13;q32) : Associated with standard prognosis
- t(4;14) (p16;q32) : Associated with aggressive behaviour and poor prognosis
- *The most common translocation in multiple myeloma associated*

with a poor prognosis is translocation t(4;14)

67. All the following are true about multiple myeloma *except:*

a) Osteolytic bone disease

b) t(8-14) translocation

c) Light chain proliferation

d) Bence-Jones proteins in urine

Correct Answer - B

Answer *is* B (t (8-14) translocation)

- A variety of chromosomal alterations have been found in patients with Multiple myeloma. The most common translocation is t (11; 14) (q 13; q32). 13q14 deletions and 17p13 deletions and 11 q abnormalities predominate. *Translocation 1(8-14) has not been mentioned.*
- Complete Immunoglobulin chain comprises of both heavy chains and light chains. But *in Multiple myeloma there is excess production of light chains* ^{e} over heavy chains.
- *These light chains are eliminated in urine as Bence Jones protein*^{Q}
- *Protein cast in urine are thus made up of light chains only* ^{Q} (not complete immunoglobulin chains).
- *Bone lesions in multiple myeloma are lytic in nature* and are rarely associated with osteoblastic new bone formation.' - *Harrison.*
- Bone lesions in MM are caused by the proliferation of tumor cells and activation of osteoclasts that destroy the bone. *'Bone pain is the most common symptom in MM affecting 70% of patients* ^{Q}*'-Harrison*

68. Converging point of both pathway in coagulation is at:

a) Factor VIII

b) Stuart factor X

c) Factor IX

d) Factor VII

Correct Answer - B
Answer is B (Stuart factor X)
The extrinsic and Intrinsic pathways in coagulation converge at the Stuart factor X.

69. Which of the following statements about coagulation factor VII is not true

a) Deficiency is inherited as an Autosomal Recessive trait

b) Deficiency is associated with prolonged APTT

c) Deficiency can be managed by Fresh Frozen plasma

d) Has a shorter half life in comparison to Hageman factor (XII)

Correct Answer - B

Answer is B (Deficiency is associated with prolonged APTT)

Factor VII deficiency is associated with isolated prolongation of PT, APTT is normal in Factor VII deficiency

Genetic and laboratory characteristic of inherited coagulation disorders

Clotting factor deficiency	Inheritance	Prevalence in General Population	Laboratory Abnormality aPTI	PT	TT	Minimum Hemostatic le N els	Treatment
Fibrinogen	AR	I in 1.000,000	+	+	+	100 mg/dL	Cryoprecipi
Prothrombin	AR	I in 2.000,000	+	+		20-30%	FFP/Pa's
Factor V	AR	1 in 1.000,000	+/-	+1-		I *5-10"/a*	HP
Factor I II	AR	1 in 500,000	-	+	-	15-20%	FFP/PCCs
Factor VIII	X-linked	I in 5.000	+	-		30%	FAINT concentrate
Factor IX	X-linked	I in 30.000				30%	FIX concen

			+	-	-		
Factor X	AR	I in 1.000,000	+1-	+/-	-	15-20%	FFP/PCICs
Factor XI	AR	I in 1,000,000				15-20%	FFP
Factor XII	AR	'SO	+	-		h	h
HK	AR	ND	+			Ii	h
Prckallikrein	AR	ND	_,			6	h
Factor XIII	AR	I in 2,000,000			+/-	2-5%	Cryptopreci

Values within n srmal range (-) or prolonged (±) No risk for bleeding, treatment is not indicated
HK, high-molecular weight kininogen; AR, autosomal recessive; aPTT, activated partial thromboplastin time; PT, prothrombin time; TT, thrombin time; ND, not determined; FFP. fresh frozen plasma; PCCs, prothrombin complex concentrates.

70. Thrombotic thrombocytopenic purpura is a syndrome characterized by:

a) Thrombocytosis, anemia, neurologic abnormalities, progressive renal failure and fever.

b) Thrombocytopenia, anemia, neurologic abnormalities, progressive hepatic failure and fever

c) Thrombocytosis, anemia neurologic abnormalities, progressive renal failure and fever

d) Thrombocytopenia, anemia, neurological abnormalities, progressive renal failure and fever

Correct Answer - D
Answer is D (Thrombocytopenia, anemia, neurological abnormalities, progressive renal failure and fever)
Thrombotic Thrombocytopenic Purpura (TTP) is characterized clinically by the Pentad of Microangiopathic Hemolytic Anemia, Thrombocytopenia. Decreased Renal Function. Disturbed Neurological function and Fever.

71. Hypercoagulability due to defective factor V gene is called :

a) Lisbon mutation

b) Leiden mutation

c) Antiphospholipid syndrome

d) Inducible thrombocytopenia syndrome

Correct Answer - B

Answer is B (Leiden mutation)

Hyper coagulability due to defective Factor V gene is called 'Leiden mutation' and is named after the city in which it was described.

Factor V Leiden

Factor V Leiden is a variant (mutated) of normal clotting factor V and differs from normal clotting factor V by a single nucleotide.

While Factor V Leiden is completely normal in terms of its ability to prevent bleeding, the one amino acid difference makes Factor V Leiden resistant to being degraded by activated protein C and protein S.

- Consequently factor V Leiden persists in the circulation longer and contributes to formation of blood clots.
- Factor V Leiden mutation is the most common underlying genetic cause of thrombophilia (venous thrombosis)
- Factor V Leiden mutation poses a life long risk of deep venous thrombosis.

72. The preferred test for confirming H. pylori eradication is:

a) Urease breath test

b) Culture

c) Serological test

d) Biopsy urease test

Correct Answer - A
Answer is A (Urease Breath Test)
The test of choice for documenting eradication is urease breath test. Assessment of success of Treatment with Eradication of H. Pylori should be done at least 4 weeks after completion of anti H. Pylori therapy. Non-invasive tests are typically preferred for assessment of Eradication. *The test of choice for documenting eradication is urease breath test. Urease breath test detects H. pylori infection by 'bacterial urease activity' and remains positive till the bacteria has not been eradicated with treatment. Thus urease breath test becomes negative only aftereradication of organism following treatment and not with chronic infection*.

73. All of the following are used for treatment of H.Pylori, except:

a) Gentamycin

b) Clarithromycin

c) Metronidazole

d) Amoxicillin

Correct Answer - A
Answer is A (Gentamycin):
Gentamycin is not used in any of the successful multi-drug regimens ***against H. Pylori Infection.***

74. Commonest site of peptic ulcer is :

a) 1st part of Duodenum

b) IInd part of duodenum

c) Distal 1/3 of stomach

d) Pylorus of the stomach

Correct Answer - A

Answer *is* A (1st part of Duodenum)

First part of duodenum is the most common site for peptic ulceration.

Sites in order of decreasing frequency :

1. Duod*enum, 1st portion* Q
2. *Stomach, usually antrum* Q
3. *At the gastro-esophageal junction, in the setting of gastroesophageal reflux* Q
4. *Within the margins of a gastrojejunostomy* Q
5. *In the* duodenum, stomach or jejunum of patients with Zollinger-Ellison Syndrome Q
6. Within or adjacent to a Meckels diverticulum that contains ectopic gastric mucosa Q

Peptic ulcers are usually solitary lesions less than 4 cm in diameter

75. Dumping syndrome is due to:

a) Diarrhoea

b) Presence of hypertonic content in small intestine

c) Vagotomy

d) Reduced gastric capacity

Correct Answer - B
Answer is B (Presence of Hypertonic Contents in small intestine)
DUMPING SYNDROME refers to a syndrome of abdominal and vasomator symptoms which results from dumping of food stuffs with a high osmotic load, front the stomach, into the small bowel.
Loss of storage capacity of stomach and ablation, by pass or destruction of pylorus, results in rapid emptying of hyperostnolar chyme into duodenummm and small intestine. Extracellular fluid then shifts into the intestinal lumen to restore isotonicity resulting in decreased intravascular volume, which gives rise to the vasomotor symptoms. *Note* that while reduced gastric capacity contributes, option (b) is a more accurate answer.
Dumping Syndrome is actually of two types:

- Early dumping syndrome (as described above)
- Late dumping syndrome: This is *Reactive hypoglvcemia*[e]*.* The carbohydrate load in thesmall intestine later causes a rise in plasma glucose, which in turn causes insulin levels to rise causing a secondary hypoglycemia.

76. Schilling test is Abnormal in:

a) Intrinsic factor deficiency

b) Amylase deficiency

c) Lipase deficiency

d) Pancreatic endocrine insufficiency

Correct Answer - A
Answer is A (Intrinsic factor deficiency)
Shilling's test is typically done to determine the cause of cobalamine malabsorption (Vitamin B12 malabsorption) *Vitamin $_{B12}$ absorption (Schilling) test is typically used to diagnose conditions in which intrinsic factor (IF) may be absent, such as pernicious anemia or gastric atrophy. A diagnosis of Intrinsic factor deficiency can be established if radiolabelled cobalamine (Vitamin B12) appears in urine after administration of Intrinsic factor.*
Since cobalamine absorption requires multiple steps including gastric, pancreatic and ileal processes, the Schilling test can also be used to assess the integrity of these other organs.
Dietary vitamin B_{12} is bound in the stomach to an endogenous protein called R protein. Pancreatic enzymes degrade the R protein in the proximal small bowel and lower its affinity for vitamin B_{12} resulting in the rapid transfer of B 12 to IF; The IF-B_{12} Complex continues to the terminal ileum, where it binds to specific receptors on the surface of the epithelial cells.
Thus lack of intrinsic factor, lack of sufficient pancreatic enzymes (pancreatic exocrine dysfunction) or presence of terminal heal mucosal disease may all result in abnormal vitamin $_{B12}$ excretion.

77. Which of the following statements regarding the schilling test for vitamin B_{12} malabsorption is most accurate?

a) The schilling test results are abnormal in patients with dietary vitamin B_{12} deficiency.

b) In patients with pernicious anemia, the results of the schilling test normalize after oral administration of intrinsic factor,

c) In patients with ileal disease, the results of the schilling test normalize after oral administration of intrinsic factor

d) Pancreatic exocrine insufficiency does not cause schilling test results to be abnormal.

Correct Answer - B
Answer is B (In patients with pernicious anemia, the results of the Schilling test normalize after oral administration of intrinsic factor):
An abnormal Schilling's test that corrects or normalizes after administration of intrinsic factor suggests a diagnosis of Pernicious Anemia (Intrinsic Factor Deficiency).
Shilling's test is done to determine the cause of cyanocobalamine deficiency (Vitamin B_{12}).Schilling test is
abnormal in conditions that affect cobalamine absorption including Pernicious anemia, Chronic Pancreatitis, Bacterial overgrowth syndrome and Ileal dysfunction.

- *An Abnormal Schilling's test that corrects after administration of Intrinsic Factor indicates Pernicious Anemia*
- *An Abnormal Schilling's test that corrects after administration of Pancreatic Enzymes suggests Exocrine Pancreatic Insufficiency (from Chronic Pancreatitis)*

- *An Abnormal Schilling's test that corrects after administration of five days of antibiotics suggests Bacterial Overgrowth Syndrome*
- *An Abnormal Schilling's test that does not correct after administration of intrinsic factor, pancreatic enzymes and/or antibiotics suggests Ileal mucosal dysfunction*

78. All of the following drugs may be used in the treatment of ulcerative colitis Except:

a) Corticosteroids

b) Azathioprine

c) Sulfasalazine

d) Methotrexate

Correct Answer - D
Answer is D (Methotrexate)
Methotrexate has not been shown to be effective fbr treating active ulcerative colitis or for maintaining remission.

79. Extraintestinal manifestations of Inflammatory bowel disease include all of the following, Except:

a) Uveitis

b) Sclerosing cholangitis

c) Osteoarthritis

d) Skin nodules

Correct Answer - C

Answer is C (Osteoarthritis):

Osteoarthritis is not an extraintestinal manifestation of inflammatory bowel disease

Uveitis, Sclerosing Cholangitis, and skin nodules (Erythema nodosum) are all recognized extraintestinal manifestations of inflammatory bowel disease.

80. Secretory diarrhea is not seen in:

a) Phenolphthalein

b) Celiac disease

c) Cholera

d) Addison's Disease

Correct Answer - B

Answer is B (Celiac Disease)
Celiac Disease is associated with Steatorrheal diarrhoea from mucosa! malabsorption.

Secretory Diarrhea

- Certain Bacterial Infection
- Vibrio Cholera
- Enterotoxigenic E.Coli
- Non Osmotic Stimulant Laxatives
- Hormone Producing Endocrine Tumors
- Carcinoid,
- VlPomas,
- Gastrinomas,
- Medullary Carcinoma Thyroid (Calcitonin)
- Bile acids (endogenous laxatives)

Bowel resection / disease or fistula
Addison's Disease
Congenital Electrolyte Absorption defects
Chronic Alcohol Ingestion
Diabetic Diarrhea

Steatorrheal Diarrhea

Intraluminal maldigestion

- Pancreatic exocrine insufficiency,
- Bacterial overgrowth,
- Bariatric surgery,
- Liver disease

Mucosal malabsorption

- Celiac sprue,
- Whipple's disease,
- Infections,
- Abetalipoproteinemia,
- Ischemia

Postmucosal obstruction
(1° or 2° lymphatic obstruction)

81. Which of the following is not a prognostic factor for Acute Pancreatitis

a) Serum Amylase

b) Serum Calcium

c) Serum Glucose

d) Serum AST

Correct Answer - A
Answer is A (Serum Amylase) :
Serum Amylase does not form any criteria for prognosis in Acute Pancreatitis.
Although elevated serum amylase level is important for establishing diagnosis of acute pancreatitis, it plays no role in predicting prognosis or severity.
"There appears to be no definite correlation between severity of pancreatitis and the degree of serum amylase elevation. After 48 to 72 hours, even with continuing evidence of pancreatitis, total serum amylase levels tend to return to normal." - Harrison
Hyperglycemia (Glucose), Hypocalcemia (Calcium) and elevated serum AST are all poor prognostic factors in accordance with Ranson's criteria as elaborated in the previous question.

82. Best provocative test for diagnosis of Gastrinoma is:

a) Ca^{++} infusion test

b) Secretin injection test

c) ACTH stimulation test

d) Steroid assay

Correct Answer - B
Answer is B (Secretin injection test)
Gastrinomas (Zollinger Ellison Syndrome) are characterized by peptic ulceration due to hypersecretion of gastrin by a non-beta cell tumor. Secretin injection test is the most valuable provocative test in identifying patients with ZES.

83. The most classical symptom of VIPOMA is:

a) Gall stones

b) Secretory diarrhea

c) Steatorrhea

d) Flushing

Correct Answer - B
Answer is B (Secretory Diarrhoea)
The principle feature of VIPOMA is large volume secretory Diarrhoea.
Diarrhoea is secretory in nature, persists during fasting and is almost always greater than > I Litre per day (>3 Litres per day in 70 percent). A stool volume less than 700 ml per day is proposed to exclude the diagnosis. Most patients do not have accompanying Steatorrhea.

VIPOMAS *(Verner-Morrison Syndrome/ Pancreatic Cholera/WDHA Syndrome)*

VIPomas are tumours that secrete large amounts of Vasoactive Intestinal Peptide (VIP)

VIP is an important neurotransmitter ubiquitously present in the CNS and GIT

- The most common location of VIPomas is the Pancreas
- Most common site within the pancreas is the pancreatic tail
- Usually Solitary
- *Usually Malignant (37-68 % have hepatic metastasis at diagnosis*

VIP

Stimulates Small Intestinal chloride secretion
Stimulates smooth muscle contractility

Inhibits acid secretion
Has vasodilatory effects

Typical Features

(WDHA)

Watery Diarrhoea (Large Volume Secretory Diarrhoea leading to dehydration)

Hypokalemia (Diarrhoea severe enough to cause hypokalemia)

Achlorhydria (Hypochlorhydria from increased small intestinal chloride secretion)

The principle Symptoms are large volume diarrhoea (100 %)
severe enough to cause hypokalemia (80-100%), dehydration
(83%), hypochlorhydria (54-76%) and flushing (20%)
Most patients do not have accompanying Steatorrhea

Other Features

- Increased stool Volume due to increased secretion of sodium and potassium which with the anion account for osmolality of the stool
- Hyperglycemia (25-50%
- Hypercalcemia (25-50%)

The diagnosis requires demonstration of an elevated plasma VIP level and the presence of large volume secretory diarrhea.

84. All following are at-risk group adults meriting Hepatitis B vaccination in low endemic areas except:

a) Patients on chronic hemodialysis

b) Diabetics on insulin

c) Medical/nursing personnel

d) Patients with chronic liver disease

Correct Answer - B
Answer is B (Diabetics on Insulin):

- Behavioral: Sexually active persons who are not in a long-term, mutually monogamous relationship (e.g., persons with more than one sex partner during the previous 5 months): persons seeking evaluation or treatment for a sexually transmitted disease (STD): current or recent injection-drug users; and men who have sex with men.
- Occupational: Healthcare personnel and public-safety workers who are exposed to blood or other potentially infectious body fluids.
- Medical: Persons with end-stage renal disease, including patients receiving hemodialysis; person with HIV infection; and persons with chronic liver disease.
- Other: Household contacts and sex partners of persons with chronic HBV infection; clients and staff members of institutions for persons with developmental disabilities; and international travellers to countries with high or intermediate prevalence of chronic HBV infection.
- Hepatitis B vaccination is recommended for all adults in the following settings: STD treatment facilities; HIV testing and treatment facilities;

facilities providing drug-abuse treatment and prevention services; healthcare settings targeting services to injection—drug users or men who have sex with men; correctional facilities; end-stage renal disease programs and facilities for chronic hemodialysis patients; and institutions and nonresidential day-care facilities for persons with developmental disabilities.

- Administer missing doses to complete a 3-dose series of hepatitis B vaccine to those persons not vaccinated or not completely vaccinated. These second dose should be administered 1 month after the first dose; the third dose should be given at least 2 months after the second dose (and at least 4 months after the first dose). If the combined hepatitis A and hepatitis B vaccine (Twinrix) is used, administer 3 doses at 0, 1, and 6 months; alternatively, a 4-dose Twinrix schedule, administered on days 0, 7, and 21 to 30, followed by a booster dose at month 12 may be used.
- Adult patients receiving hemodialysis or with other immunocompromising conditions should receive 1 dose of 40 pg/mL (Recombivax HB) administered on a 3-dose schedule or 2 doses of 20 Ug/mL (Engerix-B) administered simultaneously on a 4-dose schedule at 0, 1, 2, and 6 months.

85. Extrahepatic Manifestations of Hepatitis C include all of the following Except:

a) Lichen Planus

b) Celiac Disease

c) Glomerulonephritis

d) Cryoglobulinemia

Correct Answer - B

Answer is B (Celiac disease)

Extrahepatic manifestations in viral hepatitis C: *Wepatology' by Kuntz*

- Agranulocytosis
- Aplastic anaemia
- Corneal ulceration
- Ciyoglobillinaemia
- Diabetes mellitus (type I)
- Erythema exsudativum multiforme
- Glomerulonephritis
- Guillain-Barre syndrome
- Hyperlipasaemia
- Lichen planus
- Non-Hodgkin lymphoma
- Polyarteritis nodosa
- Polyarthritis
- Polyneuritis
- Porphyria cutanea tarda
- Sialadenitis
- Sjogren's syndrome /Sicca syndrome
- Thrombocytopenia

- Thyroiditis

86. Which is not true about alcoholic hepatitis :

a) Gamma glutamyl transferase is raised

b) SGPT is raised > SGOT

c) SGOT is raised > SGPT

d) Alkaline phosphatase is raised

Correct Answer - B
Answer is B
SGOT/SGPT ratio greater than 2 is highly suggestive of alcoholic hepatitis and cirrhosis.
AST is synonymous with SGOT & ALT is synonymous with SGPT
In general AST and ALT levels rise parallel to each other. In alcoholic liver disease the AST rises out of proportion to ALT such that the ratio of AST and ALT may become greater than 2:
***Stigmata* of Alcoholic hepatitis / cirrhosis that aid in diagnosis :**
1. Bilateral enlarged parotids Q
2. GynaecomastiaQ
3. Testicular atrophy with loss of body hairQ
4. Wasting of muscle massQ
5. Duputyrens contractureQ

AST (SGOT) out of proportion to ALT (SGPT) seen in Q
1. Alcoholic hepatitis Q
2. Fatty liver in pregnancy Q

Gamma Glutamyl transferase levels correlate with levels of Alkaline phosphatase and are a sensitive indicater of biliary tract disease — obstructive jaundice. *It is not an indicator of alcoholic liver disease.*

Remember :GGT is the most sensitive indicator of bilian, tract disease

87. Hepatic Encephalopathy is predisposed by all, Except:

a) Hyperkalemia

b) Dehydration

c) Constipation

d) GI Bleeding

Correct Answer - A
Answer is A (Hyperkalemia):
Hepatic Encephalopathy is predisposed by Hypokalemia and not by Hyperkalemia

88. Features of Hepatorenal syndrome are

a) Urine sodium < 10 meq/1

b) Normal renal histology

c) Renal function abnormal even after liver become normal

d) a and b

Correct Answer - D

Answer is A & B (urine Na < 10 meq/l and Normal Renal Histology)

Hepatorenal syndrome is associated with normal renal histology and supported by a urine sodium excretion l0meq/L

Hepatorenal syndrome

- Hepatorenal syndrome is defined as a state of functional renal failure (Reduced GFR) in patients with severe liver disease
- *Structurally /Histologically the kidneys are normal and recover function after successful liver transplantation.*
- The pathogenetic hallmark of hepatorenal syndrome is intense renal vasoconstriction with coexistent systemic vasodilatation
- The diagnosis of hepatorenal syndrome is considered in accordance with the following diagnostic criteria.

Diagnostic of Hepatorenal Syndrome

Major criteria

- *Low glomerular filtration rate. as indicated by serum creatinine > 1.5 mg/dL or 24-hr creatinine clearance < 40 mL/min*
- *Absence of shock, ongoing bacterial infection, fluid losses, and current treatment with nephrotoxic drugs*
- *No sustained improvement in renal function (decrease in serum creatinine to 1.5 nig/dL or increase in creatinine clearance to 40 mL/min) after diuretic withdrawal and expansion of plasma volume*

with 1.5L of a plasma expander

- *Proteinuria mg/d1, and no uhrasonographic evidence of obstructive uropathy or parenchymal renal disease Additional criteria*
- *Urine volume < 500 mL/d*
- *Urine sodium < 10 meq/L*
- *Urine osmolality greater than plasma osmolality*
- *Urine red blood cells <50/high- power field*
- *Serum sodium concentration < 130 niEqL*

Note: All major criteria must be present for the diagnosis of hepatorenal syndrome.
Additional criteria are not necessary for the diagnosis but provide supportive evidence.

89. All of the following statements about. Wilson's disease are true, EXCEPT-

a) It is an autosomal recessive disorder

b) Serum ceruloplasmin level is < 20 mg/dl

c) Urinary copper excretion is

d) Zinc acetate is effective as maintenance therapy

Correct Answer - C

Answer is C (Urinary copper excretion is <100R/day)

Urine copper is an important diagnostic too. Symptomatic patients invariably have urine copper levels > 100 p (>1.6 umol) per 24 hours.

Wilson's disease is an autosomal recessive disorder

It is caused by a mutation of a gene on chromosome B^{Q} which promotes Cu excretion (ATP 7B gene)

Symptomatic patients with Wilson's disease invariably have urinary copper excretion of >100 lig, per 24 hours (>1.6 innol /24 hr)

Zinc is the treatment of choice for maintainance therapy in Wilson's disease

Zinc is the treatment of choice in Wilson's disease for

A. Initial therapy in patients with hepatitis without decompensation(2

A. Maintainance therapy

B. Presymptomatic patient

C. Pediatric patients

D. Pregnant patients

90. A 14 year old boy presents wit recurrent episodes of hepatitis Opthalmoscopic evalution reveals KF rings and serum ceruloplasmin levels are < 20 mg/dl. The treatment of choice for initial therapy is

a) Zinc

b) Penicillamine

c) Tetrathromolybdate

d) Hepatic transplantation

Correct Answer - A

Answer is A (Zinc)

Presence of KF rings and decreased ceruloplasmin levels suggest the diagnosis of Wilson 's disease.

The patient in question is presenting with intial hepatic disease without any evidence of hepatic decompensation.

Zinc is the therapy of choice for patients with hepatitis or cirrhosis without evidence of hepatic decompensation or neuropsychiatric symptoms.

91. What is the uppermost intercostal space used for hepatic biopsy :

a) 5th

b) 7th

c) 9th

d) 11th

Correct Answer - B

Answer is B 7th

The right surface of the liver is in contact with the diaphragm opposite the 7th to 11th ribs.

In needle biopsy of the liver through the intercostal route, the needle may be inserted through the 6th 7th, 8th, 9th or 10th right intercostal space in the mid-axillary line.

The 8th and 9th intercostal spaces are most commonly used.

Insertion in the 6th or 7th intercostal space may also be used but is associated with risk of injury to the Lung.

Needle is typically inserted at the end of expiration (Attempted Apnoea).

92. Significant weight loss is defined as:

a) 5% weight loss in 1-2 months

b) 5% weight loss in 2-3 months

c) 10% weight loss in 1-2 months

d) 10% weight loss in 2-3 months

Correct Answer - A
Answer is A (5% weight loss in 1-2 months):
Significant weight loss is defined as 5% weight loss in I month.
Percent weight change over a period of time is calculated using the person's current body weight and person's usual body weight. Usual weight — Current weight Percent weight change = Usual weight

93. CRF with anemia best treatment:

a) Oral Iron Therapy

b) Erythropoietin Stimulating Agents

c) Blood transfusion

d) Androgenic Steroids

Correct Answer - B

Answer is B (Erythropoietin Stimulating Agents):

Erythropoiesis-stimulating agents (ESAs) have emerged as the treatment of choice for anemia in chronic renal disease. Erythropoiesis-stimulating agents (ESAs) should be given to all patients with chronic kidney disease (CKD) with haemoglobin levels consistently below II g/dl.

This applies equally to:

- *Patients with CKD (stages 1-5) developing anaemia*
- *Patients with CKD stage 5 treated with haemodialysis (HD) or peritoneal dialysis (PD)*
- *Transplant patients with chronic renal insufficiency and anaemia.*

Strategies for treatment of Anemia in Chronic Renal Failure

Erythropoiesis-stimulating agents (ESAs)

- Erythropoiesis-stimulating agents (ESAs) have emerged as the treatment of choice for anemia in chronic renal disease.
- They should be given to all patients with chronic kidney disease (CKD) with haemoglobin (Hb) levels consistently below 11 g/dl [haematocrit (Hct) <33%]
- All chronic kidney disease (CKD) patients with renal anaemia undergoing treatment with an erythropoiesis-stimulating agent (ESA) should be given supplementary iron to maintain adequate bone marrow iron stores

- *Intravenous administration is the optimum route for the delivery of iron to patients with CKD, as oral iron is poorly absorbed in uremic individuals.*

Blood Transfusion

- Red blood cell transfusions should be avoided, if at all possible, in patients with chronic kidney disease (CKD), especially those awaiting kidney transplantation.
- Transfusions should not be given unless patients have one or more of the following: Symptomatic anaemia (fatigue, angina, dyspnoea) and/or associated risk factors (diabetes, heart failure, coronary artery disease, arteriopathy)
- Acute worsening of anaemia due to blood loss (haemorrhage or surgery) or haemolysis Severe resistance to, or hyporesponsiveness to ESA therapy, e.g. due to the presence of a haematological disease or severe inflammatory systemic disease.

Androgens

- Prior to the introduction of ESA therapy, androgens were widely used in the treatment of renal anaemia.
- There is evidence that androgens may potentiate the effect of exogenous erythropoietic protein and also stimulate erythropoiesis by enhancing erythrocyte stemcell differentiation
- The risk of liver disease and malignancy, virilisation and hirsutism in women, priapism in men and disfiguring acne in patients of both sexes may outweigh the benefits of androgen therapy in most anaemic patients.
- Androgens may be an *effective alternative therapy in countries where ESAs are not available*

94. The initial treatment of choice for secondary hyperparathyroidism in renal osteodystrophy is:

a) Cinacalcet

b) Bisphosphonates

c) Calcium restriction

d) Phosphate binders

Correct Answer - D

Answer is D (Phosphate Binders)

The initial treatment of secondary hyperparathyroidism in renal osteodystrophy is management of high phosphate levels by dietary restriction and the use of Phosphate binders

- *The objectives of management are to maintain blood levels of calcium and phosphorous to as close to normal as possible, to prevent or treat established hyperparathyroidism early and to prevent parathyroid hyperplasia.*

Phosphate retention begins early in the course of CKD, perhaps as early as in stage 2 and participates in the development of secondary hyperparathyroidism.

Central to the management of high-turnover bone disease is controlling the serum phosphate levels.

This may be achieved by dietary phosphate restriction or by the use of phosphate binders.

Phosphate-binder therapy is recommended when serum phosphate concentrations are elevated despite patient compliance with dietary phosphate restriction.

Calcium-based phosphate binders are often recommended as the

initial binder therapy.

High Bone Turnover Disease

- *Bone turnover (the formation and removal of bone) is increased due to a process called secondary hyperparathyroidism (SHPT).*
- *Secondary hyperparathyroidism represents a common disorder in patients with CKD.*
- *It develops as a result of hyperphosphatemia, hypocalcemia and impaired renal vitamin D synthesis with reduction in serum calcitriol levels*

95. The most common presentation for IgA nephropathy is:

a) Nephritic syndrome

b) Nephritic syndrome

c) Microscopic hematuria

d) Repeated gross hematuria

Correct Answer - D

Answer *is* D (Repeated Gross Hematuria):

The most common presentation of IgA Nephropathy is with recurrent episodes of Gross (Macroscopic) Hematuria during or immediately following an upper respiratory tract infection

'Recurrent attacks of Painless Gross Hematuria represent the classic clinical presentation of IgA Nephropathy' — Rudolph's Paediatrics

96. Disease, does not recur in the kidney after renal transplant is :

a) Alport syndrome

b) Amyloidosis

c) Good Pasteur's syndrome

d) Diabetic nephropathy

Correct Answer - A

Answer is A (Alport's syndrome):

Alport is syndrome has not been mentioned to recur in kidney after a renal tansplant.

97. True about light microscopy in minimal change disease is:

a) Loss of foot process seen

b) Anti GBM Abs seen

c) IgA deposits seen

d) No change seen

Correct Answer - D

Answer is D (No change seen)

No *abnormality is evident on light microscopy in a case of minimal change disease.*

Investigation

- *Light microscopy* [Q]
- *Electron microscopy* [Q]
- *Immunofluorescence*[Q]

Observation

- *No abnormality hence the term minimal change*
- *Fusion of foot processes*
- *Absence of immunoglobulin or complement*

98. HIV renal specific nephropathy is:

a) Focal Segmental Glomerulosclerosis

b) Membranoproliferative Glomerulonephritis

c) Mesangioproliferative Glomerulonephritis

d) Membranous Glomerulonephritis

Correct Answer - A

Answer is A (Focal Segmental Glomerulosclerosis):

*The most characteristic glomerulopathy in **HIV is** Focal Segmental Glomerulosclerosis (FSGS) which typically reveals collapse of the glomerular capillary tuft called collapsing glomerulopathy.*

HIV associated Nephropathy is a severe rapidly progressive collapsing form of FSGS.

99. Distal renal tubular acidosis is associated with:

a) Oxalate stones

b) Citrate

c) Calcium stones

d) Uric acid stones

Correct Answer - C

Answer is C (Calcium Stones):

Distal Renal Tubular Acidosis is associated with increased in cadence of Calcium Phosphate Stones Alkaline urine, Hypercalciuria and low levels of urinary citrate precipitate calcium phosphate stones in the kidney in patients with Distal Renal Tubular Acidosis (Typel).

Proximal Renal Tubular Acidosis (Type-2) is not associated with increased incidence of Renal Stones despite Hypercalciuria because urinary citrate levels are normal or high.

100. Which of the following statement about Renal Cell Carcinoma (Hypemephroma) is false:

a) Originate in the cortex

b) Histologically are usually Adenocarcinomas

c) May present with varicocele

d) Radiosensitive

Correct Answer - D
Answer is D (Radiosensitive):
Renal cell carcinoma is a relatively radioresistant tumor.
Renal cell carcinoma originates in the Renal cortex
`Renal cell carcinoma originates in the Renal cortex and tends to grow out into perinephric tissue causing the typical bulge or mass effect that aids in their detection by diagnostic imaging studies' – Smith's Urology
Renal Cell carcinoma are adenocarcinomas
Histologically Renal cell carcinoma is most often a mixed adenocarcinoma — Smith's Urology
Renal cell carcinomas may present with varicocele
'Renal cell carcinomas may present with Rapidly developing varicocele. Varicocele is usually observed on the left side. This occurs because left gonadal vein is obstructed where it joins the left renal vein.
Renal cell carcinomas are Relatively Radioresistant tumors
Renal cell carcinomas are generally considered radioresistant tumors
Role of Radiotherapy in renal Cell carcinoma

- *Preoperative Radiation has shown no impact on survival*
- Postoperative Radiation has also shown no evidence of improved survival but may be used as it shows improvement in local control.
- *Palliative Radiotherapy has been shown to be effective in metastatic disease to brain, bone and lungs.*

101. Classic triad inRenal cell carcinoma includes all of the following, Except:

a) Hematuria

b) Hypertension

c) Flank mass

d) Abdominal Pain

Correct Answer - B
Answer is B (Hypertension):
Hypertension may be seen in patients with Renal cell carcinoma but it does not firm part of the classically described triad.
Classic Triad of Renal cell carcinoma (seen in 10-20% of patients)

- *Hematuria (Gross)*
- *Pain (Abdominal / Flank)*
- *Mass (Abdominal /Flank)*

102. FEVI/FVC is decrease in:

a) Asthma

b) Kyphosis

c) Scoliosis

d) Fibrosis

Correct Answer - A
Answer is A (Asthma):
Decreased FEV1/FVC suggests a diagnosis of Obstructive Lung Disease.
Amongst the options provided Asthma is the only condition that leads to Obstructive Pattern of Lung Disease and hence is the answer of choice Kyphosis, Scoliosis and Fibrosis are Restrictive Lung Diseases that are characterized by Normal or Elevated FEVI/FVC ratios.

103. Aspirin-sensitive asthma is associated with:

a) Obesity

b) Urticaria

c) Nasal polyp

d) Extrinsic asthma

Correct Answer - C

The answer is C (Nasal polyp):

`Aspirin associated Asthma usually begins with perennial vasomotor rhinitis that is followed by hyperplastic rhinosinusitis with nasal polyps' — Harrisons

Aspirin associated Asthma:

- Primarily affects adults, although the condition may occur in childhood.
- Usually begins with perennial vasomotor rhinitis that is followed by hyperplastic rhinosinusitis with nasal polyps.
- Progressive asthma then appears.
- On exposure to even very small quantities of aspirin, affected individuals typically develop ocular and nasal congestion and acute, often severe episodes of airways obstruction.
- Death may follow ingestion of aspirin.

104. Feature of Acute severe Asthma include all of the following, Except:

a) Tachycardia > 120/min

b) Pulsus paradoxus

c) Respiratory acidosis

d) Drowsy

Correct Answer - A

Answer is A. Tachycardia > 120/min

- Diaphoresis
- Bradycardia
- Paradoxical throcobadominal movements
- PEER < 33%
- Hypotension
- Pulsus paradoxus
- Hypercapnea
- Silent chest

105. An Adult with asthma presents with asthma symptoms every day and wakes up in the night approximately 2 to 3 days in a week.
He can be classified as having :

a) Intermittent Asthma

b) Mild Persistent Asthma

c) Moderate Persistent Asthma

d) Severe Persistent Asthma

Correct Answer - C
Answer *is* C (Moderate Persistent Asthma):
'Giudelines for the diagnosis and management of Asthma' Summary Report 2007 (N1H Publication Number 08-5846); Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs 10TH/568,569,570
Moderate Persistent Asthma in an adult (>12 years) is defined as Day-Time Symptoms that occur daily and Night-Time Symptoms occurring more than 1 night per week but not every night.

106. In a Patient with clinical signs of Asthma which of the following tests will confirm the diagnosis:

a) Increase in FEV1/FVC

b) > 200 ml increase in FEVI after Methacholine

c) Diurnal variation in PEF > 20 Percent

d) Reduction of FEV I > 20 % after bronchodilators

Correct Answer - C

Answer is C (Diurnal variation in PEF > 20 Percent):

Demonstrate Outflow Obstruction

Decreased FEV_1

Decreased PEF

Decreased FEV_1 /FVC

While respiratory symptoms suggest asthma, the sine qua non for the diagnosis of asthma is the presence of Reversible Airflow Obstruction and/or Airway Hyper-responsiveness or Increased Peak Expiratory Flow (PEF) Variability in subjects without airways obstruction.

Reversible Airflow Obstruction

- *Reversibility is demonstrated by repeating spirometry results 15 minutes after administering a short acting bronchodilator*
- *> 12% reversibility in FEV_1*
- *>200 ml increase in Baseline FEV_1*
- *Positive Reversibility Results Strongly (Considered Diagnostic)*

Increased Peak Expiratory Flow Rate (PEF) Variability

- *Demonstration of Diurnal Variation in the Peak Expiratory Flow Rate*

- *A diurnal variation in PEF of more than 20 percent Strongly suggests a diagnosis of Asthma (Considered Diagnostic)*

Airway Hyper-responsiveness

- *Measured by Methacholine orHistamine challenge.*
- *Increasing Concentrations of Methacholine are administered and if the FEV_1 drops to >20 percent of baseline with any standard dose the test is consideredpositive.*
- *Positive test strongly suggests a diagnosis of Asthma*

107. Antibody used in the treatment of Bronchial Asthma is:

a) Omalizumab

b) Rituximab

c) Daclizumab

d) Transtusuzumab

Correct Answer - A

Answer is A (Omalizumab):

Omalizumab is a recombinant IgE Antibody approved for use in treatment of moderate and severe persistent asthma

Omalizumab *is a recombinant IgE blocking antibody that neutralizes circulating IgE.*

It prevents circulating IgE from binding to receptors on the surface of Basophils and Mast cells and thus inhibits IgE mediated reactions.

Omalizumab is indicated for treatment of 'moderate to severe' persistent asthma in patients who react to perennial allergens (Allergic Asthma).

Treatment with Omalizumab has shown to reduce the number of exacerbations in patients with
severe asthma and may improve asthma control.

However this treatment is very expensive and is only suitable for highly selected patients who are not controlled on maximal doses of inhaler therapy and have a high circulating IgE (within a specified range).

Omalizumab is usually given as a subcutaneous injection for 2 to 4 weeks and may be used in adults and adolescents more than 12 years of age.

108. Which of the following is the least common bacteria responsible for Acute Exacerbation of Chronic Bronchitis

a) Streptococcus pneumoniae

b) Moraxella catarrhalis

c) Haemophilus influenza

d) Staphylocccus aureus

Correct Answer - D

Answer is D (Staphylocccus aureus):

The Global Initiative for Chronic Obstructive Lung Disease (GOLD); Report produced by the National Heart, Lung, and Blood Institute (NHLBI) and the World Health Organization (WHO)

Staphylococcus Aureus is not a common bacterial pathogen responsible for Acute Exacerbation of Chronic Bronchitis.

Common Bacterial Pathogens (30%-50%) Responsible for Acute Exacerbations of COPD

- Haemophilus influenza
- Streptococcus pneumonia
- Moraxella catarrhalis

Pseudomonas aeruginosa and Enterobacteriaceae are also commonly isolated, particularly from patients with severe COPD.

Acute Exacerbation of COPD: Bacterial Infections

The GOLD, the NHLBI and the WHO, defines exacerbation of COPD as acute increase in symptoms beyond normal day-to-day variation. This generally includes one or more of the following cardinal symptoms.

- Cough increases in frequency and severity

- Sputum production increases in volume and/or changes character
- Dyspnea increases
- Constitutional symptoms, decrease in pulmonary function, and tachypnea are variably present during an exacerbation, but the CXR is usually unchanged.
- In the presence of severe underlying airflow obstruction, exacerbation can cause respiratory failure and death.
- It is estimated that 70 to 80% of exacerbations of COPD are due to respiratory infections.
- The remaining 20 to 30% are due to environmental pollution or have an unknown etiology. Viral and bacterial infections cause most exacerbations
- Bacterial infections appear to trigger 33% to 50% of COPD exacerbations.
- Non-typeable H. influenzae, M. catarrhalis, and S. pneumoniae are the bacteria most frequently isolated bronchoscopically from patients having an exacerbation of COPD
- Pseudomonas aeruginosa and other members of family Enterobacteriaceae are also commonly isolated, particularly from patients with severe COPD.
- Exacerbations of COPD are strongly associated with acquisition of new strain of H. influenzae, M. catarrhalis, S. pneumoniae, or P. aeruginosa.
- As a result, it has been proposed that acquisition of new bacterial strain plays central role in the pathogenesis of an exacerbation.
- The idea that exacerbations of COPD are due to acquisition of new strain of bacteria has largely replaced older hypothesis that increases in concentration of colonizing bacteria are the primary cause of exacerbations.

109. Occupational Lung Disease commonly seen in Textile Industry Workers is:

a) Byssinosis

b) Bagassosis

c) Farmer's Lung

d) Asbestosis

Correct Answer - A

Answer is A (Byssinosis)

Occupational Lung Disease in Textile Industry Workers (Cotton industry)

Byssinosis is an asthma-like condition caused by inhalation of cotton fiber dust over prolonged period of time.

Workers occupationally exposed to cotton dust (but also to flax, hemp or jute dust) in the production of yarns for textile and rope making are at risk of Byssinosis.

Exposure occurs throughout the manufacturing process but is most pronounced in the portions of the factory involved with the treatment of cotton before spinning (blowing, mixing, carding or straightening)

Byssinosis is more common during milling and processing of cotton than during spinning.

110. All the following are features of Tropical pulmonary Eosinophilia except-

a) Eosinophilia > 3000/mm3

b) Microfilaria in blood

c) Paroxysmal cough and wheeze

d) Bilateral chest mottling and increased bronchovascular markings

Correct Answer - B

Answer *is* B (Microfilaria in blood) :

In TPE, Microfilaria are rapidly cleared from the blood stream by the lungs.

Thus, microfilariae are sequestrated in the lungs and are not found in the blood.

Tropical Pulmonary Eosinophilia

Tropical Pulmonary Eosinophilia (TPE) is a distinct syndrome that develops in individuals infected with Lymphatic filarial species.

Clinical symptoms result from allergic and inflammatory reaction elicited by the cleared parasites.

Features of Tropical Pulmonary eosinophilia (TPE) :

- Male more commonly affected than females (4: 1)
- History of resistance in filarial endemic region
- *Paroxysmal cough and wheezing that are usually nocturnal*
- Weight loss, low grade fever, adenopathy
- *Eosinophilia > 3000 eosinophilia / ,uLe*
- *Chest X-Ray : increased bronchovascular markings , diffuse miliary lesions ,* or *mottled opacities.*
- *Restrictive changes on Pulmonary function test* 2
- *Elevated levels of IgE* ^{e} *&* Antifilarial antibody titers.

In TPE, Microfilaria are rapidly cleared from the blood stream by the lungs.
Thus, microfilariae are sequestrated in the lungs and are not found in the blood.

111. Most common pattern of Pneumonia seen in Klebsiella infection is:

a) Lobar Pneumonia

b) Bronchopneumonia

c) Interstitial Pneumonia

d) Miliary Pneumonia

Correct Answer - A

Answer is A (Lobar Pneumonia):

The most common pattern of Pneumonia seen in Klebsiella infection is Lobar Pneumonia

Streptococcus Pneumoniae (Pneumococcus) and Klebsiella are two common organisms that produce a lobar pattern of Pneumonia.

The radiographic pattern of pneumonia.

- Lobar
- Lobular (bronchopneumonia)
- Interstitial

112. All of the following are more commonly seen in Klebsiella Pneumonia than in Pneumococcal Pneumonia, Except:

a) Lower lobe involvement

b) Abscess Formation

c) Pleural Effusion

d) Cavitation

Correct Answer - A

The answer is A (Lower Lobe Involvement):

Pneumococcal pneumonia has a predilection to involve the right lower lobe, whereas Klebsiella usually affects one of the upper lobes.

Features	***Pneumococcal Pneumonia***	***Klebsiella Pneumonia***
Consolidation Pattern	• *Lobar Consolidation with positive air bronchogram sign*	• *Lobar Consolidation with positive air bronchogram sign*
Lobe Predilection	• *The predilection to involve Lower Lobe (Any lobe may be involved)*	• The predilection *to involve Upper Lobe (Any lobe may be involved)*
	• *Usually Unilobar (Usually do not expand involved lobe)*	• *Often Multilobar (Tendency to expand involved lobe)*
Abscess	• *Abscess formation uncommon*	• *Abscess Formation common*
Pleural	• *Pleural Effusion*	• *Pleural Effusion*

Effusion	*uncommon*	*common*
Cavitation	• *Cavitation is rare*	• *Cavitation is common*

113. Friedlander Pneumonia refers to Pneumonia caused by:

a) Klebsiella

b) Pneumococcus

c) H. Influenzae

d) Staphylococcus

Correct Answer - A
Answer is A (Klebsiella):
Klebsiella Pneumonia is also known as Friedlander Pneumonia. Klebsiella initially described in 1882 by Friedlander was also known as Friedlander's bacillus. Community acquired Pneumonia caused by Friedlander's bacillus (Klebsiella) was termed as Friedlander Pneumonia.

114. Atypical pneumonia can be caused by the following microbial agents *except?*

a) Mycoplasma pneumoniae.

b) Legionella pemmophila

c) Human Corona virus

d) Klebsiella pneumoniae

Correct Answer - D
Answer ***is*** D (Kleibsella pneumonia) :
Causes of Atypical pneumonias .
1. Mycoplasma pneumonias
2. Viral pneumonias - Influenza
- RSV
- Adenovirus
- Rhinovirus
- Rubeola
- Varicilla
- Corona virus
3. Chlamydia pneumonia
4. Coxiella bumetti
5. Pneumocystis carinii
6. Legionella

Corona virus is an infrequent cause of pneumonia.
SARS associated corona virus *(SARS - CoV) caused epidemic of pneumonia from Nov 2002 to July 2003 - Harrison*

115. The most definitive method of diagnosing pulmonary embolism is :

a) Pulmonary arteriography

b) Radioisotope perfusion pulmonary scintigraphy

c) EKG

d) Venography

Correct Answer - A
Answer is A (Pulmonary arteriography):
`*Selective pulmonary angiography is the most specific examination available for establishing the definitive diagnosis of PE.'-Harriosn 16th/1563*
Most definitive investigation : Pulmonary angiography is an invasive procedure, and it is the most definitive procedure. It is however certainly not the initial investigation of choice.
The initial investigation of choice in a case of suspected pulmonary embolism is either a lung ventilation perfusion scan or a CT of the chest with intravenous contrast.
`*CT scanning of the chest with intravenous contrast is the principal imaging test for diagnosis of PE.' - Harrison `Lung scanning (V/Q scan) is now a second line diagnostic test for PE'*
Most definitive / specific test for PE Q Best initial imaging test for diagnosis of PE°
Pulmonary angiographyQ CT scan with intravenous contrast Q (Preferred choice, against a lung V-Q scan)

116. All of the following show low glucose in pleural fluid, EXCEPT-

a) Empyema

b) Malignant pleural effusion

c) Rheumatoid arthritis

d) Dressler's syndrome

Correct Answer - D
Answer is **D** (Dressler's Syndrome):
Dressler syndrome is a secondary form of pericarditis that occurs in the setting of injury to the heart or the pericardium (the outer lining of the heart). It consists of fever, pleuritic pain, pericarditis and/or pericardial effusion.
The disease consists of persistent low-grade fever, chest pain (usually pleuritic), pericarditis and/or pericardial effusion. The symptoms tend to occur 2–3 weeks after myocardial infarction but can also be delayed a few months. It tends to subside in a few days, and very rarely leads to pericardial tamponade. Elevated ESR is an objective but nonspecific laboratory finding.
Dressler's Syndrome is not associated with low glucose in pleural fluid.
Rheumatoid Arthritis, Malignancy and Empyema (Bacterial infections) are all established causes of pleural effusion with low glucose.
Pleural effusion with low glucose (< 60 mg/c11)
1. Malignancy
2. Bacterial infections
3. Rheumatoid pleuritis

117. Which of the following statements about Branchial cysts is true:

a) 50-70% are seen in lungs

b) Most common site is mediastinum

c) They are premalignant lesions

d) Infection is uncommon in Pulmonary bronchogenic cysts

Correct Answer - B

Answer is B (Most common site *is* mediastinum):

Most common site of bronchial/bronchogenic cysts is mediastinum. Only about 15% of bronchogenic cysts occur in the lungs (pulmonary bronchial cysts). Pulmonary bronchogenic cysts often become infected. Bronchogenic cysts are benign lesion and do not have malignant potential (not premalignant).

Bronchial Cyst/Bronchogenic cysts: Review

- Bronchial cysts represent islands of bronchial tissue left behind during the branching of the airways during early fetal development.
- They arise due to abnormal budding of the tracheobronchial tree and foregut and are lined by bronchial epithelium.
- *The most common site of bronchial cysts is mediastinum.*
- *The other site of bronchial cyst is within the pulmonary parenchyma (lung) (Less common site - 15%)*

Mediastinal bronchial cyst	**Pulmonary parenchymal cyst (lungs)**
• Most common site for bronchial cysts • Most common site is middle mediastinum • Commonly arise when	• Less common site (- 15%) • Most common site is the lower lobes • Commonly arise when bronchial tissue is separated from airways

bronchial tissue is separated from airways early in gestation • Communication with tracheobronchial tree is rare	late in gestation • Communication with tracheobronchial tree is more common than with mediastinal cysts. • These cysts often become infected.

- Most bronchogenic cysts are asymptomatic and discovered as incidental radiographic findings in a young adult.
- When symptoms do occur they result most commonly from infection. *Pulmonary parenchymal cysts often become infected – Rudolph*
- *Bronchogenic cysts are not considered premalignant lesions. However according to Rudolph's textbook there is a small risk of malignant change and the best approach is removal and histological examination.*

118. Which of the following drugs, is used for Smoking Cessation?

a) Naltrexone

b) Bupropion

c) Buprenorphine

d) Methadone

Correct Answer - B
Answer *is* B (Bupropion):
Bupropion (along with Varenicline and Nicotine replacement therapy) is a USFDA approved first line agent for pharmacotherapy in Smoking Cessation.
USFDA Approved Agents for Smoking Cessation

- *Nicotine Replacement Therapy* (Transdermal Patch, gum, lozenges, oral inhaler, nasal spray)
- *Bupropion* (Atypical Antidepressant with dopaminergic and noradrenergic activity)
- *Varenicline* (Selective partial agonist at the Alpha4-Beta2 Nicotinic A-Choline receptor that is believed to mediate nicotine dependence)

Clonidine and Nortriptyline are two other medications that have efficacy but are NOT USFDA approved for this indication. These are classified as second line agents.

119. ANCA is NOT associated with which of the following diseases :

a) Wegener's granulomatosis

b) Henoch schonlein purpura

c) Microscopic PAN

d) Churg Strauss syndrome

Correct Answer - B

Answer is B (H.S. Purpura) :

H.S. purpura is not associated with any antinuclear cytoplasmic antibody (ANCA). It is an example of ANCA negative vasculitis.

- ANCA (Antineutrophilic cytoplasmic Antibodies) arc Antibodies directed against certain proteins in cytoplasmic granules of Neutrophil & monocytes.
- These are two major categories of ANCA based on different targets for the antibodies.

ANCA (Antineutrophic cytoplasmic antibodies):

ANCA *is* of 2 types

C-ANCA

(Cytoplasmic *proteinase 3*^{q} is the target antigen)

Wegeners Granulomatosis^{q} (90-95%)

P-ANCA

(perinuclear *myeloperoxidase*^{Q} is the major target antigen)

- Microscopic PAN (microscopic polyangitis)
- Churg-Strauss syndrome
- Crescenteric glomerulonephritise
- Good pasteur's syndrome

120. Feature of microscopic polyangitis is:

a) IgG deposits in kidney

b) Bronchospasm

c) Renal involvement in 80% of cases

d) All of the above

Correct Answer - C

Answer is C (Renal involvement in 80% of cases):

Renal involvement is seen in at least 80% ofpatients with MPA.

Renal involvement is seen in at least 80% of patients with MPA

Renal involvement is seen in at least 80% of patients with MPA - CRDT Glomerulonephritis occurs in atleast 79% of patients – Harrison

Microscopic polyangitis is not associated with IgG Deposits in kidney

Microscopic Polyangitis is a pauci-immune glomerulonephritis. Immunofluorescence and electron microscopy show no immune deposits

Microscopic Polyangitis is not associated with bronchospasm

Asthma (bronchospasm) and Eosinophilia are features of Churg-Strauss Syndrome and are typically absent in microscopic polyangitis.

Features	**H.S. purpura**	**Microscopic Polyangitis**	**Wegner's Granulomatosis**	**Churg-Strauss syndrome**
Deposits in kidney	-- nt (IgA deposits)			-
Bronchospasm (Asthma)	-	-	-	+

Eosinophilia	-	-	-	+
Predominant ANCA	-	p-ANCA	c-ANCA	p-ANCA

121. Jaw tightness is typically seen in:

a) PAN

b) Coarctation of aorta

c) Giant cell arteritis

d) Wegner's Granulomatosis

Correct Answer - C
Answer is C (Giant Cell Arteritis):
Jaw Claudication (law Tightness) is a typical manifestation of Temporal arteritis or Giant cell arteritis.

122. Reversed Coarctation is seen in:

a) Giant cell Arteritis

b) Polyarteritis Nodosa

c) Takayasu Arteritis

d) Kawasaki Disease

Correct Answer - C
Answer is C (Takayasu Arteritis):
Takayasu arteritis is also known as 'Reversed Coarctation'.

Condition	**Coarctation of Aorta**	**Takayasu Arteritis (Reversed Coarctation)**
Pathology (Site of Obstruction)	*Obstruction is most commonly found just distal to the origin of the left Subclavian artery thereby sparing the upper limb vessels*	*Obstruction is most commonly seen in proximal aspect of branches of the aortic arch including the Subclavian and Common Carotid thereby affecting the upper limb vessels*
Pulses	*Absence or diminished pulse in the lower limbs*	*Absence or diminished pulse in the upper limbs*
Blood Pressure	*Increased blood pressure in the upper limbs*	*Decreased blood pressure in the upper limbs*

123. Takayasu arteritis mainly affects?

a) Pulmonary artery

b) Celiac artery

c) Subclavian artery

d) SMA

Correct Answer - C

Answer is C (Subclavian Artery):

Subclavian artery is the single most common artery involved in Takayasu arteritis.

Takayasu arteritis : Most common sites affected

- Takayasu arteritis typically involves medium and large sized arteries
- It has a strong predilection for the aortic arch and its branches.
- The involvement of the major branches of the aorta is much more marked at their origin than distally

The most commonly affected arteries as seen by arteriography in order of frequency

- Coronary (<10%)
- Vertebral (35%)
- Coeliac axis (18%)
- Pulmonary (10-40 %)
- Superior Mesenteric (18%)
- Iliac (17%)
- Subclavian (93%)
- Common Carotid (58%)
- Abdominal Aorta (47%)
- Renal (38%)

124. Most common variant of Takayasu Disease in India is:

a) Type-1

b) Type-2

c) Type-3

d) Type-4

Correct Answer - C
Answer is C (Type -3):
The most common type of Takayasu arteritis reported in India is Type III.
Most studies from India have reported Type III as the most common form of Takayasu arteritis in India accounting for 53 to 76 percent of cases.

Classification / Type	**Predominant Site Involved**
Type-I *(Shimizu-Savo)*	*Arch of aorta and its branches*
Type-II *(Kimoto)*	*Thoraco-abdominal aorta and its branches without involvement of the aortic arch*
Type-III *(Inada)*	*Combined features of both Type-I & Type-II*
Type-IV *(Oata)*	*Pulmonary involvement (in addition to features of Type-I, II or III)* *Involvement of coronary arteries (in addition to features of Type-1, II or III)*

125. Kawasaki disease is associated with all of the following clinical features *except*

a) Truncal rash

b) Posterior cervical lymphadenopathy

c) Thrombocytopenia

d) Pericarditis

Correct Answer - C
Answer is C (Thrombocytopenia) :
Kawasaki disease is associated with thrombocytosis and not thrombocytopenia.
Characteristic laboratory findings Treatment of Choice Prognosis include
Increased ESR Thrombocytosise *High dose intravenous immunoglobulinse* *Prognosis for uneventful recovery is excellente*

126. Treatment of choice for Kawasaki Disease is:

a) IV Immunoglobulins

b) Steroids

c) Dapsone

d) Methotrexate

Correct Answer - A
Answer is A (IV Immunoglobulins):
The treatment of choice in Kawasaki disease is intravenous immunglobulins

127. Features of SLE include all of the following except:

a) Recurent abortion

b) Sterility

c) Coomb's positive hemolytic anemia

d) Psychosis

Correct Answer - B
Answer is B (Sterility):
Systemic Lupus Erythematosus.
Recurrent Abortions in SLE may be seen as a manifestation of Antiphospholipid Antibody syndrome. Small proportion of patients with SLE may have a Coomb's Positive Haemolytic anemia. Psychosis is a known neurological manifestation of SLE.

128. Shrinking Lung Syndrome is seen in:

a) SLE

b) Rheumatoid Arthritis

c) Scleroderma

d) Sarcoidosis

Correct Answer - A
Answer is A (SLE):
Shrinking lung syndrome refers to a condition typical of SLE that consists of a purely restrictive respiratory disease with normal lung parenchyma and markedly decreased lung volumes.

Shrinking lung syndrome

Shrinking lung syndrome refers to a condition typical of SLE that consis
respiratory disease with normal lung parenchyma and markedly decrea

Pathogentic Mechanism

Diaphragmatic dysfunction has been advocated as the main pathogene
shrinking lung syndrome

Clinical Presentation

Shrinking lung syndrome usually manifests as exertional dyspnea of va
progress over a period of weeks or months. (Orthopnea attributed to dia
may also occur).

Pleuritic chest pain is reported frequently, and a previous history of pleu
common.

Physical examination is remarkably normal.

Investigations

Chest radiography typically shows elevated hemi-diaphragms, althougl
finding and its absence does not exclude the diagnosis. Pleural effusior
atelectasis may be also evident on plain films or CT scans.

Pulmonary function tests show a marked restrictive pattern, with decrea

(FVC).

Carbon monoxide diffusion corrected by lung volumes is typically norma

Anti-Ro antibodies may be present, although they do not offer an additi

Prognosis

The prognosis of this syndrome is usually good (Most patients show lor

129. Antibodies most commonly seen in drug induced lupus are:

a) Anti ds DNA Antibodies

b) Anti Sm Antibodies

c) Anti-Ro Antibodies

d) Antihistone Antibodies

Correct Answer - D
Answer is D (Antihistone Antibodies):
The most commonly used marker for drug induced lupus is Antihistone Antibodies.
Drug Induced Lupus is characterized serologically by the presence of Anti-Histone Antibodies and the absence of antibodies against double stranded DNA (dsDNA Antibody Negative; Anti-Histone Antibody Positive). Anti-dsDNA
Serology in Drug Induced Lupus Erythematosus

- Almost all patients with Drug Induced Lupus will test positive for Antinuclear Antibodies (Positive ANA Test)
- The spectrum of Antinuclear antibodies in Drug Induced Lupus includes
- Positive Antihistone antibodies (most common; not specific; also seen in SLE)
- Positive autoantibodies against single stranded DNA (common ; not specific; also seen in SLE)
- Negative (absence of) autoantibodies against double stranded DNA(dsDNA)
- The presence of autoantibodies against dsDNA strongly suggests a diagnosis of SLE
- Drug Induced Lupus is typically associated with a Homogeneous

ANA pattern due to the presence of Antihistone Antibodies
Antibodies are seen in less than 5 percent of patients with Drug Induced Lupus
The presence of Antihistone antibodies alone is not a specific test for diagnosis of Drug Induced Lupus as Antibodies to histones may also be seen in up to 50 to 80 percent of patients with idiopathic SLE.
Note : *Hypocomplementemia is uncommon in Drug Induced Lupus but not in SLE.*

130. Bilateral parotid enlargement occurs in all, Except:

a) Sjogren's syndrome

b) SLE

c) HIV

d) Chronic pancreatitis

Correct Answer - B

Answer is B (SLE):

Bilateral parotid enlargement is not a feature **of SLE.**

Causes of Bilateral parotid enlargement

Viral infections	**Metabolic causes**	**Endocrinal**	**Miscellaneous**
• *Mumps* • *Influenza* • *Epstein barr virus* • *Coxackie virus A* • *CMV* • *HIV*	• *Diabetes mellitus* • *Hyper lipoproteinemia* • *Chronic pancreatitis*[e] • *Cirrhosis*	• Acromegaly • Gonadal hypofunction	• Sarcoidosis • Amyloidosis • Sjogren syndrome

131. Lupus Pernio is seen in:

a) Tuberculosis

b) SLE

c) PAN

d) Sarcoidosis

Correct Answer - D
Answer *is* D (Sarcoidosis):
Pernio is a typical cutaneous manifestation of Sarcoidosis.
Lupus Pernio is the most typical and easily recognizable skin lesions of Sarcoidosis. It is characterized by the presence of violaceous, purple blue shiny swollen lesions over the bridge of nose, beneath the eyes and over the cheeks. This specific complex of involvement of the bridge of nose, the area beneath the eyes and the cheeks is considered diagnostic for a chronic form of Sarcoidosis.

132. Keratoderma Blenorrhagica is typically seen in

a) Rheumatoid Arthritis

b) Psoriatic Arthritis

c) Reactive Arthritis

d) Ankylosing spondylitis

Correct Answer - C
Answer is C (Reactive Arthritis):
Keratoderma Blenorrhagica is the charachteristic skin lesion seen in patients with Reactive Arthritis.
'The charachteristic skin lesions in Reactive Arthritis, Keratoderma Blenorrha2ica, consist of vesicles that become hyperkeratotic, ultimately forming a crust before disappearing. In patients with HIV infection, these lesions are often extremely severe and extensive sometimes dominating the clinical picture '-

133. Which of the following statements about Hematochromatosis is not true

a) Hypogonadism may be seen

b) Arthropathy may occur

c) Diabetes Mellitus may develop

d) Desferrioxamine is treatment of choice

Correct Answer - D
Answer *is* D (Desferrioromine is treatment of choice):
The therapy of hematochromatosis involves removal of excess body iron.
Iron removal is best achieved by periodic phlebotomies which is the treatment of choice for Hematochromosis.
Chelating agents like desferoxamine are less effective and indicated when anemia or hypoproteinemia is severe enough to preclude phlebotomy.
*Chelating agents **are** not the treatment of choice for Hematochromatosis.*

134. Renal artery stenosis may occur in all of the following, except :

a) Atherosclerosis

b) Fibromuscular dysplasia

c) Takayasu's arteritis

d) Polyarteritis nodosa

Correct Answer - D
Answer is D (Polyarteritis nodosa)
Amongst the options provided renal artery stenosis is least likely to be seen in association with Polyarteritis nodosa.
Atherosclerosis and Fibromuscular disease
- Renal artery stenosis is produced predominantly by atherosclerotic occlusive disease (80% to 90% of patients) or tibromuscular dysplasia (10-15% of patients).- *CMDT'06 p 460*
- he common cause of renal artery stenosis *in the middle aged and elderly* is an atheromatous plaque at origin of renal artery. *Harrison*
- ***In*** *younger women* stenosis is due to intrinsic structural abnormalities of the arterial wall caused by a heterogenous group of lesions called 'fibromuscular dysplasia'. - *Harrison 16`"/1707*
PAN or Takayasu arteritis ?
CMDT do not mention PAN or Takayasu arteritis as a cause for renal artery stenosis.
However, Takayasu arteritis is certainly a more common cause of renal artery stenosis than PAN.
Takayasu arteritis (Aorto-arteritis) *is beleiveds to be the most common of renovascular hypertension in India and China. – Diseases of Kidney and Urinary Tract 8th/1279*
A number of research publications, however show Takayasu arteritis

as a cause for renal artery stenosis.

PAN

Although renal involvement is seen in upto 60% of patients with PAN its pathology does not involve renal artery stenosis.

The pathology involves arteritis without glomerulonephritis and is characterised by aneurysms of small and medium sized arteries. Stenosis of main renal artery is an unusual association'.

Causes of Renal artery stenosis :

1. Atherosclerosis
2. Fibromuscular dysplasia
3. Non specific Aorto arteritis
4. Takayasu arteritis and giant cell arteritis (Takayasu > Giant cell)
5. Antiphospholipid syndrome
6. Transplant renal artery stenosis
7. Renal artery embolism
8. Dissecting aneurysm of aorta
9. Radiation arteritis

135. The most common cause of Cushing's syndrome is:

a) Pituitary adenoma

b) Adrenal adenoma

c) Ectopic ACTH

d) Iatrogenic steroids

Correct Answer - D
Answer is D (Iatrogenic steroids):
"The most common cause of Cushing's syndrome is Iatrogenic administration of steroids for a variety of reasons."

136. Intake of exogenous steroid causes:

a) Addison's disease

b) Cushing's syndrome

c) Pheochromocytoma

d) Conn's syndrome

Correct Answer - B
Answer is B (Cushing's syndrome):
The most common cause of Cushing's syndrome is iatragenic administration of steroids for a variety of reasons. - Harrison

137. Most common cause of Addison's Disease in India is:

a) Autoimmune

b) Postpartum

c) HIV

d) Tuberculosis

Correct Answer - D
Answer *is* D (Tuberculosis):
'The commonest cause of adrenal insufficiency (Addison's disease) in underdeveloped countries is Tuberculosis

138. Initial Drug of choice for suspected case of acute adrenal insufficiency is:

a) Norepinephrine

b) Hydrocortisone

c) Dexamethasone

d) Fludrocortisones

Correct Answer - C
Answer is C (Dexamethasone):
The treatment of choice for acute adrenal insufficiency is Glucocorticoid Replacement Therapy. In cases where the diagnosis of acute adrenal insufficiency is suspected (not confirmed) Dexamethasone is preferred as the initial steroid of choice because Dexamethasone does not compete with the cortisol assay. Cosyntropin stimulation testing may be performed while the patient is on treatment.

139. Nelson's syndrome is most likely seen after:

a) Hypophysectomy

b) Adrenalectomy

c) Thyroidectomy

d) Orchidectomy

Correct Answer - B
The answer is B (Adrenalectomy):
Adrenalectomy predisposes to the development of Nelson's syndrome.
Nelson syndrome

- Nelson syndrome is a disorder characterized by the rapid enlargement of a preexisting ACTH pituitary adenoma after adrenalectomy.
- *This syndrome occurs because the following adrenalectomy, the suppressive effect of cortisol on ACTH secretion and tumor growth is removed resulting in increased ACTH secretion and tumor growth.*
- Patients with Nelson's syndrome present with hyperpigmentation and with the manifestation of an expanding intrasellar mass lesion (visual field defects, headache, cavernous sinus invasion, etc.)
- These tumors represent one of the most aggressive and rapidly growing of all pituitary tumors.
- ACTH levels are markedly elevated.
- Preoperative Radiotherapy may be indicated to prevent the development of Nelson's syndrome after adrenalectomy.

140. Primary Hyperaldosteronism can be diagnosed by all of the following criteria, except:

a) Diastolic Hypertension without edema

b) Hyperaldosteronism which is not supressed by volume expansion

c) Low Plasma Renin Activity

d) Metabolic Acidosis

Correct Answer - D
Answer **is** D (Metabolic Acidosis)
Class,Triad of Biochemical Criteria for diagnosis of Primary Hyperaldoteronism

- Hypokalemia with inappropriate kaliuresis (Metabolic alkalosis)
- Suppressed plasma renin activity
- *Elevated Aldosterone levels* that do not fall **appropriately** in response to volume expansion or sodium load
- Taken from Manual of Endocrinology & Metabolism 41h/150

141. Primary hyperparathyroidism is suggested by all of the following, except:

a) Increased serum calcium

b) Low urinary calcium

c) Increased PTH

d) Increased C-AMP

Correct Answer - B
Answer is B (Low Urinary Calcium):
Primary Hyperparathyroidism is associated with normal or increased urinary calcium levels.
Increased PTH and Increased Serum calcium in association with high levels of urinary calcium suggest a diagnosis of Primary Hyperparathyroidism
Increased PTH and Increased Serum calcium in association with low levels of urinary calcium suggest a diagnosis of Familial Hypocalciuric Hypercalcemia (FHH)

Disorder	S-Ca2±	S-PHOS	Intact PTH	PTHrP	Urine Calcium	Urinary Ca2+ Creatinine Clearance ratio
Primary HPTH	1'	sl, (or N)	1' (or N)	,I,	U-Ca2' > 100mg/24h	>0.02
Familial benign hypercalcemia	I'	.I(or N)	1' (or N)	,I,	U-Ca2+ <100mg/24h	<0.01

This clearance ratio is calculated from simultaneous fasting serum and urine Ca and creatinine measurements. The urine sample can

and urine Ca and creatinine measurements. The urine sample can be from a spot or a 24 h collection. The clearance ratio is calculated as follows:
Urine Ca (mg/24h)x plasma creatinine (mg/dl)/plasma Ca (mg/dL) x urine creatinine (mg/24h)

142. Hypophosphatemia is seen in:

a) Pseudohypoparathyroidism

b) Hyperparathyroidism

c) Hyperthyroidism

d) Hypoparathyroidism

Correct Answer - B
Answer is B (Hyperparathyroidism):
Hyperparathyroidism is typically associated with hypophosphatemia.
Primary Hyperparathyroidism is associated with Hypophosphatemia and Hypercalcemia while Secondary Hyperparathyroidism is associated with Hypophosphatemia and Hypocalcemia.
Hyperthyroidism is typical associated with normal phosphate levels
Hypoparathyroidism and Pseudohypoparathyroidism are associated with Hyperphosphatemia

143. Granulomatous condition causing hypercalcemia include all of the following, except:

a) TB

b) Sarciodosis

c) Berylliosis

d) SLE

Correct Answer - D
Answer is D (SLE):
SLE is not classified as a granulomatous disease and is a rare cause of Hypercalcemia (Disseminated SLE). Sarcoidosis, Tuberculosis (TB) and Berylliosis are typical Granulomatous disorders causing hypercalcemia.
Granulomatous causes of Hypercalcemia
Infective Causes

- Tuberculosis
- Berylliosis
- Histoplasmosis
- Coccidoimycosis
- Pneumocystis
- Granulomatous Leprosy
- Cat-Scratch Disease

Non-Infective Cause

- Sarcoidosis (Most common)
- Wegner's Granulomatosis
- Inflammatory Bowel Disease
- Histiocytosis-X

- Foreign body Granulomas
  Almost every single disease associated with Granuloma formation has been reported to cause Hypercalcemia

144. Osteoporosis is seen in all the following *except*

a) Thyrotoxicosis

b) Rheumatoid arthritis

c) Hypoparathyroidism

d) Steroid therapy

Correct Answer - C

Answer is C (Hypoparathyroidism) :

Osteoporosis as associated with lzyperparathyroidism (not hypoparathyroidism).

DISEASES ASSOCIATED WITH AN INCREASED RISK OF GENERALIZED OSTEOPOROSIS IN ADULTS :

Hypogonadal States	**Nutritional and gastrointestinal disorders**
Turner Syndrome	Malnutrition
Klinefelter syndrome	Parenteral nutrition
Anorexia nervosa	Malabsorption syndromes
Hypothalmic amenorrhea	Gastrectomy
Other primary or secondary hypogonadal states	Severe liver disease, especially biliary cirrhosis
	Pernicious anemia
Endocrine disorders	**Hematologic disorders / Malignancy**
Cushing's syndrome	Multiple disorders/malignancy
Hyperparathyroidism	Lymphoma and leukemia
Thyrotoxicosis	Malignancy-associated parathyroid hormone - related (PTHrP)

Insulin-dependent diabetes mellitus	production
Acromegaly	Mastocytosis
Adrenal insufficiency	Hemophilia
	Thalassemia
Selected inherited & Rheumatologic disorders	**Miscellaneous**
Osteogenesis imperfecta[Q]	Immobilization[Q]
Marfan syndrome[Q]	Chronic obstructive pulmonary disease
Hemochromatosis	Pregnancy and lactation
Hypophosphatasia[Q]	Scoliosis
Glycogen storage diseases	Multiple sclerosis
Homocystinuria[Q]	Sarcoidosis
Ehlers-Danlos syndrome	Amyloidosis
Porphyria	Alcoholism
Menkes' syndrome	
Epidermolysis bullosa	
Rheumatoid arthritis	

DRUGS ASSOCIATED WITH AN INCREASED RISK OF GENERALIZED OSTEOPOROSIS IN ADULTS :

Glucocorticoids2	Excessive thyroxin
Cyclosporine[Q]	Aluminium
Cytotoxic drugs	Gonadotropin-releasing
Anticonvulsants	hormone agonists[Q]
Excessive alcohol	Heparin
	Lithium

145. Features of tumor lysis syndrome are:

a) Hypocalcemia

b) Hypophosphatemia

c) Alkalosis

d) Hypokalemia

Correct Answer - A
Answer is A (Hypocalcemia):
Tumor Lysis syndrome is associated with Hypocalcemia.
Tumor Lysis Syndrome is also associated with Hyperphosphatemia, Hyperkalemia and Acidosis.

146. A pregnancy woman is diagnosed to suffering from Graves' disease. The most appropriate therapy for her would be:

a) Radioiodine therapy

b) Total thyroidectomy

c) Carbimazole parenteral

d) Propylthiouracil oral

Correct Answer - D

Answer is D (Propylthiouracil):

Propylthiouracil (PTU) is not associated with an increased risk of congenital malformations and is considered the drug of choice for treating hyperthyroidism is Pregnancy.

Hyperthyroidism in Pregnancy

- Maternal Hyperthyroidism in Pregnancy is usually due to Grave's Disease. TRAb crosses the placenta and if mother is thyrotoxic it must be assumed that the foetus is similarly affected
- The treatment of choice for thyrotoxicosis in Pregnancy is therapy with safe Antithyroid Drugs
- Thionamides (Carbimazole/Propylthiouracil) are equally effective in controlling Grave's Hyperthyroidism in Pregnancy and are considered the drugs of choice.
- Amongst Carbimazole (Methimazole) and Propylthiouracil, Propylthiouracil is typically the preferred agent (Traditional drug of choice)

Radioactive Iodine Therapy is contraindicated in pregnancy as it may destroy the fetal thyroid Thyroidectomy (Surgery) is rarely required during Pregnancy. When indicated preoperative treatment

with antithyroid drugs and iodine is undertaken and surgery is performed during the second trimester

Propylthiouracil

- *Effective in controlling Grave's Hyperthyroidism in Pregnancy*
- *Not associated with increased risk of congenital malformation (Aplasia Cutis Congenita has not reported with the use of Propylthiouracil))*
- *Considered the drug of choice for treatment of Hyperthyroidism in pregnancy*
- *Considered the drug of choice for mothers during Breast feeding (Transferred to the milk one tenth as much as Carbimazole)*
- *Effective in controlling Grave's Hyperthyroidism in Pregnancy*
- *Aplasia Cutis Congenita is a rare disorder reported in neonates of mothers who received Methimazole (Carbimazole) during pregnancy.*
  (Consensus: Insufficient data to establish a direct causal relationship)
- *Considered as an effective alternative where Propylthiouracil is not available or cannot be used for any reason*
- *May be used in mothers during breast feeding at a low dose (Transferred to milk more than Propylthiouracil but usually does not adversely affect the infant's thyroid function)*

147. Investigation of choice in pheochromocytoma is:

a) CT scan

b) Urinary catecholamines

c) MIBG scan

d) MRI Scan

Correct Answer - B
Answer is B (Urinary Catecholamines):
Pheochromocytomas synthesize and store catecholamines which include norepinephrine, epinephrine and dopamine. *The investigation of choice for diagnosis of Pheochromocytomas is determination of elevated levels of catecholamines and their methylated metabolites (metanephrines) in the plasma and urine. CT scan, MRI and MBIG Scintography are all useful diagnostic modalities for localization of pheochromocytoma once the diagnosis is established.*

148. The predominant symptom/sign of pheochromocytoma is:

a) Sweating

b) Weight loss

c) Orthostatic hypotension

d) Episodic hypertension

Correct Answer - D
Answer is D (Episodic Hypertension):
The predominant manifestation of Pheochromocytoma is Hypertension which classically presents as Episodic Hypertension (Sustained Hypertension and Orthostatic Hypotension may also be seen).
'The dominant sign is Hypertension. Classically patients have episodic hypertension, but sustained hypertension is also common' - Harrison

149. The gold standard test for diagnosis of Insulinoma is:

a) '72 hour' fast test

b) Plasma Glucose levels < 3 mmol/l

c) Plasma Insulin levels > 6µU/ml

d) C- peptide levels < 50 p mol/e

Correct Answer - A

The answer is A ('72 hour' fast test):

The Gold standard test for diagnosis of Insulinoma is a supervised '72 hour fast' test

Diagnosis of insulinoma requires demonstration of inappropriately high levels of plasma Insulin (and C- peptide) in the presence of documented hypoglycemia (Achieved by 72-hour fast test).

Absolute values of Insulin or C- peptide are not reliable in establishing a diagnosis unless hypoglycemia is documented The '72 hour fast test' allows demonstration of hypoglycemia, together will elevated levels of Insulin and C-peptide and thus becomes the most reliable – gold standard test for establishing a diagnosis of Insulinoma

Diagnosis of Insulinoma: '72 hour fast' test

- The diagnosis of Insulinoma requires the demonstration of an inappropriately elevated plasma insulin (and C-peptide) at the time of hypoglycemia.
- The '72 hour fast' test involves supervised fasting for up to 72 hours or until hypoglycemia can be documented.
- The test is considered positive if at any time when blood glucose levels drop to < 2.2mmo1/1 (40 mg/dl), the serum insulin levels are recorded to be greater than 6µU/ml. (and C- peptide levels > 100

pmo1/1)

- *Studies indicate that 100% of patients with insulinoma will be detected after a supervised 72 hour fast and hence this test is considered the gold standard test.*
  First 24 hours: 70-80% of patients with insulinoma can be detected
  Up to 48 hours: 98% of patients with insulinoma can be detected
  By 72 hours: 100% of patients with insulinoma can he detected

150. Diagnosis of carcinoid tumour is done Urinary estimation of:

a) VMA

b) Metanephrines

c) Catecholamines

d) 5HIAA

Correct Answer - D
Answer **is** D (5HIAA):
Carcinoid Tumors
Carcinoid tumors are associated with elevated levels of metabolites of Tryptophan/ serotonin which include 5HIAA, 5HT and5HTP.
Pheochromocytomas
Pheochromocytomas are associated with elevated levels of catecholamines and their metabolites which include Vanillylmandelic acid (VMA)and metanephrines
The diagnosis of Typical carcinoid syndrome is suggested by elevated levels of 5HIAA The diagnosis of Atypical Carcinoid Syndrome is suggested by elevated levels of 5HTP. established by elevated levels of 5HIAA.

151. Carcinoid syndrome produces valvular disease primarily of the

a) Venous valves

b) Tricuspid valve

c) Mitral valve

d) Aortic valve

Correct Answer - B
Answer is B (Tricuspid valve);
The most common site of involvement is the – Ventricular surface of Tricuspid valve.
'Cardiac manifestations in carcinoid syndrome are due to fibrosis involving the endocardium, primarily on the right side although left side lesions also occur. Dense fibrous deposits are most commonly on the ventricular aspect of the tricuspid valve and less commonly on the pulmonary valve cusps.'
They can result in either constriction of valves (stenosis) or fixation of valves in open (regurgitation)
- Abnormality produced due to tricuspid valve involvement – Tricuspid regurgitation Q
- Abnormality produced due to pulmonary valve involvement – Pulmonary stenosis Q

152. Most common cause of chronic granulomatous disease in children is:

a) Myeloperoxidase deficiency

b) Defective phagocytosis

c) Defective H_2O_2 production

d) Job's disease

Correct Answer - C

Answer is C (Defective H_2O_2 production)

Chronic granulomatous disease is a 'disorder' of microbial killing' characterized by decreased ability of neutrophils to produce H4)-Q

Chronic granulomatous disease is a 'disorder' of microbial killing' chara
decreased ability of neutrophils to produce H,O_2.[Q] Patients, here becor
susceptible to disease caused by organisms that produce `catalase', wl
the small amount of H2O, present in these cells and leads to failure of b
killing.

The disease is called so, because granulomas, are formed in various tis
second line defence against organisms, that normally would be remove
acute inflammatory response.

Manifestations:

Recurrent infections with which catalase +ve Pyogenic bacteria e.g. sta
[Q]

- catalase negative bacteria e.g. streptococcus, Pneumococcus are ofte
normally.[Q]

Normal humoral immune response[?] but

Defective killing process: Leucocytes are unable to kill bacteria after ph
the major reason being decreased production of $H\text{-}O_2$.[Q]

Screening method:

NBT test: Nitroblue retrazolium dye is not reduced by neutrophils in vitr

153. In Turner's syndrome which of the following is NOT seen :

a) Short stature

b) Widely spaced nipple

c) Webbed neck

d) Mental retardation

Correct Answer - D
Answer *is* D (Mental retardation):
Mental retardation is seen in Down & Klinefelter's syndrome but not in Turner's syndrome. All other features mentioned as options may be seen in Turner's syndrome.

154. Broca's aphasia is?

a) Fluent aphasia

b) Non fluent aphasia

c) Sensory aphasia

d) Conduction aphasia

Correct Answer - B
Answer is B (Non-fluent Aphasia):
Broca's Aphasia is a Non-Fluent Expressive (Motor) Aphasia with preserved comprehension and impaired repetition

155. All of the following are Fluent Aphasia's Except:

a) Anomie Aphasia

b) Wernicke's Aphasia

c) Conduction Aphasia

d) Broca's Aphasia

Correct Answer - D
Answer is D (Broca's Aphasia):
Neurologic Differential Diagnosis: A Case-Based Approach (Cambridge University Press, 2014)/ 36
Broca's Aphasia is a Non-Fluent Expressive (Motor) Aphasia with preserved comprehension and impaired repetition.
Non-Fluent Aphasias

- Global
- Broca's
- Mixed Transcortical
- Transcortical Motor

Fluent Aphasias

- Anomie
- Wernicke's
- Conduction
- Transcortical Sensory

156. Fluent Aphasia with preserved comprehension and impaired repetition is:

a) Broca's

b) Wernicke's

c) Anomie

d) Conduction

Correct Answer - D
Answer is D (conduction):
Conduction Aphasia is a 'Fluent' Aphasia with preserved comprehension and impaired Repetition.

Clinical Syndrome	**Non-Fluent Aphasias**				**Fluent Aphas'as**			
Features			Transcortical	Motor			Wernicke's	Transcor Sensory
Fluent	No	No	No	No	Yes	Yes	Yes	Yes
Comprehension	No	No	Yes	Yes	Yes	Yes	No	No
Repeat	No	Yes	Yes	No	Yes	No	No	Yes

157. Involvement of pyramidal tract leads to all of the following except

a) Spasticity

b) Fasciculation

c) Hyper-reflexia

d) Positive Babinski sign

Correct Answer - B
Answer *is* B (Fasciculation):
Fasciculations are a feature of Lower Motor Neuron Lesions. Involvement of Pyramidal tract indicates an Upper Motor Neuron Lesion. Hypertonia with Spasticity, Hyper-reflexia and a Positive Babinski Sign with an Extensor Planter response are all features of an upper motor neuron lesion (Pyramidal Tract Lesion).

158. The following are components of Brown Sequard syndrome except :

a) Ipsilateral extensor plantar response

b) Ipsilateral pyramidal tract involvement

c) Contralateral spinothalamic tract involvement

d) Contralateral posterior column involvement

Correct Answer - D

Answer is D (Contralateral posterior column involvement):

Brown – Sequard syndrome or hemisection of the spinal cord leads to loss of joint position and vibratory sense (posterior columtn movement) on the ipsilateral side and not on the contralateral side. – Harrison 16th / 2441, 144

Brown sequard syndrome: Hemisection of spinal cord

- Ipsilateral involvement of corticospinal tract : ipsilateral loss of motor power.
- Ipsilateral involvement of posterior column : ipsilateral loss of joint position and vibratory sense.
- Contralateral involvement of spinothalamic tract : contralateral loss of joint position and vibratory sense.

Segmental signs such as radicular pain muscle atrophy or loss of deep tendon reflexes arc unilateral (Lower motor neuron signs at level of lesion).

159. Early loss of bladder control is seen in

a) Conus Medullaris

b) Cauda Equina

c) Gullain Barre Syndrome

d) Amyotrophic Lateral Sclerosis

Correct Answer - A
Answer is A (Conus Medullaris):
Harrison's 18th Loss of bladder control is an early and marked feature of conus medullaris.

Feature	**Conus Medullaris**	**Cauda Equina syndrome**	**GBS**	**AMLS**
Bladder Involvement	Early and Marked *'Bladder dysfunction is a prominent feature and comes early in the course of disease'*	Late and less marked *'Bladder involvement is a late presentation in cauda-equina syndrome*	Uncommon *'If bladder dysfunction a prominent feature and comes early in the course, diagnostic possibilities other than GBS should be*	Absent /uncommon *'Even* in late stages of the illness bowel and bladder functions are preserved'

considered

160. Most common cause of embolic stroke is?

a) Intra-Cardiac Thrombi

b) Particulate Matter From IV Drug Injections

c) Protein C deficiency

d) Antiphospholipid syndrome

Correct Answer - A
Answer *is* A (Intracardiac Thrombi):
The most common cause of embolic strokes are Intro-cardiac Thrombi.
The most common sources of systemic embolism and embolic stroke are Intra-cardiac thrombi formed as a result of atrial fibrillation, ST- elevation MI, left ventricular dysfunction or heart failure.
Atrial Fibrillation is the single most important predisposing factor (Atrial Thrombus) followed by Myocardial Infarction (Left Ventricular Thrombus).

161. The common cause of subarachnoid hemorrhage is:

a) Arterio-venous malformation

b) Cavernous angioma

c) Aneurysm

d) Hypertension

Correct Answer - C
Answer is C (Aneurysm):
`*The most common cause of subarachnoid haemorrhage is rupture of a saccular aneurysm (excluding head trauma)' – Harrison.*
Previously asked frequently as follows: (Excluding hand trauma)
Most common cause of subarachnoid haemorrhage is rupture of a saccular aneurysmQ
Most common cause of subarachnoid haemorrhage is rupture of a Berry aneurysmQ
Most common cause of subarachnoid haemorrhage is rupture of 'Circle of Willis' aneurysmQ.
(Saccular aneurysms are synonymous with Berry Aneurysms and most commonly occur in the anterior circulation on the Circle of Willis).

162. Lateral medullary syndrome is caused by thrombosis of:

a) Anterior inferior cerebral artery

b) Posterior inferior cerebellar artery

c) Vertebral artery

d) b and c

Correct Answer - D

Answer is C > B (Vertebral artery > Posterior inferior cerebellar artery):

`Most cases result from ipsilateral vertebral artery occlusion; in the reminder occlusion of posterior inferior cerebellar artery is responsible' – Harrison

Vessel occlusion that result in Lateral Medullary syndrome:

- Vertebral (most common)
- Posterior inferior cerebellar (2nd most common)
- Superior, middle or Inferior lateral medullary arteries

Vertebral artery

- The vertebral artery consists of four segments. The fourth segment courses upward to joint the other vertebral artery to form the basilar artery.
- Only this segment gives rise to branches that supply the brainstem and cerebellum.
- Embolic occlusion or thrombosis of the fourth segment is responsible for this syndrome Q

Posterior inferior cerebellar artery

- Posterior inferior cerebellar artery in its proximal part supplies the lateral medulla and in its distal branches the inferior surface of

cerebellum.

163. Which of the following statements about the pathology in Alzheimer's disease is not true:

a) Neuritic Plaques are formed of amyloid protein

b) Neurofibrillary tangles (NFT) are made of tau protein

c) NFTs appear extracellularly before intracellular appearance

d) Number of NFTs correlates with dementia

Correct Answer - C

Answer is C (NFTs appear extracellularly before intracellular appearance):

NFTs are typically seen intracellularly within the soma and proximal dendrites of neurons.

Neurofibrillary Tangles (NFTs) are intracellular accumulations of hyperphosphorylated 'tau' proteins.

Neurofibrillary Tangles are Intracellular Accumulations

- *Neurofibrillary Tangles are intracellular accumulations of hyperphosphorylated microtubule binding protein 'tau'.*
- *Paired helical filaments of tau protein (NFTs) form intracellularly within the soma and proximal dendrites of neurons.*
- *These cytoskeletal protein tangles (NFTs), initially impede cellular metabolism and axosplasmic transport leading to impaired synaptic function and eventually to neuronal death.*
- *These neurofibrillaty tangles may be seen as extracellular tangles after degeneration of the neuron as evidence of the neuronal cell's demise*
- *Neurofibrillary Tangles are intracellular accumulations that may appear extracellularly alter degeneration of neuron (neuronal death)*

Histopathological Hallmarks of Alzheimer's Disease

Amyloid Plaques (Extracellular)

- Amyloid *Neuritic Plaques are formed by extracellular accumulation of beta amyloid* deposits within the neutropil
- 'Neuritic' or 'Senile' I3-amyloid plaques are an early histopathological sign of Alzheimer's disease (that occur rarely in healthy subjects)
- The amyloid 13-protein accumulated in single neuritic plaques is toxic to surrounding structures and adjacent neurons.
- *Clinicopathological studies have shown that amy/aid burden does not directly correlate with severity or duration of dementia.*

Neurofibrillary Tangles (Intracellular)

- Neurofibrillary tangles arc formed by *intracellular accumulation of hyperphosphorylated microtubule binding protein 'tau'.*
- NFT's occur in many neurodegenerative diseases and /or a group of diseases called laupathies'.
- These include Frontotemporal dementia, Pick's disease etc. *The cooccurance of fi-amyloid plaques with NFT's suggests a diagnosis of AD.*
- The NFT's are toxic to the neurons and neurons with NFT's eventually die and degenerate leaving a residual `*ghost tangle',* in the extracellular space reminding of the pyramidal cell body in which it was initially formed.
- *Clinicopathological studies have shown that dementia correlates more strongly with NFT's than with senile plaques (3-amyloid)*

164. Which of the following metal ions is associated with secondary Parkinsonisms:

a) Mangnese (Mn)

b) Magnesium (Mg)

c) Selenium (Se)

d) Molybednum (Me)

Correct Answer - A

Answer *is* A (Mangnese (Mn)):

Manganese ion exposure is implicated in the free radical damage of the basal ganglia causing Parkinsonism.

Toxins Implicated in Parkinsonism *(Harrison)*

- Manganese (Mn)
- MPTP (1 Methyl - > Phenyl –1, 2, 3, 6 tetrahydropyridine)
- Carbonmonoxide
- Carbondisulphide
- Ctanide
- Hexane
- Methanol

Toxins reported to induce Parkinonism: (Handbook of Atypical Parkinsonism)

- Betel nut (plus antiPsychotics)
- Carbon monoxide
- Contrast agent for cardiac catheterization
- Cyanide
- Ethanol intoxication, ethanol withdrawal
- Ethylene glycol

- Herbicides (paraquat, diquat, glyphosate)
- Heroin
- Hydrogen sulfide
- Kava-kava
- Manganese
- Maneb (Manganese Ethylene-Bis-Dithiocarbamate)
- Mercury
- Methanol
- Methcathinone (manganese ephedrone)
- MPTP (I-methyl-4-phenyl-1,2,3,6-tetrahydropyridine)
- Organic solvents (carbon disulfide, n-hexane, toluene, trichloroethylene)
- Organophosphate insecticide poisoning
- Petroleum products

165. Which of the following sites is responsible for the amnestic defect in Wernicke's Korsakoff syndrome:

a) Mamillary body

b) Thalamus

c) Periventricular Grey matter

d) Hippocampus

Correct Answer - B

Answer is B (Thalamus):

The Amnestic effect in Wernicke's Korsakoff Syndrome is related to lesions in the dorso-medial nuclei of the thalamus.

`Lesions in the dorsomedial nucleus of the thalamus seem to be the best correlate of the memory disturbance and confabulation' - Robbins

166. In children most common posterior fossa tumour is:

a) Meningiomas

b) Astrocytoma

c) Medulloblastoma

d) Glioblastoma multiforme

Correct Answer - B
Answer is B (Astrocytoma):
Cerebellar Astrocytomas are the most common posterior fossa tumors in children.
Medulloblastoma are the second most common posterior fossa tumors in children and the most common malignant posterior fossa tumors in children.
Although CPDT and Nelson's textbook mention an equal incidence of cerebellar astrocytoma and medulloblastoma in the posterior fossa in children, most other standard textbooks mention cerebellar astrocytomas as the most common posterior fossa tumors in children.

167. All the following are true of Craniopharyngioma *except*

a) Derived from Rathke's pouch

b) Contains epithelial cells

c) Present in sella or infra-sellar location

d) Causes visual disturbances

Correct Answer - C

Answer is C (Present in sella or infrasellar location):

Some of these lesions arise from the sella, but most are suprasellar Q *(Not infra-sellar). They arise from near the pituitary stalk and commonly extend into the supra sellar cistern.*

- *Craniopharyngiomas arise from Rathke's pouch* and constitute 3-5% of all intracranial neoplasms.
- *Some of these lesions arise from the sella, but most are suprasellar* Q *(Not infra-sellar).* They arise from near the pituitary stalk and commonly extend into the supra sellar cistern.
- Consists of nests of cords of stratified squamous or columnar epithelium embedded in a spongy reticulum — *Robbins 61h/1129*
- Visual complaints are the presenting feature in about 80% of adults and 60% of children.

168. Predominantly sensory neuropathy is/are caused by:

a) Cisplatin

b) Pyridoxine excess

c) Suramin

d) a and b

Correct Answer - D
Answer **is** A and B (Cisplatin and Pyridoxine excess):
Cisplatin and Pyridoxine are associated with predominantly sensory neuropathies.

169. Which one of the following is correct regarding Eaton-Lambert syndrome-

a) It commonly affects the ocular muscle

b) Neostigmine is the drug of choice for this syndrome

c) Repeated electrical stimulation enhances muscle power in it.

d) It is commonly associated with adenocarcinoma of lung

Correct Answer - C

Answer is C (Repeated electrical stimulation enhances muscle power):

'Patients with Lambert – Eaten myaethenic syndrome show incremental rather than decremental response on repeated nerve stimulation' – Harrison 17th/2674

'Muscle response to stimulation of its motor nerve increases remarkably if nerve is stimulated repeatedly even in muscles that are clinically weak' - CMDT

Lambert Eaten Myasthenia Syndrome commonly involves proximal limb muscles and muscles of trunk

Extraocular muscles are the most commonly involved in Myaesthenia Gravis and not in Lambert Eaten Myasthenia Syndrome

Neostigmine is not considered the drug of choice

Plasmapharesis and immunosuppression form mainstay of treatment 3, 4 Diaminopyridine is the drug of choice for enhancement of neuromuscular transmission.

Pyridostigmine (or Neostigmine) may be sympatomatically helpful but their response is variable – *Harrison & CMDT*

Lambert Eaten Myasthenia Syndrome is associated with small cell carcinoma of lung

Lambert Eaten Myasthenia Syndrome is associated with small cell carcinoma of lung and not adenocarcinoma

170. All of the following are feature of dermatomyositis, Except:

a) Salmon Patch

b) Gottron's patch

c) Mechanic finger

d) Periungual telengiectasias

Correct Answer - A
Answer is A (Salmon Patch):
Salmon patch is not a feature of dermatomyositis.
Cutaneous features of dermatomyositis

Cutaneous feature	**Description**
Heliotrope Rash°	Periocular or facial erythema and edema with pink/purple /blue (heliotrope) hue *(blue purple discoloration on upper eve lids with edema)*
Gottren's Papules[Q] (Gottren's sign)	Violaceous papules over the knuckles *Erythema of the knuckles with a raised violaceous scaly eruption*
`V' sign	*Ervthematous rash over other body surfaces such as anterior chest (often in a V form)*
Shawl sign	*Erythematous rash over other body surfaces including the upper trunk, neck, back & shoulders (shawl pattern)*
Periungual Telengiectasiase	*Dilated capillar[y] loops at the base offingernails*
Mechanic's	*Irregular, thickened, distorted cuticles, with rough*

hands[Q]	*and cracked areas over the lateral and palmar areas offingers with irregular dirty horizontal lines resembling mechanic 's hand.*
Calcinosis Cutis[e]	*Presence of hard calcium deposits in the skin*

171. Best prognostic factor for head injury is :

a) Glasgow coma scale

b) Age

c) Mode of injury

d) CT

Correct Answer - A

Answer *is* A (Glasgow coma scale):

Amongst the option provided GCS is the single best answer of choice.

Determining the patient prognosis after TBI (Traumatic Brain Injury) is difficult and complex.

- Several independent variables have been identified that correlate with severity.
- *Most studies have indicated Glasgow Coma Scale in the field and at arrival at the emergency department as a highly predictive indicator of prognosis.* Harrison 17th / 2601

In severe head injury eye opening, the best motor response and verbal output have been found to be roughly predictive of outcome. There have been summarized using the Glasgow coma scale.

Coma score = E + M + V

- Patient scoring 3 or 4 have an 85% chance of dying or remaining vegetative.
- Patients scoring 11 or above have only a 5 — 10% chance of dying or remaining vegetative.
- Intermediate scores correlate with proportional chances of recovery.

Other Poor prognosis indicators : Harrison

- Older age
- CT evidence of compression of

Older age	cisterns / midline shift
• Increase ICP	• Delayed evacuation of large intracerebral hemorrhage
• Hypoxia & Hypotension	• Carrier status for apolipoprotein E-4 allele

172. Impotence is a feature of which of the following :

a) Multiple sclerosis

b) Poliomyelitis

c) Amyotropic lateral sclerosis

d) Meningitis

Correct Answer - A
Answer *is* A (Multiple sclerosis):
Multiple sclerosis is associated with erectile dy.slitnction or impotence.
Neurological disorders associated with Erectile dysfunction include:

- Spinal cord injury
- Multiple sclerosis
- Peripheral neuropathy

173. Which of the following is the most common initial presenting feature of multiple sclerosis:

a) Optic Neuritis

b) Cerebellar Ataxia

c) Internuclear ophthalmoplegia

d) Diplopia

Correct Answer - A
Answer is A (Optic Neuritis):
Optic Neuritis is the most frequent initial presenting feature of MS amongst the options provided.
The most common earliest presenting features of multiple sclerosis are transient sensory defects followed by visual disturbances due to optic neuritis.

Initial Symptoms of MS

Symptom	Percent of Cases	Symptom	Percent of Cases
Sensory loss	37	*Lhermitte's*	3
Optic neuritis	36	*Pain*	3
Weakness	35	*Dementia*	2
Paresthesias	24	*Visual loss*	2
Diplopia	15	*Facial palsy*	1
Ataxia	11	*Impotence*	1
Vertigo	6	*Myokymia*	1
Paroxysmal attacks	4	*Epilepsy*	1
	4		1

Bladder	4	*Falling*	1

174. "Prosopagnosia" is characterized by :

a) Inability to read

b) Inability to identify faces

c) Inability to write

d) Inability to speak

Correct Answer - B
Ans. B. Inability to identify faces

- Prosopagnosia is a recognition deficit in which the patient is unable to recognize familiar faces.
- Face and object recognition deficits are known as prosopagnosia and visual object agnosia respectively.
- The characteristic lesions in prosopagnosia and visual object agnosia consists of a bilateral infarction in the territory of the posterior cerebral arteries and involve lingual and fusiform gyri.

175. Criteria for Brainstem death includes:

a) Positive Doll's eye Reflex

b) Absent pupillary light reflex and delated pupils

c) Pinpoint pupils

d) Positive vestibulo-ocular reflex

Correct Answer - B

Answer is B (Absent pupillary light reflex and delated pupils):

Brainstem death is defined by the absence of all brainstem mediated cranial nerve reflexes.

Pupillary Light Reflex is a brainstem mediated cranial nerve reflex that is absent in brainstem death. The pupils are usually midsized but may be dilated (should not however be small).

Occulo-cephalic (Doll's eye) reflex and Vestibulo-ocular (Caloric) reflex are both brainstem mediated cranial nerve reflexs that should be absent in Brainstem death.

Criteria for Brain Death/Brainstem death

The definition of Brain stem death requires simultaneous demonstration that the patient has irreversibly lost the capacity of consciousness (Coma) and the capacity to breathe (Apnoea) both of which are dependent on intact brainstem.

Clinical assessment of the integrity of Brainstem has two components including assessment of the integrity of brainstem mediated cranial nerve reflexes and the Apnea test.

Deep Unresponsive Coma

Patients with brain death show the deepest coma possible with total unresponsiveness to all stimuli.

- No spontaneous movement
- No response to external stimuli (Verbal/ Deep pain)

Absence of all Brainstem Cranial Reflexes

All reflexes mediated by cranial nerve must be absent

- Absent Pupillary Light reflex (CN II, III)
(Pupils are usually midsized but may be enlarged but they should not be small)
- Absent Corneal Reflex (CN V, VII)
- Absent Vestibulocochlear Reflex (CN III, IV, VI, VIII) (No eye movement in response to caloric irrigation of ears)
- Absent Oculocephalic Reflex
(Absent Doll's eye reflex) Eyes will move with the head
(No occular movements on rapid turning of head).
- Absent Gag Reflex (CNIX, X)
- Absent Tracheal Cough Reflex (CNX)
- Absent Central Motor Response to Pain (CN V, VII) (No response to deep somatic stimulation).

Complete Aponea in pressure of hypercarbia (Absence of Brainstem Respiratory Reflex)

- No respiratory effort in response to hypercarbia needs to be demonstrated to show that aponea is due to brainstem (medullary) damage
- Absent respiratory movement during disconnection from the ventilator with the PaCO2 > 60 mm Hg is required for the test to be valid

Cranial nerve reflexes in Brain Stem Death testing:

Reflex	Cranial nerves	Notes
Pupillary light reflex	HAI	Use bright light source (not ophthalmoscope) in a dimmed environment. Look for both direct and consensual reaction. Important reflex that interrogates at level of midbrain
Corneal reflex	V, VII	Stroke cornea with gauze, whilst gently holding eyes open; avoid trauma to cornea. The various nuclei of V are found throughout the whole length of the

		brainstem, whilst that of VII (facial nerve) is in the upper medulla.
Central response to deep somatic stimulation	V, VII	Apply deep pressure stimulation centrally (e.g. supra-orbital ridge) and peripherally (e.g. nail bed). Look for central motor response in the distribution of the facial nerve. Peripheral stimulation may illicit peripheral spinal reflexes.
Cold caloric vestibulo-ocular reflex	III, IV, VI, VIII	Check patency of external auditory canal with auroscope. Flex head to 30° (or apply 30° head up tilt if cervical spine injury is suspected). Slowly irrigate canal with 5OrriL ice-cold water over 60s. Observe for nystagmus for a further 30s. Contra-indicated in trauma-related otorrhea. The nuclei of III and IV lie withjin the midbrain, whilst those of VI and VIII are in the medulla.
Oculocephalic reflex (Doll's eye reflex)	VIII, Ill, VI	Rapid lateral movement of the head normally results in eye deviation to the contralateral side, testing brainstem gaze mechanism. In brainstem death eyes remain in a fixed position within the orbit.
Gag reflex	IX, X	Stimulate uvula under direct vision with throat spatula, observing for contraction of soft palate. The nuclei of IX and X lie in the medulla.
Tracheal cough reflex	X	Expose patient to umblicus. Stimulate trachea to level of carina by introduction of sterile suction catheter down endotracheal tube. Observe for cough response

tube. Observe for cough response

176. Renal papillary necrosis is almost always associated with one of the following conditions:
March 2004

a) Diabetes mellitus

b) Analgesic nephropathy

c) Chronic pyelonephritis

d) Post streptococcal glomerulonephritis

Correct Answer - A
Ans. A i.e. Diabetes mellitus
`*Renal papillary necrosis, an accompaniment of acute pyelonephritis is most often seen in diabetics and is characterised by necrosis of renal papillae of one or both kidneys with sharped demarcation between necrotic and living tissue' — Dorlands*
Thus while papillary necrosis is a feature of more than one conditions mentioned in the question, it is most commonly seen with diabetes mellitus.

177. Renal vein thrombosis is associated with all of the following except: *September 2011*

a) Trauma

b) Sickle cell anemia

c) Nephrotic syndrome

d) Dehydration

Correct Answer - B
Ans. B: Sickle cell anemia
Conditions associated with RVT are: Trauma, extrinsic compression (lymoh nodes, aneurysm), invasion by renal cell carcinoma, dehydration (infants), nephritic syndrome and Pregnancy/ oral contraceptives

RVT:

- Acute cases occurs in children and presents with sudden loss of renal function
- Gradual thrombosis occurs in elderly and only manifestation may be recurrent pulmonary emboli or development of hypertension
- Definitive diagnosis can be done through selective renal venography with visualization of the occluding thrombus
- Treatment options consists of anticoagulation and thrombectomy

178. Best marker to assess prognosis after Surgery for colon carcinoma:
March 2005

a) CA 19-9

b) CA-125

c) Alpha fetoprotein

d) CEA

Correct Answer - D
Ans. D: CEA
CEA is a family of related glycoproteins initially found in embryonic tissue and colon malignancies.
The half-life of CEA is approximately 2 weeks. Plasma levels of CEA can be determined readily by radioimmunoassay. However, its usefulness in colon carcinogenesis screening is limited because of its high level in the plasma of a patient's malignancies originating from other sites such as breast, pancreas, stomach and lung. Furthermore, CEA plasma levels may also be increased in smokers or patients with chronic diseases, such as inflammatory bowel disease, bronchitis and alcoholic liver disease.
The clinical usefulness of CEA for screening purposes is further limited by the fact that its increase in level typically occurs only when the tumor penetrates through the serosa. Thus, early lesions may not be detected by serum CEA level changes. CEA is typically elevated with metastatic liver disease, but rarely with peritoneal involvement. Thus, while the specificity for CEA to identify occult CRCs is high, the sensitivity is low in most studies for screening. Accordingly, CEA is not a useful test for the screening of CRC. Regardless of the clinicopathologic stage, a preoperative elevation

Regardless of the clinicopathologic stage, a preoperative elevation of the plasma CEA level predicts eventual tumour recurrence. High level of CA 19-9 is seen in the plasma of a patient's malignancies originating from colon, breast and pancreas

179. All of the following are features of Obstructive jaundice except: *September 2007*

a) Normal alkaline phosphatase

b) Mildly elevated serum aminotransferases level

c) Clay colour stools

d) Pruritis

Correct Answer - A
Ans. A: Normal alkaline phosphatase
Obstruction to the flow of bile in common bile duct may result from choledocholithiasis, malignancy od head of pancreas, bile ducts or ampulla of Vater.
Charcot's triad of intermittent fever, pain and jaundice is characteristic of ascending cholangitis and indicates biliary obstruction.
Hepatomegaly is present in most cases of obstructive jaundice and is due to congestion and stretching out of intrahepatic biliary spaces.
A palpable gall bladder usually indicates obstruction of the distal CBD, due to other causes like underlying malignancy, than stone (Courvoisier's law).
Hepatic bile flow suppression leads to jaundice accompanied by dark urine (bilirubinuria) and light coloured (alcoholic) stools.
Bile salts and pigments in urine and absent urobilinogen also favour the diagnosis of obstructive jaundice.
Serum albumin and prothrombin time are good indicators of liver function derangement. Serum bilirubin levels indicate severity of jaundice and high direct bilirubin rules out hemolytic jaundice.
Mild elevation of SGPT levels are also seen in obstructive jaundice

Mild elevation of SGOT levels are also seen in obstructive jaundice consistent with liver dysfunction. An elevated alkaline phosphatase is, always present in obstructive jaundice.

180. Chvostek sign is seen in:
March 2013

a) Hypercalcemia

b) Hypoparathyroidism

c) Insulinoma

d) Diabetes mellitus

Correct Answer - B
Ans. B i.e. Hypoparathyroidism
Hypocalcemia
Idiopathic hypoparathyroidism is associated with:
Genetic syndrome of hypoparathyroidism,
- Addison's disease and
– Mucocutaneous candid iasis

- Pseudohypoparathyroidism: No deficiency of parathormone, but target organ (bone and kidney) are unresponsive to its action
- Chvostek's sign: Contraction of facial muscles, elicited by light tapping of the facial nerve
- ECG changes: Prolongation of QT interval

181. ECG pattern seen in pulmonary embolism is:
September 2009, March 2013

a) S3Q3T1

b) S1Q1T3

c) S1Q3T3

d) S3Q3T3.

Correct Answer - C
Ans. C: S1Q3T3

182. Specific antibody associated with primary biliary cirrhosis is:

a) Anti-myosin

b) Anti-nuclear

c) Anti-mitochondrial

d) Anti-endomysial

Correct Answer - C

Ans. C: Anti-mitochondrial

Primary biliary cirrhosis is strongly associated with the presence of anti-mitochondrial antibodies (AMA), which are diagnostic

PBC:

* Associated with CREST syndrome, sicca syndrome, auto-immune thyroiditis, type I DM and IgA deficiency
* IgG AMA is detected in more than 90% of patients with PBC
* 90% of women are between 35 - 60 years
* Earliest symptom is pruritis
* Eventually hepatocellular failure and portal hypertension develops
* Lab findings:
  - Increased serum alkaline phosphatase
  - Increased serum 5-nucleotidase activity
  - Increased gamma-glutamyl transpeptidase
  - Serum bilirubin is usually normal
  - Aminotransferase levels minimally increased
  - Treatment: Ursodiol

183. 'v' Wave in JVP is due to ?

a) Right atrial contraction

b) Left atrial contraction

c) Right atrial relaxation

d) Closure of tricuspid valve

Correct Answer - A
Ans. is A
The first elevation *(a wave*) corresponds to the slight rise in atrial pressure resulting from atrial contraction.
The first descent *(x descent*) reflects a fall in atrial pressure that starts with atrial relaxation.
The second elevation *(v wave)* corresponds to ventricular systole when blood is entering the right atrium from the vena cavae while the tricuspid valve is closed.
Finally, the second descent *(y descent)* reflects falling right atrial pressure as the tricuspid valve opens and blood drains from the atrium into the ventricle.

184. Gene for Rh antigen is located on chromosome ?

a) 1

b) 4

c) 9

d) 19

Correct Answer - A
Ans. is 'a' i.e., 1

185. Mannitol infusion causes increase in

a) Blood viscosity

b) Osmolarity

c) Intra-ocular tension

d) Intercranial tension

Correct Answer - B
Ans. is 'b' i.e., Omolarity

186. Normal QRS axis ?

a) +30 to 110°

b) -30 to +110°

c) +110° to +150°

d) -110° to -150°

Correct Answer - B
Ans. is 'b' i.e., -30 to +110°
In a normal heart, the average direction of the vector during spread of the depolarization wave through the ventricles, called the *mean* QRS vector, is about +59 degrees.
This means that during most of the depolarization wave, the apex of the heart remains positive with respect to the base of the heart.
The normal electrical axis of the heart (mean electrical axis or mean QRS vector) lies between -30° and + 100°.
If the axis is more negative than -30° it is called left axis deviation, whereas *if the axis is more positive than + 100°, it is called right axis deviation.*

187. Acrodermatitis hemorrhagica is due to deficiency of

a) Zinc

b) Manganese

c) Copper

d) Selenium

Correct Answer - A
Ans. is 'a' i.e., Zinc
Symptoms of Zinc Deficiency

Mild deficiency	**Severe dificiency**
Growth retardation	*Dwarfism*
	Cardiomyopathy
	Hypogonadism
	Infertility
	Loss of taste
	Poor wound healing
	Deformed bones
	D*iarrhoea*
	Alopecia
	Night blindness
	Skin striae
	Nail changes

- Acrodermatitis enteropathica is an inherited autosomal recessive disorder with imapired intestinal disorder and transport of Zinc.
- Patient suffers with pustular and bullous dermatitis, alopecia, growth retardation diarrhoes, secondary infection, lethargy, irritability and depression. Oral Zinc supplementation leads to remission.

Zinc

- *2nd most abundant trace element in the body.*
- *Most common catalytic metal ion in the cell cytoplasm.*
- *Component of more than 100 enzymes like DNA polymerase, RNA polymerase, transfer RNA synthetase.*
- I*t plays role in all stages of insulin metabolism.*

188. Which of the following is not seen in Secondary Adrenal insufficiency

a) Pigmentation

b) Postural hypotension

c) Hypoglycemia

d) Lassitude

Correct Answer - A

- Secondary adrenal insufficiency is adrenal hypofunction due to a lack of adrenocorticotropic hormone (ACTH).

Secondary adrenal insufficiency may occur in

- Panhypopituitarism
- Isolated failure of adrenocorticotropic hormone (ACTH) production
- Patients receiving corticosteroids (by any route, including high doses of inhaled, intra-articular, or topical corticosteroids)
- Patients who have stopped taking corticosteroids

Symptoms are the same as for Addison disease and include fatigue, weakness, weight loss, nausea, vomiting, and diarrhea, but there is usually less hypovolemia.

189. Typhoid is treated by all except

a) Erythromycin

b) Ceftriaxone

c) Amikacin

d) Ciprofloxacin

Correct Answer - A
Ans. is 'a' i.e., Erythromycin

- The older agents used for the treatment of typhoid were :
- Chloramphenicol
- Ampicilin
  Trimethoprim Sulfamethoxazole
  Beta lactam
  Parenteral → Ceftriaxone
  Orall → Cefixime
- These drugs *are not used nowdays because of widespread resistance. o Nowdays the drug of choice for Typhoid all over the world is a "Fluroquinolone" (Ciprofloxacin, ofloxacin).*
- *An important point to remember*
- *High level of fluoroquinolone resistance (ciprofloxacin) have been reported from India and other parts of South East Asia in S. paratyphi and S.typhi infection.*
- *Nalidixic acid resistant S.typhi (NARST) have decreased ciprofloxacin sensitivity and are less effectively treated with fluoroquinolones.*
- *The fluroquinolones should not be used as first line treatment for typhoid fevers in patients from India and other parts of South Asia with high rates of fluroquinolone resistance unless antibiotic susceptibility data demonstrates fluoroquinolone or nalidixic acid*

sensitivity.

190. Drug treatment is given for how many days in pneumococcal meningitis

a) 5 days

b) 7 days

c) 14 days

d) 21 days

Correct Answer - C
Ans. is 'c' i.e., 14 days
Recommendations for duration of treatment

- Pneumococcal meningitis —> 10-14 days
- ***Meningococcal meningitis*** ***5-7 days***
- ***Hib meningitis*** ***—> 7-14 days***
- *Listeria meningitis* —> *21 days*

191. Marker of acute kidney injury all except

a) Clusterin

b) Osteopontin

c) Alanine aminopeptidase

d) Acid phosphatase

Correct Answer - D
Ans. is 'd' i.e., Acid phosphatase

Alanine aminopeptidase (AAP)	*Kidney injury molecule-1 (KIM-1)*
Alkaline phosphatase (AP)	*Clusterin*
utathione-S-transferase (a-GST)	*Neutrophil gelatinase associated lipocalin (NGAL)*
yglutamyl transpeptidase (TGT)	*Interleukin-18 (IL-18)*
N-acetyl-0-glucosaminidase (NAG)	*Cysteine-rich protein (CYR-61)*
2-microglobulin	*Osteopontin (OPN)*
microglobulin o *Retinol-binding protein (RBP)*	*Fatty acid binding protein (FABP*
Cystatin C	*Sodium/hydrogen exchanger isoform (NHE3) o*
Microalbumin	*Exosomal fetuin-A*

192. The treatment of choice in acute hyperkalemia of life threatening to cardiac myocytes is

a) Infusion of calcium gluconate

b) Oral resins

c) Intravenous infusion of insulin

d) β blocker

Correct Answer - A
Ans. is `a' i.e. Infusion of calcium gluconate

- **Emergent t/t of hyperkalemia is needed in conditions with severe hyperkalemia (IC >7 meq/L). In these cases cardiac toxicity or muscular paralysis is present.**
- ***Calcium gluconate is the fastest acting agent among the agents used in the t/t of hyperkalemia°.***
  It acts within minutes but an important point to note is that it does not cause transcellular movement of potassium, instead, it acts on cardiac cell membrane

193. Vitamin E causes

a) Hemorrhagic stroke

b) Cardiac failure

c) Ataxia

d) Megalablastic anemia

Correct Answer - C
Ans. is 'c' i.e., Ataxia

- *Vitamin E (tocopherol) is a fat-soluble vitamin with antioxidant properties; It protects cell membranes from oxidation and destruction.*
- *Vitamin E is found in a variety of food including oils, meat, eggs, and leafy vegatables.*
- *There are multiple forms and isomers of tocopherol and the related compounds, tocotrienols.*
- *The current evidence the primary bioactive form of Vitamin E is alfa-tocopherol.*
- Serum vitamin E levels are strongly influenced by concentration of serum lipids, and do not accurately reflect tissue vitamin levels.
- Effective vitamin E levels are calculated as the ratio of serum alpha-tocopherol per gram total lipids.
- Absorption of dietary vitamin E requires effective pancreatic exocrine function and fat absorption, unless provided in a synthetic water-soluble form.

Vitamin

- *Vitamin E deficiency is uncommon in humans except in special circumstances.*
- *This is due to the abundance of tocopherols in the diet.*

194. Which of the following circulating antibodies has the best sensitivity and sepcificity for the diagnosis of celiac disease ?

a) Anti Saccharomyces antibody

b) Anti-tissue transglutaminase antibody

c) Anti-gliadin antibody

d) Anti-gliadin antibody antibody

Correct Answer - A
Ans. is 'a' i.e. Anti saccharomyces antibody
Serologic evaluation in celiac disease
Immunoglobulin A (IgA) anti-tissue transglutaminase (TTG) antibody is the single preferred test for detection of celiac disease in individuals over the age of two years.
Serum antibody assays

- A variety of serologic studies have been described to aid in the diagnosis of celiac disease, including:
- *IgA endomysial antibody (IgA EMA)*
- *IgA tissue transglutaminase antibody (IgA tTG)*
- *IgG tissue transglutaminase antibody (IgG tTG)*
- *IgA deamidated gliadin peptide (IgA DGP)*
- *IgG deamidated gliadin peptide (IgG DGP)*
- Serum IgA endomysial and tissue transglutaminase antibody testing have the highest diagnostic accuracy.
- *The IgA and IgG antigliadin antibody tests have lower diagnostic accuracy with frequent false positive results as compared with IgA tTG and IgA DGP assays and are therefore no longer recommended*

for initial diagnostic evaluation or screening

- *However, the newer anti-deamidated gliadin peptide (DGP) assays described above show high diagnostic accuracy.*
- IgA EMA, IgA tTG,IgA DGP and IgG DGP levels fall with treatment; as a result, these assays can be used as a noninvasive means of monitoring the response to a gluten-free diet.

Assay sensitivity and specificity

*I*gA endomysial antibodies- → Sensitivity 85 to 98 percent; specificity 97 to 100 percent

IgA tissue transglutaminase antibodies → Sensitivity 90 to 98 percent; specificity 95 to 97 percent --

IgA deamidated gliadin peptide → Sen sitivity 94 percent; specificity 99 percent

IgG deamidated gliadin peptide → Sensitivity 92 percent; specificity 100 percent

195. Aseptic meningitis caused by

a) Indomethacin

b) Ibuprofen

c) Aspirin

d) Icatibant

Correct Answer - B
Ans. is 'b' i.e., Ibuprofen

Medications known to cause aseptic meningitis Medications

Medication	Common	Uncommon
NSAIDs	Ibuprofen	Sulindac Naproxen Diclofenac Rofecoxib
Antimicrobials	Trimethoprim/sulfamethoxazole	Sulfonamides
Immunomodulating agents	Monoclonalantibody OKT3Intravenous IgG	Azathioprine
Intrahecal agents		Metrizamide Cytarabine Methylprednisolone acetate
Other		Carbamazepine

Causes of acute aseptic meningitis

Infectious cases	
Bacterial	Lyne disease Leptospirosis Mycobacterium tuberculosis infection Subacute bacterial endocarditis

	~~Subacute bacterial endocarditis~~
	Parameningeal infection (epidural subdural abcess, sinus or ear infection) Partially treated bacterial meningitis
	Echovirus infection
	Coxaackie virus infection
	Mumps
	St. Louis encephalitis
	Eastern equine encephalitis
Viral	Western equine encephalitis
	Calcifornia encerphalitis
	Herpes simplex virus type 2 infection HIV infection
	Lymphocytic choriomeningitis
	Poliovirus infection

196. High Steppage Gait is seen in

a) Foot drop

b) Frontal lobe stroke

c) Tabes dorsalis

d) Leprosy

Correct Answer - C
Ans. is 'c' i.e., Tabes dorsalis

- *High stepping gait or steppage gait or foot drop gait* is due to foot drop -+ leg is lifted more in order to get clearance and first to touch the ground is fore foot (not the heel as occur in normal gait).
- It may occur in all motor peripheral neuropathies involving common peroneal nerve —> *Tabes dorsalis, leprosy etc.*
- *[Ref Harrison 18th/e chapter 377]*

197. In a patient with bronchial asthma silent chest signifies

a) Good Prognosis

b) Bad Prognosis

c) Grave Prognosis

d) Not a Prognostic sign

Correct Answer - C

Ans. is 'c' i.e., Grave Prognosis

- Silent chest (Little/no air movement without wheezes in Bronchial Asthma suggests a grave prognosis/impending respiratory failure (Life threatening Asthma).
- Signs of impending respiratory failure include :
- Drowsiness or confusion
- Diaphoresis
- Bradycardia
- Paradoxical thoraco abdo*minal*

Signs of impending respiratory failure in Asthma

- *Drowsiness or confusion*
- *Diaphoresis*
- *Bradycardia*
- *Paradoxical thracoabdominal movements*
- *PEFR < 33%*
- H*ypotension*
- *P*ulsus paradoxus
- Hypercapnea
- *S*ilent chest

198. Which is correct about pneumonia

a) Bronchophonia

b) Decreased vocal fremitus

c) Shifting of trachea

d) Amphoric breathing

Correct Answer - A
Ans. is 'a' i.e., Bronchophonia
Physical examination findings of Common pulmonary conditions

	Pleural effusion	Pneumonia	Endobronchial tumor	Pneumothorax
Tracheal position	Shifted or midline	Midline	Shifted or midline	Shifted or midl
Chest wall	Reduced or normal	Reduced or normal	Reduced or normal	Reduced
Fremitus	Decreased	Increased	Normal or decreased	None
Percussion	Dull	Dull	Normal or Dull	Hyperresonant
Breath sounds	Decreased	Increased	Normal or Decreased	Decreased/abs
Crackles	None	None	None	None
Wheeze	None	None	Possible	None
Egophony	Band above effusion(skodiac)	Present	None	None

T**racheal position**

Deviated
Away from
Pneumo
thorax
Effusion
Deviated
towards
Collapse
Consolidation

Tactile vocal fremitus

- Tactile vocal fremitus is vibration felt on the patients chest during low frequency vocalisation.
- *Commonly the patient is asked to repeat a phrase while the examiner feels for vibtations by placing a hand over the patient chest or back.*
- *Tactile fremitus is normally more intense in the right second intercostal space as well as in the interscapular region as these :*

Tactile fremitus

Increased → *Consolidation*
*D*ecreased or absent → Pleural effusion or Pneumothorax

- Reason for increased fremitus in a consolidated lung is the fact that the sound waves are transmitted with less decay in solid or fluid medium (consolidation) than in a gaseous medium (consolidation) than in a gaseous medium (aerated lung). Conversely the reason for decreased fremitus in a pleural effusion or pneumothorax (or any pathology separating the lung tissue itself from the body wall) is that this increased space diminishes or prevents entirely sound transmission
- Egophony is a change in timbre (E0 to A) but not pitch or volume.
- It is due to decrease in the amplitude and an increase in the frequency of the second formant produced by solid (including compressed lung) interposed between the resonator and the stethoscope head.
- The sound of a spoken "E" change to "A" over an area of consolidation. The spoken "E" is heared as "A" when listening over the consolidation because the frequencies of the vibrations are

altered by the consolidation. Egophony or "E" to "A" changes may also occur in small band like area just above a pleural effusion because of compression of lung tissue that occurs just *above the effusion.*

199. Systemic Millary TB spreads via

a) Artery

b) Vein

c) Bronchus

d) Lymphatic

Correct Answer - A
. Ans. is 'a' i.e., Artery

- *Systemic miliary ensues when infective foci in the lungs seed the pulmonary venous return to the heart; the organisms subsequently disseminate through the systemic arterial system.*

200. DOC for acute attack of Hereditary angioneurotic edema

a) Danazol

b) Cl, inhibitor concentrate

c) Icatibant

d) Methylprednisolone

Correct Answer - B
Ans. is 'b' i.e., Cl inhibitor concentrate
Medication

- *C_1 inhibitor concentrate (Plasma-derived) (Berinert, Berinert P, Cinryze.*
- *Recombinant C_1 inhibitor Conestat alfa (Ruconest, Rhucin).*
- *Bradykinin $B_z$receptor antagonist Icatibant (Firazyr).*
- *Kallikrein inhibitor Ecallantide (Kalbitor)*
- *Plasma*

201. Type 5 Hypersensitivity mimics

a) Type 1

b) Type 2

c) Type 3

d) Type 4

Correct Answer - B
Ans. is 'b' i.e., Type 2

- *T*ype V hypersensitivity reactions were additionally added to the scheme originally described by Coombs and Gell. Contrary to type IV and in agreement with types I, 11 and III respectively, they are mediated by antibodies too.
The type V reactions are sometimes considered as a subtype of the type II hypersensitivity.
- As its mechanisms do not destroy target cells, they are responsible for induction of organ/tissue dysfunctions only most of authors prefer it to be and independent, the 5' type of hypersensitivity reactions

202. Which is best for plaque morphology

a) CCTA

b) MRI

c) CMR

d) IVUS

Correct Answer - A
Ans. is 'a' i.e., CCTA

- Coronary lesions prone to rupture have a distinct morphology compared with stable plaques, and provide a unique opportunity for noninvasive imaging to identify vulnerable plques before they lead to clinical events. This can be achieved using a non-invasive cardiac imaging using coronary CT angiography.
- o Large plaque volume, low CT attenuation, napkin-ring sign, positive re-moedlling, and spotty calcification are all associated with a high risk of acute cardiovascular events in patients. Intravascular USG can give comparable results *but is an invasive test*

203. Most common cause of heart block in infants is

a) SLE

b) Surgery for congentital heart disease

c) Viral myocarditis

d) Rheumatic fever

Correct Answer - B

Ans. is 'b' i.e., Surgery for congentital heart disease

In children, the most common cause of permanent acquired complete AV block is surgery for congenital heart disease.

- *Postsurgical completer atrioventricular block (A VB) is the most common cause for acquired AV block in children, resulting from trauma to the AV node at time of surgery (i.e., hemorrhage, ischemia, necrosis, inflammation, traumatic disruption).*

The second most common cause is congenital herat disease associated with complete AV block.

- Other etiologies of acquired AV block are often reversible and include :
- Digitalis and other drug intoxications.
- Viral myocarditis.
- Acute rheumatic fever, Lyme disease, and infectious mononucleosis.

204. Aphasia which affects the arcuate fibres is called

a) Global aphasia

b) Anomie aphasia

c) Conduction aphasia

d) Broca's aphasia

Correct Answer - C
Ans. is 'c' i.e., Conduction aphasia

- Arcuate fibers are bundle of nerve fibres that connect Brocas area to the Wernicke 's area.
- Damage to the arcuate fascic*ulus causes a disorder called conduction aphasia*

205. Drug for management of hypertension in Phaeochromocytoma

a) Phenoxybenzamine

b) Phentolamine

c) Labetalol

d) Esmolol

Correct Answer - A
Ans. is 'a' i.e., Phenoxybenzamine

- Once a pheochromocytoma is diagnosed, all patients should undergo a resection of the pheochromocytoma following appropriate medical preparation.
- Resetting a pheochromocytoma is a high-risk surgical procedure and an experienced surgeon/anesthesiologist team is required.
- Some form of preoperative pharmacologic preparation is indicated for all patients with catecholamine-secreting neoplasms.

Preoperative medical therapy is aimed at:

- Controlling hypertension (including preventing a hypertensive crisis during surgery) o Volume expansion
- In patients with undiagnosed pheochromocytomas who undergo surgery for other reasons (and who therefore have not undergone preoperative medical therapy), surgical mortality rates are high due to lethal *hypertensive crises, malignant arrhythmias, and multiorgan failure.*

Combined alpha- and beta-adrenergic blockade

- *Combined alpha- and beta-adrenergic blockade is the most common approach to control blood pressure and prevent intraoperative hypertensive crises.*

Alpha-adrenergic blockade

- An alpha-adrenergic blocker is given 10 to 14 days preoperatively to normalize blood pressure and expand the contracted blood volume.
- Phenoxybenzamine is the preferred drug for preoperative preparation to control blood pressure and arrhythmia in most centers in the United States. It is an irreversible, long-acting, nonspecific alpha-ad*renergic blocking agent.*
- *The initial dose is 10 mg once or twice daily, and the dose is increased by 10 to 20 mg in divided doses every two to three days as needed to control blood pressure and spells.*
- *The final dose of phenoxybenzamine is typically between 20 and 100 mg daily.*

Beta-adrenergic blockade

- After adequate alpha-adrenergic blockade has bee*n achieved, beta-adrenergic blockade is initiated, which typically occurs two to three days preoperatively.*
- *The beta-adrenergic blocker should never be started first because blockade of vasodilatory peripheral betaadrenergic receptors with unopposed alpha-adrenergic receptor stimulation can lead to a further elevation in blood pressure.*

The alternatives to a and 13 adrenergic agents are calcium channel blockers and metyrosine.

Calcium channel blockers

- Although perioperative alpha-adrenergic blockade is widely recommended, a second regimen that has been utilized involves the administration of a calcium channel blocker.
- Nicardipine is the most com*monly used calcium channel blocker in this setting; the starting dose is 30 mg twice daily of the sustained release preparation.*

Metyrosine

- Another approach involves the administra*tion of metyrosine (alpha-methyl Para-tyrosine), which inhibits catecholamine synthesis.*

206. Causes of hyperparathyroidism are all except

a) Solitary adenoma

b) Malignant

c) Thyroid malignancy

d) Parathyroid hyperplasia

Correct Answer - C
Ans.:C.)Thyroid malignancy
Hyperparathyroidism
Pathology

- Increased levels of the PTH lead to increased osteoclastic activity. The resultant bone resorption produces cortical thinning (subperiosteal resorption) and osteopaenia.

Subtypes

- primary hyperparathyroidism
  - parathyroid adenoma (~80%)
  - multiple parathyroid adenomas (4%)
  - parathyroid hyperplasia (10-15%)
  - parathyroid carcinoma (1-5%)
- secondary hyperparathyroidism
  - caused by chronic hypocalcaemia with renal osteodystrophy being the most common cause (others include malnutrition, vitamin D deficiency)
  - results in parathyroid hyperplasia
- tertiary hyperparathyroidism
  - autonomous parathyroid adenoma caused by the chronic overstimulation of hyperplastic glands in renal insufficiency

207. Mentzer index more than 13 suggests a diagnosis of

a) Iron deficiency anemia

b) Thalassemia

c) Hereditary Spherocytosis

d) Autoimmune Hemolytic Anemia

Correct Answer - A

Ans. is 'a' i.e., Iron deficiency Anemia

- *Mentzer index more than 13 suggests a diagnosis of Iron-deficiency anemia.*

Mentzer index

- The Mentzer index is used to help in differentiating iron deficiency anemia from beta thalassemia.
- The index is calculated as the quotient of the mean corpuscular volume (MCV, in fL) divided by the red blood cell count (RBC, in millions per microleter).
- If the Mentzer index is less than 13, thallassemia is said to be more likely.
- If the Mentzer Index is greater than 13, Then iron-deficiency anemia is said to be more likely.

Principle

- In iron deficiency, the marrow cannot produce as many RBCs and they are small (imcrocytic), so the RBC count and the MCV will both be low, and as a result, the index will be greater than 13. Conversely, in thalassemia, which is a disorder of globin synthesis, the number of RBCs produced is normal, but the cells are smaller and more fragile. Therefore, the RBC count is normal, but the MCV is low, so the index will be less than 13.

- In practice, the Mentzer index is not a reliable indicator and should not, by itself be used to differentiate the two conditions.

Index	Formula	Value for iron deficiency anemia	Value for iron thalassemia
Mentzer index	MC V/RBC count	> 13	< 13
Shine and Lal index	MCV2 x MCH x 0.01	> 1530	< 1530
England and Fraser index	MCV – RBC - (5 x Hb) 5.19	> 0	< 0
Srivastava index	MCH/RBC	> 3.8	< 3.8
Green and king index	MCV2 x RDW x Hb/100	> 65	< 65
Red cell distribution width index	MCV x RDW/RBC	> 220	< 220

208. Which of the following statements about iron deficiency anemia is correct

a) Decreased TIBC

b) Increased ferritin levels

c) Bone marrow iron is decreased after serum iron is decreased

d) Bone marrow iron is decreased earlier than serum iron

Correct Answer - D
Ans. is 'D' i.e., Bone marrow iron is decreased earlier than serum iron
"In iron deficiency anemia the first change is decrease in iron stores "
The decrease in iron stores is demonstrated by decreased serum ferritin level.
Remember,
Serum ferritin reflects the amount of storage iron in the body.
As the total body iron level begins to fall a characteristic, sequence of events ensue :

- First Stage or Prelatent Stage of Iron Depletion
- When iron loss exceeds absorption, a negative iron balance exists.
- *Stored iron begins to be, mobilized from stores. The iron present in the macrophages of liver, spleen and bone marrow are depleted*
- Decrease in stored iron is reflected by decrease in serum ferritin.
- At this stage all other parameters of iron status are normal.

Second Stage or Stage of Latent Iron Deficiency :

- Iron stores are exhausted but the *blood hemoglobin level remains higher* than the lower limit of normal. o After the exhaustion of iron stores :
- *The plasma iron concentration fallsQ.*

- *Plasma iron binding capacity increases2.*
- Percentage saturation falls below 15%Q.
- *The percentage of sideroblast decreases in the bone marrowQ.*

Third Stage or Stage of Apparent Iron Deficiency Anemia

- Supply of iron to marrow becomes inadequate for normal hemoglobin production,
- *So the blood hemoglobin concentration falls*^{Q} *below the lower limit of normal and iron deficiency anemia is apparent.*

209. Persistent priapism is due to

a) Sickle cell anaemia

b) Hairy cell leukaemia

c) Paraphimosis

d) Urethral stenosis

Correct Answer - A
Ans. is 'a' i.e., Sickle cell anemia

- Priapism is defined as erection lasting for > 4 hours.
- *Low-flow priapism may be due to any of the following:*
- *An excessive release of neurotransmitters*
- *Blockage of draining venules (eg, mechanical interference in sickle cell crisis, leukemia, or excessive use of intravenous parenteral lipids)*
- *Paralysis of the intrinsic detumescence mechanism*
- *Prolonged relaxation of the intracavernous smooth muscles (most often caused by the use of exogenous smooth-muscle relaxants such as injectable intra-cavernosal prostaglandin E I)*
- *Prolonged low-flow priapism leads to a painful ischemic state, which can cause fibrosis of the corporeal smooth muscle and cavernosal artery thrombosis. The degree of ischemia is a function of the number of emissary veins involved and the duration of occlusion*

210. The type of arteritis which may lead to myocardial infarction in children is

a) Kawasaki disease

b) Takayasu arteritis

c) Polyarteritis nodosa

d) Microscopic polyangitis

Correct Answer - A
Ans. is 'a' i.e., Kawasaki disease

- o Kawasaki disease is an acute, self limited vasculitis of unknown etiology that occurs predominantly in infants and young children of all races.
- Coronary artery aneyrysms or ectasia develops in 15-25% of untreated children with the disease and may lead to ischemic heart disease, myocardial infarction, or even sudden death. In the USA, Kawasaki disease has surpassed acture rheumatic fever as teh leading cause of acquited heart disease in children

211. Onion skin spleen is seen in

a) ITP

b) Thalassemia

c) SLE

d) Scleroderma

Correct Answer - C
Ans. is 'c' i.e., SLE
The characterisitc histopathologic picture of the spleen in SLE is periaterial fibrosis or anion skin lesion.

- *Fi*rst described by Libman and Sacks, this lesion is defined as the presene of 3 to as many as 20 seperated layers of the normally densely packed periarterial collagen of the penicillary or follicular arteries produ*cing the appearance of concentric rings (onion peel).*

212. Most common pulmonary manifestation in AIDS

a) TB

b) Pneumonia

c) Bronchiectasis

d) Mycobacterial avium intracellular

Correct Answer - B
Ans. is 'b' i.e., Pneumonia
Respiratory complications in AIDS
Respiratory diseases in AIDS include
A) *Acute bronchitis and sinusitis*

- They are caused by S. pneumoniae and H influenzae and are very common.

B) *Pulmonary diseases*

- Pulmonary diseases are :-

1. Pneumonia

- *Most common pulmonary manifestation is pneumonia :*
- Bacterial pneumonia : It is caused most commonly by S pneumoniae and pneumococcal infection is the earliest serious infection in AIDS. H influenzae is also a common cause.
- P canna pneumo*nia : It is the most common cause of pneumonia in AIDS. Risk is greater when CD4 count less than 200/ml.*

2. *Tuberculosis*

- *In developing countries like India, most important pathogen is M tuberculosis. Other common pathogen causing TB is MAC (atypical mycobacteria).*

3. *Other pulmonary diseases*

- *These are fungal infections (cryptococcus, histoplasma, aspergillus),*

neopasms (Kaposi sarcoma, lymphoma) and idiopathic interstitial pneumonia.

213. Chronic hemodialysis in ESRD patient is done

a) Once per week

b) Twice per week

c) Thrice per week

d) Daily

Correct Answer - C
Ans. is 'c' i.e., Thrice per week

- For the majority of patients with ESRD, between 9 and 12 h of dialysis are required each week, usually divided into three equal sessions.
- Current targets of hemodialysis
- Urea reduction ratio (the fractional reduction in blood urea nitrogen per hemodialysis session) of > 65-70%.
- Body water-indexed clearance x time product (KT/V) above 1.2 or 1.05.

214. Interstitial nephritis is common with

a) NSAID

b) Black water fever

c) Rhabdomyolysis

d) Tumor lysis syndrome

Correct Answer - A
Ans. is 'a' i.e., NSAID

DRUGS CAUSING INTERSTITIAL NEPHRITIS

Antibiotics	**Diuretics**	**Anticonvulsants**	**Miscellaneous**
β Lactams	*Thiazide*	*Phenytoin*	*Captopril*
Sulfonamides	*Furosemide*	*Phenobarbitone*	*H_2 receptor blockers*
Quinolones	*Triamterene*	*Carbamazepine*	Omeprazole
Vancomycin	**NSA*IDS***	*Valproic acid*	*Mesalazine*
Erythromycin			*Indinavir*
Minocycline			*Allopurinol*
*Rif*ampicin			
Ethambutol			
Acyclovir			

215. Best test for lung fibrosis

a) Chest x-ray

b) MRI

c) HRCT

d) Biopsy

Correct Answer - C
Ans. is 'c' i.e., HRCT

- Lung fibrosis is a diffuse parenchymal lung disease.
- Idiopathic pulmonary fibrosis is the most common form of idiopathic interstitial pneumonia.
- We have already discussed that best investigation for interstitial lung disease is HRCT

Estimated relative frequency of the interstitial lung disease

Diagnosis	Relative frequency, %
Idiopathic interstitial pneumonias	40
Idiopathic pulmonary fibrosis	55
Nonspecific interstitial pneumonia	25
Respiratory bronchiolitis-ILD and	15
Cryptogenic organizing pneumonia	3
Acute interstitial pneumonia	<1
Occupational and environmental	26
Sarcoidosis	10

~~Sarcoidosis~~	~~10~~
Connective tissue diseases	9
Drug and radiation	1
Pulmonary hemorrhage syndromes	<1
Other	13

216. Which of the following is a Channelopathy

a) Ataxia Telangiectasia

b) Frederich Ataxia

c) Spinocerebellar ataxia

d) Anderson Tawil Syndrome

Correct Answer - D
Ans. is 'd' i.e., Anderson Tawil Syndrome

- Anderson syndrome (Anderson-Tawi syndrome) is a potassium channel channelopathy.

217. Good syndrome is

a) Thymoma with immunodeficiency

b) Thymoma with M. Gravis

c) Thymoma with serum sickness

d) Thymoma with pure red cell aplasia

Correct Answer - A

Ans. is 'a' i.e., Thymoma with immunodeficiency

- Good's syndrome (thymoma with immunodeficiency) is a rare cause of combined B and T cell immunodeficiency in adults.

Clinical features of Good's syndrome are :-

- Increased susceptibility to bacterial infections with encapsulated organisms and opportunistic viral and fungal infection.

***The most consistent immunological abnormalities are** :-*

- Hypogammaglobulinaemia and
- *Reduced or absent B cells*

Treatment

- Resection of the thymoma and immunoglobulin replacement to maintain adequate through Ig*G values*

218. Patient diagnosed with HIV and Tuberculosis. How to start ATT and c-A.R.T

a) Start ATT first

b) Start cART first

c) Start both simultaneously

d) Start cART only

Correct Answer - A
Ans. is 'a' i.e., Start ATT first

- In a case when HIV and TB are diagnosed together ATT should be started first.
- ATT started first, because of IRIS (Immune Reconstitution Inflammatory syndrome).
- *If ART started first, it may improve CD4 cells at first, but later a previously acquired infection (TB, Herpes), responds with an overshelming inflammatory response that paradoxically makes the symptom of infection worse.*
- *Therefore, starting of ATT-2 weeks before ART, have shown to decrease the incidence of IRIS.*

219. Most common cause of lung abscess

a) Staph aureus

b) Oral anaerobes

c) Klebsiella

d) Tuberculosis

Correct Answer - B
Ans. is 'b' i.e., Oral Anaerobes
Most nonspecific lung abscesses are presumed to be due to anaerobic bacteria.

220. Normal CRP with elevated ESR seen in

a) RA

b) SLE

c) Scleroderma

d) Polymyalgia rheumatica

Correct Answer - B

Ans. is 'b' i.e., SLE

Both ESR and CRP are markers of inflammation

- Erythrocyte sedimentation rate or ESR is used to separate inflammation from non-inflammation.
- Another sign of inflammation is the rise in blood level of number of proteins called as acute phase proteins.
- *One of the proteins is C-reactive protein (CRP).*
- Like ESR and other acute phase proteins, CRP also goes up in inflammation.
- In systemic lupus however the level does not rise unless there is infection associated.
- *The normal response to active inflammatory disease is an increase in plasma CRP concentration. o For reasons that remain unclear tht response is either significantly lower in magnitude or entirely absent in **a** few inflammatory conditions.*
- *T*his has proven diagnostically useful because there are very few inflammatory conditions in which ESR is significantly raised (reflecting an inflammatory process) but plasma CRP is only slightly raised or even normal.
- One ofthese conditions is systemic lupus erythematosus (SLE or lupus), a relatively common chronic autoimmune disease that predominantly affects women of child-bearing age.

- When this inflamm*ation occurs in the lupus patient it is accompanied as expected by a marked increase in ESR. However in contrst to most other inflammatory condition, the plasma CRP remains resolutely normal. The combination of raised ESR and normal CRP is a useful diagnostic feature of SLE.*

Other disorders where CRP is not increased

- *Osteoarthritis, leukemia, anemia*
- *Polycythemia, viral infection*
- *Ulcerative colitis, pregnancy, estrogen*

221. Restrictive and constrictive pericarditis occurs together in

a) Radiation

b) Adriamycin

c) Amyloidosis

d) Post cardiotomy syndrome

Correct Answer - A
Ans. is 'a' i.e., Radiation

- *Progressive fibrosis can cause restrictive myocardial disease without dilation. Thoracic radiation, common for breast and lung cancer or mediastinal lymphoma, can produce early or late restrictive cardiomyopathy. Patients with radiation cardiomyopathy may present with a possible diagnosis of contrictive pericarditis, as the two conditions often coexist.*

222. All form boundaries of triangle of auscultation except

a) Trapezius

b) Latissmusdorsi

c) Scapula

d) Rhomboid major

Correct Answer - D
Ans. is 'd' i.e., Rhomboid major
Triangle of auscultation has the following boundaries

- Superiorly and medially, by the inferior portion of the Trapezius.
- Inferiorly, by the Latissimus Dorsi.
- Laterally, by the medial border of the scapula.
- The superficial floor of the triangle is formed by the Serratus anterior and the lateral portion of the erector spinae muscles.
- Deep to these muscles are the osseous portions of the 6" and 7th ribs and the internal and external intercostal muscles.
- Typically, the Triangle of Auscultation is covered by the Scapula.
- To better expose the triangle and listen to respiratory sounds with a stethoscope, patients are asked to fold their arms across their chest, medially rotating the scapulae, while bending forward at the trunk, somewhat resembling a fetal position.

223. Rytand's murmur is seen in

a) A-V Block

b) Mitral stenosis

c) Aortic stenosis

d) Aortic regurgitation

Correct Answer - A
Ans. is 'a' i. e.,A-V Block
Rytand Murmur

- Rytan 's murmur is mid-diastolic (or late-diastolic) murmur that is heard in patients with complete artioventricular heart block**.** **Rytand's murmur is best heard at the apex and may be confused with mitral stenosis.**
- *The slow heart rate, variable duration of the murmur changing intensity of the S I and lack of opening snap are* *helpful*

Also know

Carey Coombs murmur	→	Rheumatic fever
Austin Flint murmur	→	Aortic regurgitation
Graham-Steel murmur	→	Pulmonary regurgitation
Rytands murmur	→	Complete heart block
Docks murmur (LAD) artery stenosis	→	Left Anterior Descending
Mill wheel murmur cavity)	→	Due to air emboli (air in PV

224. Not associated with diabetes mellitus

a) Cushing syndrome

b) Acromegaly

c) Hypothyroidism

d) Pheochromocytoma

Correct Answer - C
Ans. is 'c' i.e., Hypothyroidism

225. Fever increase water losses by mUday per degree Celsius

a) 100

b) 200

c) 400

d) 800

Correct Answer - B
Ans. is `b' i.e., 200 ml/day per degree Celsius

226. Most common cause of hypernatremia

a) Adipsic diabetes insipidus

b) Carcinoid syndrome

c) Renal losses

d) Sweating

Correct Answer - C
Ans. is `c' i.e., Renal losses
Major causes of hypernatremia
Unreplaced water loss (which requires an impairment in either thirst or access to water)

- Insensible and sweat losses
- Gastrointestinal losses
- Central or nephrogenic diabetes insipidus o Osmotic diuresis
- Glucose in uncontrolled diabetes mellitus
- Urea in high-protein tube feedings
- Mannitol
- Hypothalamic lesions impairing thirst or osmoreceptor function
- Primary hypodipsia
- Reset osmostat in mineralocorticoid excess

Water loss into cells

- Severe exercise or seizures

Sodioutn overload

- Intake or administration of hypertonic sodium solutions

227. Rarest type of Von Willebrand disease :

a) vWD type 1

b) vWD type 2A

c) vWD type 2N

d) vWD type 3

Correct Answer - D
Ans. is 'd' i.e., vWD type 3

Condition	Defect
vWD type 1	Mild to moderate quantitative deficiency of vWF (ie, about 20-25% of normal levels).
vWD type 2A	The most common qualitative abnormality of vWF, is associated withselective loss of large and medium-sized multimers
vWD type 2B	Loss of only large multimers as mutant vWF spontaneously binds to Gplb in the absence of subendothelial contact
vWD type 2N	Characterized by a defect residing within the patient 's plasma vWF that interferes with its ability to bind FVIII
vWD type 2M	Involves qualitative variants with decreased platelet-dependent function not resulting from absence of highmolecular weight multimers

vWD type 3	A severe, quantitative deficiency associated with very little or no detectable plasma or platelet vWF, have a profound bleeding disorder

228. A patient has ecchymosis and petechiae all over the body with no hepato-splenomegaly. All are true except

a) Increased megakaryocytes in bone narrow

b) Bleeding into the joints

c) Decreased platelet in blood

d) Disease resolves itself in 80% of Patients in 2-6

Correct Answer - B

Ans. is 'b' i.e., Bleeding into the joints

Features of Acute and Chronic Idiopathic Thrombocytopenic Purpura

Feature	Acute ITP	Chronic ITP
Peak age of incidence	Children 2-6 year	Adults, 20-40 year
Sex predilection	None	3:1 female to male
Antecedent infection	Common 1-2 week	Unusual
Onset of bleeding	Before Abrupt	Insidious
Hemorrhagic bullae in mouth	Present in severe cases	Usually absent
Platelet count	< 20000/4	3000-80000/8L
Eosinophilia and yphocytosis	Common	Rare
Spontaneous remission	Occurs in 80% cases	Months or years Uncommon

229. All of the following are true about Rheumatoid arthritis, except

a) PIP and DIP joints involved equally

b) Pathology limited to articular cartilage

c) Women are affected 3 times more commonly than men

d) 20% of patients have extra articular manifestations

Correct Answer - D

Ans. is 'd' i.e., 20% of patients have extra articular manifestations

Association of Rheumatoid Arthritis with HLA DR-4

- The class II major histocompatibility complex allele HLA-DR4 and related alleles are known to be a major genetic risk factor for Rheumatoid arthritis.
- Rheumatoid Arthritis is strongly associated with HLA DR4
- The genetic risk for Rheumatoid arthritis is associated with allelic variation in the HLA-DRBI "gene i.e. DRB1 0401, 04, 05".
- Some of the HLA DRB1 alleles bestow a high risk of disease

Clinical features:

- It occurs between the age of **20 to 50 years.**
- Women are affected about 3 times more commonly than men.
- Following presentations are common:

a) An acute, symmetrical polyarthritis:

- Pain and stiffness in multiple joints (at least four)
- Symptoms of **articular inflammation.**

Common in-

MP joints of hand

PIP joints of fingers

Wrists, knees, elbows, ankles

230. Development of Lymphoma in Sjogren's syndrome is suggested by all of the following except

a) Persistent parotid gland enlargement

b) Cyoglobilinemia

c) Leukopenia

d) High C4 compement levels

Correct Answer - D

Ans. is 'd' i.e., High C4 complement levels

- Lymphoa is a well-known complication of Sjogren's syndrome Most lymphomas are extra-nodal, low grade marginal B cell lymphomas.
- Development of Lymphoma in Sjogren's syndrome is suggested by low C4 complement levels.

Lymphoma in Sjogren's syndrome

The development ofLymphomas in patients with Sjogren syndrome is suggested by : -

- Persistent parotid gland enlargement
- Purpura
- Leukopenia
- Cryoglobulinemia
- Low C_4 complement levels

231. Hemodialysis can be performed for long periods from the same site due to

a) Arteriovenous fistula reduces bacterial contamination of site

b) Arteriovenous fistula results in arterialization of vein

c) Arteriovenous fistula reduces chances of graft failure

d) Aretiovenous fistula facilitates small bore needles for high flow rates

Correct Answer - B

Ans. is 'b' i.e., Arteriovenous fistula results in arterialization of vein

The tstu*l*a graft, or catheter *hemodialysis is often referred to as a dialysis access.*

- A native fistula created by the anastomosis of an artery to a vein (e.g. the Bresica-Cimino fistula, in which the cephalic vein is anastomosed end-to-side to the radial artery) results in arterialization of the vein.
- This facilitates its subsequent use in the placement of large needles (typically 15 Gauge) to access the circulation.
- Fistulas have the highest long-term patency rate of all dialysis access options.
- The most important complication of arteriovenous grafts is thrombosis of the graft and graft failure, due principally to intimal hyperplasia at the anastomosis between the graft and recipient vein.
- Many patients undergo placement of an arteriovenous graft (i.e., the interposition of prosthetic material, usually polytetrafluoroethylene, between an artery and a vein) or a tunneled dialysis catheter.

232. In AIDS patient presenting with fever, cough a diagnosis of pneumocystin pneumonia is best established by

a) CT scan chest

b) Bronchoalveolar lavage

c) Staining of intra-nuclear inclusion with silver staining

d) Aspiration and culture

Correct Answer - B
Ans. is 'b' i.e., Bronchoalveolar lavage
Diagnosis of PCP requires

- Demonstration of the organism in samples obtained from induced sputum.
- Bronchoalveolar lavage, transbronchial biopsy, or open-lung biopsy.
- If the histological examination fails :?
- u PCR is required to make the diagnosis

233. The most common neurological disorder seen in CRF patients

a) Dementia

b) Peripheral neuropathy

c) Bakes intestinal dilator.

d) Restless leg syndrome

Correct Answer - B
Ans. is 'b' i.e., Peripheral neuropathy

- Peripheral neuropathy is the most common neurological problem in CRF, which may be?
  i) Uremic peripheral neuropathy (due to uremia).
  ii) More often a presenting feature of the cause of CRF Diabetic neuropathy (DM is the most common cause of CRF).

234. ECG image,U wave seen, patient is on furosemide & beta blocker. Diagnosis

a) Hypocalcemia

b) Hypokalemia

c) Hyperkalemia

d) Hypercalcemia

Correct Answer - B

Ans. is 'b' i.e., Hypokalemia

E.C.G. manifestations of electrolyte disorders

Hyperkalemia

- *A* tall peaked and symmetrical T-waves is the first change seen on ECG in patients with hyperkalemia. o RR interval lengthens and QRS duration increases.
- Flattening or disappearance of P wave.
- ST elevation.
- Widening of the QRS complexes due to a severe conduction delay and may become 'sine wave'.
- The progresion and the severity of the E. C. G change do not correlate well with the serum potassiam concentration.

Hypokalemia

- Similar to hyperkalemia, hypokalemia produce changes on the E. C. G which are not necessary related to serum potassiam level.
- Depression of the ST segment
- Decrease in amplitude of T waves
- Increase in amplitude of U waves
- U and T wave merge in some cases to form a T-U wave which may be misdiagnosed as prolonged QT interval.
- P wave can become larger and wider and PR interval prolong

slightly.
- QRS duration may increase when hypokalemia becomes more severe.

Hvpocalcemia
- Prolongation of the QT interval
- *Due to prolongation of the phase 2 of the ventricular action potential and lengthening of the ST segment while the T wave (which correlate with time for repolarisation remains unaltered).*

Hvpercalcemia
- Shortening of the QT interval
- *(Primarily due to a decrease in phase 2 of the ventricular action potential and resultant decrease in ST segment duration).*

lltpothermia
- Causes slow impulse conduction through all cardial tissues resulting in :?

Prolongation of all the ECG intervals
- *RR*
- *PR*
- *QRS'*
- *QT*
- *There is also "elevation of the J point" (Only if the ST segment is unaltered producing characteristics T or osborne wave.)*

235. In Zollinger Ellison syndrome what is raised?

a) Insulin

b) VIP

c) Gastrin

d) Glucagon

Correct Answer - C
Ans. is 'c' i.e., Gastrin
Zollinger Ellison syndrome ?

- Severe peptic ulcer disease secondary to gastric acid hypersecretion due to *unregulated gastrin release* from a non 13 cell endocrine tumour (gastrinoma), defines the components of Zollinger Ellison syndrome.

Pathophysiology of Zollinger Ellison syndrome

- The driving force responsible for clinical manifestations of Zollinger Ellison syndrome is *hypergastrinemia* originating from Gastrinoma (autonomus neoplasm, non [3 cell neoplasm)
- Gastrinoma
- Hyper gastrinemia
- Hyper acidemia
- Peptic ulcer, erosive esophagitis and diarrhoea

Other important characteristic of Gastrinoma

- **o** Over 80% of these tumours are seen in Gastrinoma triangle° **(triangle formed between duodenum and pancreas)** most of them are seen in the head of pancreas.
- o About $^{2}/_{3}$'of these tumours are malignant°.
- o About one half of these tumours are multiple°.

- o About one fourth of the patients have multiple endocrine neoplasia (MEN I) syndrome with tumours of parathyroid, pituitary and pancreatic islets being present.

Remember :

Most common site of gastrinoma's is → Duodenum (50-70%), (Pancreas 20-40%)

Most common hormone to be secreted besides gastrin is → ACTH

Most common site of peptic ulcers produced is → Ist part of Duodenum.

Most valuable provocative test in injection tests. identifying patients with ZES is → *The Secretin*

Basal acid output is greater than 60% of out pu induced by maximal stimulation → BAO> MAO

- The term pancreatic endocrine tumour is misnomer because these tumours can occur either almost exclusively in the pancreas or at both pancreatic and extrapancreatic sites

236. Menke's disease" is a disease of

a) Impaired zinc transport

b) Impaired copper transport

c) Impaired magnesium transport

d) Impaired molybdenum transport

Correct Answer - B
Ans. is 'b' i.e., Impaired copper transport
Menke's disease is caused due to defect in the copper transport.

- There is defect in the transport of copper present in the intestinal mucosa to the blood stream.
- The mucosal lining of intestine contains high level of copper bound to metallothionein protein.
- Rather than being transporated to bloodstream, the copper remained in the mucosa and was lost when intestinal cells were naturally soughed off.

Menkes disease is caused due to defect in the "MNK" gene.

- The protein normally function by moving copper from the intestinal mucosal cells into the blood stream, where it is hound by proteins such as albumin and transported to organs and tissues.

Serum copper is critical for the functioning of several enzymes

- Lysyl oxidase → It is important for the cross linking of collagen and elastin such that deficiencies lead to problems in connective tissues such as bones
- Cytochrome oxidase → Involved in temperature maintenance
- Tyrosinase → Necessary for pigmentation

Clinical features of menkes disease

- Growth retardation

- Coarse hair, brittle and ivory white (result of depigmentations). The hair fibres are twiisted and broken helically (kinky hair).
- Seizures
- Cerebral and cerebellar degeneration (postmortem analysis)
- Hypothermia
- Thrombosis
- Poor bone development
- Increased tendency towards aneurysms

237. Anosmia is early clinical feature of

a) Alzheimer

b) Parkinson's disease

c) Huntington's chorea

d) All of the above

Correct Answer - D
Ans. is 'd' i.e., All of the above
Main causes of anosmia

- Main causes of anosmia
- Nasal.
- Smoking.
- Chronic rhinitis (allergic, atrophic, cocaine, infectious-Herpes, influenza).
- Overuse of nasal vasoconstrictors.
- Olfactory epithelium.
- Head injury with tearing of olfactory filaments
- Cranial surgery.
- Subarachnoid hemorrhage, meningitis.
- Toxic (organic solvents, certain antibiotics-am inoglycosides, tetracyclines, corticosteroids, methotrexate,
- opiates, 1-dopa).
- Metabolic (thiamine deficiency, adrenal and thyroid deficiency, cirrhosis, renal failure, menses).
- Wegener granulomatosis.
- Compressive and infiltrative lesions (craniopharyngioma, meningioma, aneurysm, meningoencephalocele).
- Degenerative disease (Parkinson, Alzheimer, Huntington
- Temporal lobe epilepsy.

- Malingering and hysteria

238. DOC of GTCS in pregnancy

a) Lamotrigine

b) CBZ

c) Levetiracetam

d) Valproate

Correct Answer - A
Ans. is 'a' i.e., Lamotrigine

- Lamotrigine is often better tolerated and is less teratogenic than valproate.
- Lamotrigine has been increasingly prescribed in pregnancy over older antiepileptic drugs such as carbamazepine and sodium valproate.

239. A Patient with history of shortness of breath has Decreased FEV1/FVC Ratio, Normal DLCO. A 200 ml increase in baseline FEVI is observed 15 minutes after administration of bronchodilators. The likely diagnosis is

a) Asthma

b) Chronic Bronchitis

c) Emphysema

d) Interstitial Lung Disease

Correct Answer - A
Ans. is 'a' i.e., Asthma

Diagnosis of Asthma require
Demonstration of Airways obstruction
Decrease in the ratio of FEVI/FVC
Demonstration of acute reversibility of airflow Administer 2-4 puffs of quick acting bronchodilator e.g., albuterol and repreat spirometry 10-15 min An increase in FEV1 of 12% or more accompanied by an absolute increase in FEV lof at least 20 ml
A bronchoprovocator (Methacholine) is administered hyperresponsiveness of the airway is demonstrated by reduction of FEV1 to 20%

240. Pseudo-hemoptysis is seen mostly with

a) Streptococcus

b) E. coli

c) Serratia marcescens

d) R.S.V

Correct Answer - C
Ans. is 'C' i.e., Serratia marcesens

- Pseudo-hemoptysis is expectoration of blood other than the respiratory tract i.e. GIT or blood draining from the larynx.
- Serratia marcescens is a cause of pseudohemoptysis.

241. Finger is glove sign is seen in

a) Pulmonary alveolar Proteinosis

b) Pneumocystis Carinii

c) Tuberculosis

d) Bronchocele

Correct Answer - D
Ans. is 'd' i.e., Bronchocele
Rabbit ear appearance

- Mickey mouse appearance
- Toothpaste shaped opacities
- Y-shaped opacities
- V-shaped opacities

Aetiology
Obstructive

- /n bronchial obstruction, the portion of the bronchus distal to the obstruction is dilated with the presence of mucous secretions (mucus plugging). Causes of bronchial obstruction include :
- Bronchial hamartoma
- Bronchial lipoma
- Bronchial carcinoid
- Bronchogenic carcinoma
- Congenital bronchial atresia (rarely)

Non obstructive

- Causes include .-
- Asthma
- Allergic bronchopulmonary aspergillosis (ABPA)
- Cystic fibrosis

242. Which of the following disorders is least likely associated with progression to lymphoma

a) Sjogren's syndrome

b) Araxia telangiectasia

c) Severe combined immunodeficiency

d) Lynch II syndrome

Correct Answer - C

Ans. is 'c' i.e., Severe combined immunodeficiency

Choice	Cancers associated
Sjogren syndrome	NHL mainly MALT-oma involving salivary glands>stomach
Ataxia telengectasia	Elevated incidence of cancers, approximately 100-fold in comparison to the general population. In children, more than 85% of neoplasm cases are acute lymphocytic leukemia or lymphoma. In adults with ataxia-telangiectaisa, solid tumors are more frequent
	Gastrointestinal cancer

Lynch-II syndrome	associated with endometrial/ovarian carcinoma. Early onset brain tumor and lymphoma also seen in children

243. Woman of 30-years with Raynaud's phenomenon, polyarthritis, dysphagia of 5-years and mild Sclerodactyl, blood showing Anti-centromere antibody positive, the likely cause is

a) CREST

b) Mixed connective tissue disorder

c) SLE

d) Rheumatoid arthritis

Correct Answer - A
Ans. is 'a' i.e., CREST

- The disease is divided into two categories :?

1) Diffuse scleroderma
. There is wide-spread involvement of skin at onset. There is *rapid progression with early visceral involvement.* It is associated with Anti-DNA topoisomerase (anti-Scl 70) antibodies.
2) Limited (localized) scleroderma (morphea)
. Skin involvement is confined to finges, forearm and face. It is associated with slow progression and late visceral involvement. Some patients develop CREST syndrome *(Cacinosis, Raynaud's phenomenon, esophageal dysmotility, sclerodactyly, and telangiactasia).* It is associated with anticentromere antibodies.

244. Most common mechanism of arrhythmia

a) Re-entry

b) Early after depolarization

c) Late after depolarization

d) Automaticity

Correct Answer - A
Ans. is 'a' i.e., Re-entry
The most common arrhythmia mechanism is re-entry.

- *Fundamentally, re-entry is defined as the circulation of an activation wave around an inexcitable obstacle.*
- Re-entry appears to be the basis for most abnormal sustained Supra Ventricular Tachycardias (SVTs) and Ventricular tachycardia.

Examples of re-entry are:-

- Polymorphic Ventricular tachycardia *in patients with a genetically determined ion channel abnormality such as the Brugada syndrome, catecholaminergic polymorphic Ventricular tachycardia.*

245. -30 to -90 degree axis deviation indicates

a) Left Axis Deviation

b) Right Axis Deviation

c) Extrene Right Axis Deviation

d) Normal Cardiac Axis

Correct Answer - A
Ans. is 'a' i.e., Left Axis Deviation
Cardiac axis

- *The electrical signal recorded on the electrocardiogram (ECG) contains information relative to direction and magnitude of the various complexes.*
- *The average direction of any of the complexes can be determined.*

Normal Cardiac Axis

- *The normal QRS electrical axis, as established in the frontal plane, is between -30 and 90° (directed downward or inferior and to the left) in adults.*

Left Axis Deviation

- An axis between -30° and -90° (directed superior and to the left) is termed left axis deviation. Right Axis Deviation
- If the axis is between 90° and 180° (directed inferior and to the right), then right axis deviation is present. Extreme Right Axis Deviation
- An axis between -90' and -180° (directed superior and to the right) is referred to as extreme right or left axis. Indeterminate
- If the QRS is equiphas*ic in all leads with no dominant QRS deflection, it is indeterminate axis.*

Causes of axis deviation include

Right axis **Left axis deviation**

deviation	
Normal variation (vertical heart with an axis of 90°)	Normal variation (physiologic, often with age)
Mechanical shifts, such as inspiration and emphysema	Mechanical shifts, such as expiration, high diaphragm (pregnancy, ascites, abdominal tumor)
Right ventricular hypertrophy	Left ventricular hypertrophy
Left posterior fascicular block	Left bundle branch block
Dextrocardia	Left anterior fascicular block
Ventricular ectopic rhythms	Congenital heart disease (prim um atrial septal Hefect, endocardial cushion defect)
Ventricular ectopic rhythms	Emphysema
Pre-excitation syndrome (Wolff-Parkinson-White	Hyperkalemia
Lateral wall myocardial infarction	Ventricular ectopic rhythms
Secundum atrial septal defect	Pre-excitation syndromes (Wolff-Parkinson-White
	Inferior wall myocardial infarction

246. Which of the following is not a sign of upper motor neuron paralysis

a) Babinski sign

b) Spastic paralysis

c) Denervation potential in EMG

d) Exaggeration of tendon reflexes

Correct Answer - C
Ans. is 'c' i.e., Denervation potential in EMG
Difference between upper and lower motor neuron paralysis

Upper motor neuron paralysis	Lower motor neuron paralysis
Muscles affected in groups never individual muscles	Individual muscles may be affected
o Atrophy slight and due to disuse	Atrophy pronounced up to 70% of the total bulk
Spasticity with hyperactivity of the tendon reflexes and	Flaccidity and hypotonia[Q] of affected muscles with loss of tendon reflexes
Extensor plantar reflex (Babinski sign)	Plantar reflex if present is of normal flexor type

(Babinski sign)	
Fascicular twitches absent	Fasciculation may be present
Normal nerve conduction studies; no denervation potentials in E.M.G.	Abnormal nerve conduction studies; denervation potential (fibrillations, fasciculations positive sharp waves) in EMG

247. Most common oral infection in diabetes mellitus

a) Candida

b) Aspergillus

c) Streptococcus

d) Stphylococcus

Correct Answer - A
Ans. is 'a' i.e., Candida

- Individuals with DM have a greater frequency and severity of the infection. The reasons for this include incompletely defined abnormalities in cell-mediated immunity and phagocyte function associated with hyperglycemia, as well as diminished vascularization. Hyperglycemia aids the colonization and growth of a variety of organisms (candida and other fun*gal species).*

248. All are features of hypernatremia except

a) Convulsions

b) Elevated intracranial tension

c) Periodic paralysis

d) Doughy skin

Correct Answer - C

Ans. is 'c' i.e., Periodic paralysis

- Periodic paralysis, is seen in hyponatermia

Clinical features of Hypernatremia *:?*

- Most patients with hypernatremia are dehydrated and have the typical signs and symptoms of dehydration.
- Hypernatremia even without dehydration causes central nervous system symptoms that tend to parallel the degree of sodium elevation and the acuity of the increase.
- Patients are irritable, restless weak and lethargic
- Some have high pitched cry and hyperpnea.
- Alert patient are very thirsty.
- Hypernatremia causes fever although many patients have underlying process that contributes to the fever
- Except for dehydration, there is no clear direct effect of hypernatremia on other organs or tissues except the brain.

Complication of hypernatremia :?

- Brain hemorrhage is the most devastating consequence of hypernatremia. As the extracellular osmolarity increases water moves out of brain cells, resulting in decrease in brain volume. This can result in tearing of intra cerebral veins and bridging vessels as the brain moves away from the skull and the meninges. Patient may have subarachnoid, subdural and parenchymal hemorrhage.

- Seizure and coma are possible sequale of the hemorrh*age even though seizures are more common during t/t.*
- Thrombotic complications are common in severe hypernatremic dehydration and include stroke, dural sinus thrombosis, peripheral thrombosis and renal vein thrombosis.
- The in*tracranial tension can be increased due to hemorrhage*

249. Doughy skin and woody induration of tongue is seen in

a) Hypernatremia

b) Hyponatremia

c) Hypokalemia

d) Hyperkalemia

Correct Answer - A
Ans. is 'a' i.e., Hypernatremia

- Because of intracellular water loss (hypernatremic dehydration), the pinched abdominal skin of a hypernatremic dehydrated patient has a "doughy" feel and there is dry woody tongue.

250. Which of the following is MOST commonly affected by Crohn's Disease

a) Cecum

b) Rectum

c) Sigmoid colon

d) Terminal Ileum

Correct Answer - D
Ans. is 'd' i.e., Terminal ileum

Inflammatory Bowel disease site of involvement

Crohn's	**Ulcerative cocitis**
Any part of the Gout from mouth to anus	Limited to the colon
Most commonly affected is small intestine particularly ileum	Involves the entire colon starting from the rectum (retrograde manner)
Terminal ileitis or	Rectum is most commonly affected
Granulomatous colitis	Ileum not involved may get involvedmay get involved in some cases

	cases (backwash ileitis).
Rectum spared *Full thickness of the intestine involved but in patchy manner skip lesions*	

251. All of following cause intravascular hemolysis, except

a) Mismatched blood transfusion

b) Paroxysmal cold hemoglobinuria

c) Thermal burns

d) Hereditary spherocytosis

Correct Answer - D
Ans. is 'd' i.e., Hereditary spherocytosis

- Blood transfusion
- ABO mismatched transfusion
- Infected blood
- Thermal burns
- Snake bites
- Sepsis
- Bacterial/parasitic infections
- Clostridial sepsis
- Malaria
- Bartonellosis
- Mycoplasma pneumoniae
- Mechanical heart valves
- Paroxysmal hemoglobinuria
- PNH
- PCH

252. Blood transfusion should be completed within hours of initiation

a) 1- 4 hours

b) 3- 6 hours

c) 4- 8 hours

d) 8- 12 hours

Correct Answer - A
Ans. is 'a' i.e., 1-4 hours

- From starting the infusion (puncturing the blood with the infusion set) to completion, infusion pack should take a maximum of 4 hours.

253. Vitamin B level in chronic myeloid leukemia is

a) Elevated'

b) Decreased

c) Normal

d) Markedly

Correct Answer - A
Ans. is 'a' i.e., Elevated
CML there will be rise in

- *B_1, level*
- LDH level
- *And decreased levels of ALP.*

254. Which is the most common organ involved in sarcoidosis

a) Lung

b) Liver

c) CNS

d) Eye

Correct Answer - A
Ans. is 'a' i.e., Lung

- Following organs are commonly affected :?
  1) Lung and lymph nodes (95%)
  2) Skin (24%-43%)
  3) Eye (12-29%

255. Following statements about sarcoidosis is false

a) Elevated level of angiotensin converting enzyme (ACE)

b) Bilateral parotid enlargement is the rule

c) Pleural effusion is common

d) Facial nerve palsy may be seen

Correct Answer - C

Ans. is 'c' i.e., Pleural effusion is common

Diffuse Effusion is an uncommon atypical manifestation in Sarcoidosis reported in up to 5% of patients.

- Parotid enlargement is a classic feature of sarcoidosis and bilateral involvement is the rule
- Neurological disease is reported in 5-10% of patients with sarcoidosis
- Facial nerve palsy is the single most common neurological manifestation of sarcoidosis seen in up to 50% of patients with Neurosarcoidosis.
- Angiotensin converting enzyme (ACE) levels are raised in sarcoidosis

Lung involvement in sarcoidosis

- *Most common involved organ (90%).*
- *Characterized by B/L hilar adenopathy.*
- *Cavitations are rare*
- *Pleural effusion are rare (1-2%)*

256. The most common cause of seizures in a patient of AIDS is

a) Toxoplasmosis

b) Cryptococcal meningitis

c) Progressive multifocal leucoencephalopathy

d) CNS lymphoma

Correct Answer - A
Ans. is 'a' i.e., Toxoplasmosis
Neurological manifestations of H.I.V.

- *AIDS dementia complex (HIV encephalopathy) is a result of direct effects of HIV on CNS* (not an opportunistic *disease). It is subcortical dementia.*
- *Most common cause of seizures —> Toxoplasma*
- *Most common cause of meningitis —> Cryptococcus*
- *M.C. cause of focal neurological deficit —> Toxoplasma*
- *Toxoplasmosis is the most common CNS infection in AIDS.*
- *CNS lymphoma and prograssive multifocal leukoencephalopathy may occur.*

257. Gene responsible for resistance to rifampicin

a) Rpo B gene

b) Kat G gene

c) Rpm B gene

d) Emb B gene

Correct Answer - A
Ans. is 'a' i.e., Rpo B gene

ATT Drug	Gene responsible for drug resistance
INH	inhA and Kat G gene
Ethambutol	emb B gene
Rifampicin	rpoB gene
Pyrazinamide	pncA gene

258. Lepsroy causes ?

a) Membranous GN

b) Focal glomerulosclerosis

c) Membranoproliferative GN

d) Mesangioproliferative GN

Correct Answer - A
Ans. is 'a' i.e., Membranous GN
Infectious diseases causing membranous GN

- Hepatitis B and C
- Hydatid disease
- Leprosy
- Filariasis
- Syphilis
- Enterococcal
- Malaria
- Endocarditis
- Schistosomiasis

259. Nephrotic syndrome is the hall mark of the following primary kidney diseases except

a) Membranous Glomerulopathy

b) IgA nephropathy

c) Minimal change disease

d) Focal segmental Glomerulosclerosis

Correct Answer - B

Ans. is 'b' i.e., IgA nephropathy

- Most common presentation of IgA nephropathy is grass hematuria.
- It is the most common form of glomerulonephritis worldwide

Causes of Nephrotic syndrome

- Minimal change disease
- *Focal segmental glomerulosclerosis* o *Membranous glomerulonephritis* o *Diabetes nephropathy*
- AL and AA amyloidosis
- Light chain deposition disease
- Fibrillary immunotactoid disease

260. Bechterews disease also known as

a) Rheumatoid arthritis

b) Ankylosing spondylitis

c) Osteoarthritis

d) Syphilitic arthritis

Correct Answer - B

Ans. is 'b' i.e., Ankylosing spondylitis

ANKYLOSING SPONDYLITIS (MARIE - STRUMPELL DISEASE)

- Ankylosing spondylitis is a chronic progressive inflammatory disease of the sacroiliac joints and the axial skeleton.
- Prototype of seronegative (absence of rheumatoid factor) spondyloarthropathies.
- Inflammatory disorder of unknown cause.
- *Usually begins in the second or third decade with a median age of 23, in 5% symptoms begin after 40.* o *Male to female ratio is 2-3 : 1*
- Strong correlation with HLA-B27
- *90-95% of cases are positive for HLA B27.*

Joints involved in ankylosing spondylitis

- Ankylosing spondylitis primarily affects axial skeleton.
- *The disease usually begins in the sacro-iliac joints and usually extends upwards to involve the lumbar, thoracic, and often cervical spine.*
- In the worst cases the hips or shoulders are also affected. Hip joint is the most commonly affected peripheral joint. o Rarely knee (Ebenzar 4thie 593) and ankle (Apley's 9th/e 67) are also involved.

Clinical features

- Low back pain of insidious onset
- Duration usually less than 3 months

- *Significant morning stiffness and improvement with exercise* o *Limited chest expansion*
- Diffuse tenderness over the spine and sacroiliac joints
- Loss of lumbar lordosis, increased thoracic kyphosis
- Decreased spinal movements (especially extension) in all directions.

Radiological features of ankvlosing spondvlitis

- Radiographic evidence of sacroiliac joint is the most consistent finding in ankylosing spondylitis and is crucial for diagnosis. The findings are :?
- *Sclerosis of the articulating surfaces of SI joints*
- Widening of the sacroiliac joint space
- Bony ankylosis of the sacroiliac joints
- Calcification of the sacroiliac ligament and sacro-tuberous ligaments
- *Evidence of enthesopathy - calcification at the attachment of the muscles, tendons and ligaments, particularly around the pelvis and around the heel.*

o X-ray of lumbar spine may show :-

- Squaring of vertebrae : The normal anterior concavity of the vertebral body is lost because of calcification of the anterior longitudinal ligament.
- Loss of the lumbar lordosis
- Bridging `osteophytes' (syndesmophytes)
- Bamboo spine appearance

261. Comprehension in intact with aphasia in

a) Wernicke's

b) Broca's

c) Global aphasia

d) Transcortical sensory

Correct Answer - B
Ans. is 'b' i.e., Broca's

262. Following statements about sarcoidosis is false

a) The first manifestation of the disease is an accumulation of mononuclear inflammatory cells, mostly CD8 + THI lymphocytes in affected organs

b) The Heerfordt-Waldenstrom syndrome describes individuals with fever, parotid enlargement, anterior uveitis, and facial nerve palsy

c) Elevated level of angiotensin converting enzyme (ACE) are a feature

d) Bilateral parotid involment is the rule

Correct Answer - A
Ans. is 'a' i.e., The first manifestation of the disease is an accumulation of mononuclear inflammatory cells, mostly CD8 + THI lymphocytes in affected organs

263. The treatment options for patients with RRMS (relapsing-remitting multiple sclerosis) are all except

a) IFN - 1 b

b) IFN - 1 a

c) Glatiramer acetate

d) TNF - a

Correct Answer - D
Ans. is 'd' i.e., TNF - a

- Treatment of RRMS is divided into:-

i) In acute attack: Corticosteroids are given

ii) Prophylaxis of acute attack (relapse) during remission: Disease modifying agents for MS are used to reduce the biological activity. Treatment is started by *IFN-P la or IFN-[31b or Glatiramer or fingalimod.* If there is poor response or intolerance to these drugs, Natalizumab is started.

264. DOC for Tourette syndrome

a) Haloperidol

b) Valproate

c) B complex

d) Clonidine

Correct Answer - D
Ans. is 'd' i.e., Clonidine

- Earlier Haloperidol was considered as DOC for Tourette syndrome.
- Clonidine is considered as DOC for Tourette syndrome

Treatment

There's no cure for Tourette syndrome. Treatment is aimed at controlling tics that interfere with everyday activities and functioning. When tics aren't severe, treatment might not be necessary.

Medication

- **Medications that block or lessen dopamine.** Fluphenazine, haloperidol (Haldol), risperidone (Risperdal) and pimozide (Orap) can help control tics.
- **Botulinum (Botox) injections**
- **Central adrenergic inhibitors.** Medications such as clonidine (Catapres, Kapvay) and guanfacine (Intuniv) — typically prescribed for high blood pressure — might help control behavioral symptoms such as impulse control problems and rage attacks.
- **Antidepressants.** Fluoxetine (Prozac, Sarafem, others)
- **Antiseizure medications.**

Therapy

- **Behavior therapy.** Cognitive Behavioral Interventions for Tics, including habit-reversal training, can help you monitor tics, identify premonitory urges and learn to voluntarily move in a way that's incompatible with the tic.
- **Psychotherapy.** In addition to helping you cope with Tourette syndrome, psychotherapy can help with accompanying problems, such as ADHD, obsessions, depression or anxiety.
- **Deep brain stimulation (DBS).** For severe tics that don't respond to other treatment, DBS might help. DBS involves implanting a battery-operated medical device in the brain to deliver electrical stimulation to targeted areas that control movement.

265. SSPE is not diagnosed by

a) EEG

b) Antibodies to measles in CSF

c) Antibodies to measles in blood

d) Antigen in brain biopsy

Correct Answer - C

Ans. is 'c' i.e., Antibodies to measles in blood [Ref. Nelson l8n/e chapter 2431]

The diagnosis of SSPE can be establisheil throughlt documentation of a compatible clinical course and at least I of the following supportingfindings.

Measles antibody detected in CSF.

Characteristic electroencephalographic findings.

Typical histologic fndings and/or isolation of viurs or viral antigen in brain tissue obtained by biopsy or post-mortem examination.

CSF analysis reveals normal cells but elevated IgG and IgM antibody titers in dilutions of >1.8. Electroencephaloraphic patterns are normal in stagel, but in the myclonic phase suppression-burst episodes are seen that are characteristic ofbut not pathognomic for,SSPE. Brain biopsy is no longer routinely indicated for diagnosis o/SSPE.

266. Bronchiectasis Sicca is seen with

a) Tuberculosis

b) Pertussis

c) Cystic fibrosis

d) Kartagener syndrome

Correct Answer - A

Ans. is 'a' i.e., Tuberculosis

Bronchiectasis Sicca or Dry Bronchiectasis is typically associated with Tuberculosis.

- Tuberculosis is associted with a type of dry bronchiectasis called Bronchiectasis Sicca, which is predominantly seen in upper lobes.
- Dry Bronchiectasis (Bronchiectasis Sicca) is typically characterized by absence of copious amount of sputum which is usually a hall mark of bronchiectasis.
- Dry cough associated with hemoptysis is the typical presentation
- Endobronchial tuberculosis commonly leads to bronchiectasis, either from bronchial stenosis or secondary traction from fibrosis. Traction bronchiectasis characteristically affects peripheral bronchi (which lack cartilage support) in areas of end-stage fibrosis

267. Brock's Syndrome is

a) Bronchiectasis Sicca

b) Middle Labe Bronchiectasis

c) Kartagener's Syndrome

d) Sarcoidosis

Correct Answer - B
Ans. is 'b' i.e., Middle Lobe Bronchiectasis
Brock's Syndrome

- Right middle lobe bronchiectasis occurring as a late sequel ofprimaiy tuberculosis is known as Brock's syndrome or middle lobe syndrome.
- Brock's syndrome is believed to be caused by pressure of lymph nodes in primary tuberculosis on the middle lobe bronchus.
- It has been described as a typical outcome of hilar node involvement by tuberculosis in childhood.
- This term is also applied to recurrent atelectasis of the right middle lobe in the absence of endobronchial obstruction.
- Bronchiectasis develops after recurrent episodes of atelectasis and fibrosis

268. Central bronchiectasis is seen with

a) Cystic Adenomatoid Malformation

b) Cystic fibrosis

c) Broncho carcinoma

d) Tuberculosis

Correct Answer - B
Ans. is'b' i.e., Cystic fibrosis
The distribution ()I- bronchiectasis mar be important diagnostically
A central → *Perihilar allergic bronchopulmonary aspergillosis.*
Predominant upper lobe o Middle and lower lobe → *Cystic fibrosis or one of its variants. Distribution is consistent with PCD*
Lower lobe involvement is → Middle lobe and lingular segment of the LUL involvement is characteristic of non tuberculous mycobacteria (NTM). Idiopathic bronchiectasis

269. Type 3 respiratory failure occurs due to ?

a) Post-operative atelectasis

b) Kyphoscoliosis

c) Flail chest

d) Pulmonary fibrosis

Correct Answer - A
Ans. is 'a' i.e., Post-operative atelectasis

270. Bilateral Painless parotid enlargement is seen in all except

a) Mumps

b) Alcoholics

c) Sarcoidosis

d) Diabetes mellitus

Correct Answer - A
Ans. is 'a' i.e., Mumps
Bilateral parotid enlargement is seen in

Viral infection Q	Metabolic causes	Endocrinal	Sarcoidosis
Mumps	Diabetes mcuitus	Gonadal	Amyloidosis
Influenza	Hyperlipoproteinemia	hypofunction	Sjogren's syndrome
Epstein barr virus	Chronic pancreatitis	Acromegaly	
Coxackie virus A	Hepatic cirrhosis		
CMV			
HIV			

271. All of the following are features of Scleroderma are following except

a) Diffuse periosteal reaction

b) Esophageal dysmotility

c) Erosion of tip of phalanges

d) Lung Nodular infiltrates

Correct Answer - A

Ans. is 'a' i.e., Diffuse periosteal reaction

Skin involvement in systemic sclerosis

- Skin involvement is a nearly universal feature of systemic sclerosis (SSc).
- It is characterized by variable extent and severity of skin. Thickening and hardening.
- The fingers, hands, and face are generally the earliest areas of the body involved.
- Edematous swelling and erythema may preceede skin induration.

Other prominent skin manifestations include :

- Pruritus in the early stages
- Edema in the early stages
- Sclerodactyly
- Digital ulcers
- Pitting at the fingertips
- Telangiectasia
- Calcinosis cutis

Radiographs of the hands may reveal

- Soft tissue calcifications (calcinosis cutis).
- Resorption of the distal phalangeal tufts (acro-osteolysis).

Less common radiographic findings are :

- Articular erosions
- Joint space narrowing
- Demineralization
- *The symptoms of the female and presence of antinuclear antibody points towards the diagnosis of systemic sclerosis. It is a case of systemic sclerosis or scleroderma.*

  The clues to the diagnosis of scleroderma are :
- Sclerodactyly
- Raynaud's phenomenon
- Dysphagia
- Presence of antinuclear antibody
- *Though systemic sclerosis is a multisyst*em disease, the two most distinguishing features of systemic sclerosis are:

  o *Striking cutaneous changes*
- *Notable skin thickening. This is the most easily recognized manifestation of scleroderma.*

  Raynaud's phenomenon
- This is the first manifestation of disease in almost every patients.

  Dysphagia
- Attributable to esophageal fibrosis and its resultant hypomotlity is present in more than 50% of patients.
- Remember,
- Whenever skin thickening is present along with Raynaud's phenomenon, it is almost always a case of scleroderma".
- These two features are not present in any other multisystem disease whose clinical features overlap with that of systemic sclerosis e.g. SLE, rheumatoid arthritis, inflammatory myopathy, Sjogren syndrome*".*
- Although skin changes and Raynaud's phenomenon are the major diagnostic clues, scleroderma *is* a multisystem disease that most commonly targets *peripheral circulation, muscles, joints, gastrointestinal tract, lung, heart and kidney.*
- So, the symptoms encountered in early presentation of scleroderma include musculoskeletal discomfort, fatigue, weight loss, and heart burn and dysphagia associated with gastroesophageal reflex disease (GERD).
- When these symptoms are accompanied by the skin thickness and

Raynaud c phenomenon, diagnosis ofscleroderma

- should be considered.
- Role of autoantibodies in the diagnosis of scleroderma
- *Au*toantibodies are found in nearly every patient with scleroderma (sensitivity >95%), but they are not specific for scleroderma0.
- Scleroderma is associated with wide array of autoantibodies.

Two ANA'S which are more or less unique to scleroderma are:

Antitopoisomerase antibody (20-40%)	**Seen in patients with diffuse systemic sclerosis** *Patients with this autoantibody are more likely to havepulmonary fibrosis and peripheral vascular disease* *Patients with these autoantibodies have poor prognosis*
Anticentromere antibody (20-40%)	*These autoantibodies are seen in patients with limited systemic sclerosis*

272. LBBB is seen with all except

a) Acute MI

b) Ashmann syndrome

c) Hypokalemia

d) Hyperkalemia

Correct Answer - C
Ans. is 'c' i.e., Hypokalemia
Causes of LBBB are :-

- Aortic stenosis
- *Ischaemic heart disease*
- Hypertension
- Dilated cardiomyopathy
- *Anterior MI*
- *Primary degenerative disease (fibrosis) of the conducting system (Lenergre disease)*
- *Hyperkalaemia*
- Digoxin toxicity

Ashmann phenomenon (has both LBBB and RBBB)

- *Atrial fibrillation has a narrow complex qRS but Ashmann phenomenon seen in atrialfibrillation is characterized by broad complex qRS with usually a RBBB morphology. Thus if an impulse lands on the bundle of HIS and finds the right bundle refractory then RBBB will occur. Also remember that the refractory period of right fascicle ix more than that of the left fascicle resulting in RBBB mostly in these patients.*
- *ECG findings of LBBB*
- *Normally the septum is activated from left to right, producing small Q waves in the lateral leads. In LBBB, the normal direction of septal*

depolarisation is reversed (becomes right to left), as the impulse spreads first to the RV via the right bundle branch and them to the LV via the septum.

- *This sequence of activation extends the qRS duration to > 120 ms and eliminates the normal septal Q waves in the lateral leads.*
- *The overall direction of depolarisation (from right to left) produces tall R waves in the lateral leads (IaVLV5V6) deep S waves in the right precordial leads (V_4 R) and usually leads to left axis deviation.*
- *As the ventricles are activated sequentially (right, then left) rather than simultaneously, this produces a broad or notched (`W-shaped) R wave in the lateral leads.*
- *Non-concordance in ST segment and T wave changes.*
- *The point is that the two fasciles of bundle of his have different refractory periods with the right fascicle having higher refractory period than the left.*
- *This means that if an impulse lands on the bundle of HIS and finds the right bundle refractory then RBBB will occur.*
- *I*n atrial fibrillation because of faster conduction, normally we see narrow complex qRS but sometimes we may see broad complex qRS also which is technically called Ashmann phenomenon.
- Mostly in Ashmann phenomenon RBBB is seen based on the physiological principle of refractory period of right fascicle more than the left one. However, rarely LBBB can also be seen if the impulse lands to find the left fascicle refractory. Irrespective of RBBB or LBBB, broad complex qRS will occur in case of atrial fibrillation and Ashmann phenomenon is occurrence of broad complex qRS in atrial fibrillation and not the occurrence of RBBB as is the popular perception.
- Hyperkalemia can cause defective repolarization and hence cause Bundle branch block that culminates in sine wave pattern.
- In acute MI, ischemia can damage the left bundle leading to LBBB.

273. Therapeutic hypothermia is of benefit in preventing neurological complications in

a) Sepsis

b) Poly-trauma

c) Cardiac arrest

d) Ischemic stroke

Correct Answer - C
Ans. is 'c' i.e., Cardiac arrest

- Inducing mild therapeutic hypothermia in selected patients surviving out-of-hospital sudden cardiac arrest can
- significantly improve rates of long-term neurologically intact survival and may prove to be one of the important
- clinical advancements in the science of resuscitation.

The types of medical events that hypothermic therapies may effectively treat fall into four primary categories:

- Cardiac arrest
- Ischemic stroke
- Trumatic brain or spinal cord injury without fever.
- Neurogenic fever following brain trauma

274. Distribution of weakness in Pyrimidal tract lesions?

a) Extensors more than flexors in lower limb

b) Flexors more than extensors in upper limb

c) Antigravity muscles are affected

d) Antigravity muscles are spared

Correct Answer - D

Ans. is 'd' i.e., Antigravity muscles are spared

The following clinical features characterize a UMN lesion:

Increased tone (spasticitv)

- *Initia*lly, UMN weakness may be flaccid, with absent or diminished deep tendon reflexes. There is little understanding of the reasons behind this initial flaccidity and it is often referred to as 'shock'. Increased tone of a UMN type is called spasticity. It may develop several hours, days or even weeks after the initial lesion has occurred. Spasticity is manifested by :

Spastic catch' *:*

- *M*ild spasticity may be detected as a resistance to passive movement or 'catch' in the pronators on passive supination of the forearm and in the flexors of the hand/forearm on extension of the wrist/elbow.

The 'clasp-knife' phenomenon:

- In more severe lesions, following strong resistance to passive flexion of the knee or extension of the elbow, there is a sudden relaxation of the extensor muscles of the leg and flexor muscles *in the arm.*

Clonus:

- *Rhythmic involuntary muscular contractions follow an abruptly applied and sustained stretch stimulus, e.g. at the ankle following*

sudden passive dorsiflexion of the foot.

`Pyramidal-pattern' weakness

The antigravity muscles are preferentially spared and stronger

- T*he flexors of the upper limbs and the extensors of the lower limbs. The patient can develop a characteristic posture of flexed and pronated arms with clenched fingers, and extended and adducted legs with plantar flexion of the feet.*

***In upper extremit*eis**

- *Relative sparing of the flexors*
- *More involvement of the extensor*

In lower extremities

- Predominant invovlement of the flexors with
- Relative sparing of the extensor or

Absence of muscle wasting and fasciculations

- *Focal muscle wasting andjasciculations are features of an LMN lesion. With chronic disuse, some loss of muscle bulk can occur after a UMN lesion, but this is rarely severe or focal.*

Brisk tendon reflexes and extensor plantar responses

- *The tendon reflexes are brisk. The cremasteric and abdominal or 'cutaneous' reflexes are depressed or absent. The plantar responses are extensor (upgoing toes' or 'p*ositive' babinski sign).
- Anti-gravity muscles are typically spared in pyramidal tract lesions.
- Weakness, in pyramidal tract lesions is often termed as 'pyramidal' in distribution affecting extensors more than flexors in the upper limb, and flexors more than extensors in the lower limb (Anti-gravity muscles are spared).

Pyramidal weakness → Loss of power most marked in the extensors muscles in the arms and flexors in the legs

Proximal weakness → Shoulders, hips, trunks, neck and sometimes face. Associated with myopathy.

Distal weakness → Affects hands and feets. Associated with peripheral motor neuropathy.

Global weakness → Generalized weakness in limbs which may result from severe pathologies.

275. Aldose reductase inhibitor drugs are useful in

a) Cataract

b) Diabetes mellitus

c) Hereditary fructose intolerance

d) Essential fructosuria

Correct Answer - B
Ans. is 'b' i.e., Diabetes mellitus

- *Ald*ose reductase catalyzes the NADPH-dependent conversion of glucose to sorbitol, the first step in polyol pathway of glucose metabolism.
- Aldose reductase i*nhibitors are a class of drugs being studied as a way to prevent eye and nerve damage in people with diabetes mellitus.*

Examples of aldose reductase inhibitors include:

- Tolrestat (withdrawn from market)
- Apalrestat
- Ranirestat
- Fidarestat

276. Not a cause of hypernatremia

a) Adipsic diabetes insipidus

b) Decreased insensible losses

c) Nephrogenic diabetes insipidus

d) Carcinoid syndrome

Correct Answer - B
Ans. is 'b' i.e., Decreased insensible losses
Major causes of hypernatremia

- Unreplaced water loss (which requires an impairment in either thirst or access to water)
- Insensible and sweat losses
- Gastrointestinal losses
- Central or nephrogenic diabetes insipidus
- Osmotic diuresis
- Glucose in uncontrolled diabetes mellitus
- Urea in high-protein tube feedings
- Mannitol
- Hypothalamic lesions impairing thirst or osmoreceptor function
- Primary hypodipsia
- Reset osmostat in mineralocorticoid excess

Water loss into cells

- Severe exercise or seizures

Sodioum overload

- Intake or administration of hypertonic sodium solutions

277. Backwash ileitis is seen in

a) Ulcerative colitis

b) Crohn's disease

c) Colonic carcinoma

d) heal polyp

Correct Answer - A
Ans. is 'a' i.e., Ulcerative colitis

- *Ulce*rative colitis always involves the rectum and extends proximally in continuous fashion to involve part or all part of the colon.
- Involvement of terminal ileum in ulcerative colitis is called backwash ileitis

278. Which of the following is not seen in Hereditary Spherocytosis

a) Direct Coomb's Positive

b) Increased Osmotic Fragility

c) Splenomegaly

d) Gall stones

Correct Answer - A
Ans. is 'a' i.e., Direct Coomb's positive
Hereditary Spherocytosis

- Membrane cytoskeleton that lies closely opposed to the internal surface of the plasma membrane, is responsible for elasticity and maintenance of RBC shape.

Membrane skeleton consists :?

Spectrin → The chief protein component responsible for biconcave shape.
Ankyrin and band 4-2 → Binds spectrin to band 3
Band 3 → A transmembrane ion transport protein.
Band 4·1 → Binds spectrin to glycophorin A, atransmembrane protein.

- Hereditary spherocytosis is an autosomal dominant disorder characterized by intrinsic defects in red cell membrane. This results in production of red cells that are sphere (spherocytes) rather than biconcave.
- The mutation *most commonly involves the gene coding for ankyrin,* followed by *Band-3 (anionic transport channel), spectrin,* and *Band 4·2 (also called palladin).*

Also know

Most common, defect in hereditary elliptocytosis is in spectrin

Pathogensis of Hereditary spherocytosis

- Loss of membrane cytoskeleton proteins (ankyrin, spectrin, Band 3, 4.2) results in reduced membrane stability. Reduced membrane stability leads to spontaneous loss of membrane fragments during exposure to shear stresses in the circulation. The loss of membrane relative to cytoplasm forces the cells to assume the smallest possible diameter for a given volume cells become microspherocytes.
- Because of their spheroidal shape and reduced membrane plasticity, red cells become less deformable and are trapped in to spleen as they are unable to pass through the interendothelial fenestrations of the venous sinusoids. In the splenic sinusoides, red cells are phagocytosed by RE cells Extravascular hemolysis.

Clinical features of Hereditory spherocytosis

The clinical features are those of extravascular hemolysis :

Anemia → Mild to moderate
Jaundice (Mainly indirect bilirubin) → Splenomegaly
Gall stones → Elevated excretion of bilirubin promotes formation of pigment stone.
Leg ulcer → Rare clinical manifestation.
Aplastic crisis → Triggered by parvo-virus infection.

Laboratory findings

- Spherocytosis --> Peripheral smear shows microspherocytes which are small RBCs without central pallor (Normally central 1/3 pallor is present in red cells).
- MCV4
- *MCHC* r
- Increased unconjugate bilirubin
- *Urine urobilinogen 1'*
- *Stool s*tercobilino*gen*
- *Reticulocytosis* **-4** As seen with any type of hemolytic anemia.
- *Hemoglobin 1*
- *Serum Heptoglobin* --> Nonnal to decreased.

- *Increased osmotic fragility on pink test.*
- Coomb's test is used to distinguish hereditary spherocytosis from autoimmune hemolytic anemias.
- Autoimmune hemolytic anemias *are coomb's positive_ whereas hereditary spherocytosis is coomb's negative.*

279. Usually associated with parvovirus B19 infection in those with hereditary spherocytosis

a) Mild to moderate splenomegaly

b) Aplastic crisis

c) Gallstones

d) Hemolytic crisis

Correct Answer - B

Ans. is 'b' i.e., Aplastic crisis

- *Parvovi*rus **B19** selectively infects erythroid precursors and is the most common aetiological agent that induces
- aplastic crisis in pati*ents with hereditary spherocytosis (and other Hemolytic disorders).*

Transient aplastic crisis

- Persons with decreased erythrocytes caused by conditions such as iron deficiency anemia, human immunodeficiency virus sickle cell disease, spherocytosis or thalassemia are at risk of transient aplastic crisis if infected with parvovirus B19.
- The virus causes a cessation of erythrocyte production.
- Parvovirus infection may be the first manifestation in HS.
- It begins with reticulocytosis and thrombocytosis

280. Which of the following is given to treat thrombocytopenia secondary to anti-cancer therapy and is known to stimulate progenitor megakaryocytes

a) Filgrastim

b) Oprelvekin

c) Erythropoietin

d) Anagrelide

Correct Answer - B
Ans. is 'b' i.e., Oprelvekin

- Oprelvekin (IL-11) is used to prevent and treat thrombocytopenia.
- *[Ref Harrison's 18th chapter 85 and Katzung 11th 580-581]*

281. Lambda - Panda sign is typically seen in

a) Sarcoidosis

b) Tuberculosis

c) Histoplasmosis

d) Leishmaniasis

Correct Answer - A
Ans. is 'a' i.e., Sarcoidosis
Lambda sign and Panda sign on Gallium scan are typically described for sarcoidosis.

- Active pulmonary and/or mediastinal sarcoidosis is gallium avid and a positive gallium scan can support the diagnosis of sarcoidosis. Typical patterns of uptake have been described as 'panda' and 'lambda' signs.
  Lambda sign → Formed from increased uptake in bilateral hilar and right paratracheal nodes
  Panda sign → *Formed from increased uptake in the parotids and lacrimal glands*
- A Lambda sign in combination with a so-called Panda sign (Lambda-Panda Sign) is a highly specific pattern for sarcoidosis.
- *The degree of uptake typically depends on the activity of disease and gallium scan is positive only in the setting of active parenchymal disease and negative in remission*

282. All are indications for stopping effending ATT drug permanently except

a) Gout

b) Autoimmune thrombocytopenia

c) Optic neuritis

d) Hepatitis

Correct Answer - D
Ans. is 'd' i.e., Hepatitis

- For patients with symptomatic hepatitis and those with marked (five to six fold) elevations in serum levels of aspartate aminotransferase, treatment should be immediately stopped and drugs reintroduced one at a time after liver function has returned to normal.
- Indications for stopping the A.T.T. permanently
- Hyperuricemia and arthralgia
- Optic neuritis
- Autoimmune thrombocytopenia

283. Interferon gamma release assay measures IFN release against which M. TB antigen

a) ESAT-6

b) E SAT-7

c) CF-11

d) CF-12

Correct Answer - A
Ans. is 'a' i.e., ESAT-6
3 *<u>Interferon-gamma release assays (IGRAs) are diagnostic tools for latent tuberculosis infection (LTBI).</u>*

- They are surrogate markers of Mycobacterium tuberculosis infection and indicate a cellular immune response to M. tuberculosis.
- *a IGRAs cannot distinguish between latent infection and active tuberculosis (TB) disease and should not be used for diagnosis of active TB, which is a microbiological diagnosis. A positive IGRA result may not necessarily indicate active TB, and a negative IGRA result may not rule out active TB .*
- *3 Because IGRAs are not affected by Bacille Calmette-Guerin (BCG) vaccination status, IGRAs are useful for evaluation of LTBI in BCG-vaccinated individuals, particularly in settings where BCG vaccination is administered after infancy or multiple (booster) BCG vaccinations are given.*

<u>Assay antigens</u>

- M. tuberculosis-specific antigens include :-
- Early secreted antigenic target 6 (ESAT-6) and
- Culture filtrate protein 10 (CFP-10).

- *These are encoded by genes located within the region of difference 1 (RD1) segment of the M. tuberculosis genome.*
- *They are more specific for M. tuberculosis than purified protein derivative (PPD) because they are not shared with any BCG vaccine strains or most species of NTM other than M marinum, M. kansasii, M szulgai, and M. flavescens.*

Types of assays

- Two IGRAs are available in many countries :-
- *The QuantiFERON-TB Gold In-Tube (QFT-GIT) assay, which has replaced the second-generation QuantiferonTB Gold (QFT-G) assay, and the T-SPOTTB assay.*
- *The QFT-GIT assay is an enzyme-linked immunosorbent assay (ELISA)-based, whole-blood test that uses peptides from three TB antigens i.e.,*
- CFP-10, and
- TB7.7) in an in-tube format
- The result is reported as quantification of interferon (IFN)-gamma in international units (IU) per mL.
- A newer assay, the QuantiFERON-TB Gold Plus (QFT-Plus), became available in 2015.
- *This test is available in Europe but not in North America. The QFT-Plus assay has two TB antigen tubes, unlike the QFT assay (which has a single TB antigen tube).*

Sensitivity and specificity

- *IGRAs* have specificity >95 percent for diagnosis of latent TB infection. The sensitivity for T-SPOTTB appears to be higher than for QFT-GIT or TST (approximately 90, 80, and 80 percent, respectively) [2]. The higher sensitivity of T-SPOTTB may be useful for evaluating individuals with immunosuppressive conditions.
- TST specificity is high in popul*ations not vaccinated with BCG (97 percent). Among populations where BCG is administered, it is much lower although variable (approximately 60 percent).*

284. The term end-stage renal disease (ESRD) is considered appropriate when GFR falls to

a) 50% of normal

b) 25% of normal

c) 10-25% of normal

d) 5-10% of normal

Correct Answer - D
Ans. is 'd' i.e., 5-10% of normal

CKD stage	GFR (ml/min/1.73m^2)	Description
1	>90	Normal renal function but other evidence of organ damage*
2	60-89	Mild reduction in renal function with other evidence of organ damage*
3	30-59	Moderately reduced GFR
4	15-29	Severely reduced GFR
5	<15	End stage, or approaching, end stage renal failure

285. Muehrcke lines in nails are seen in

a) Nephrotic syndrome

b) Barrter syndrome

c) Nail patella syndrome

d) Acute tubular necrosis

Correct Answer - A
Ans. is 'a' i.e., Nephrotic syndrome

- Muehrcke's lines are characteristic of hypoalbuminemia. Nephrotic syndrome causes hypoalbunemia.

286. Not true obstructive sleep appoea

a) Nocturnal asphyxia

b) Alcoholism is a cofactor

c) Prone to hypertension

d) Overnight oximetry is diagnostic to replace polysomnography

Correct Answer - D

Ans. is 'd' i.e., Overnight oximetry is diagnostic to replace polysomnography

Cardinal features in adults include:

- Obstructive apneas, hypopneas, or respiratory effort related arousals
- Daytime symptoms attributable to disrupted sleep, such as sleepiness, fatigue, or poor concentration
- Signs of disturbed sleep, such as snoring*, restlessness, or resuscitative snorts*

Clinical presentation

- *Most pa*tients with OSA first come to the attention of a clinician because the patient complains of daytime sleepiness, or the bed partner reports loud snoring, gasping, snorting, or interruptions in breathing while sleeping.
- Daytime sleepiness, distinct from fatigue, is a common feature of OSA
- Sleepiness is the inability to remain fully awake or alert during the wakefulness portion of the sleep-wake cycle.
- Snoring is the other common feature of OSA*. While snoring is associated with a sensitivity of 80 to 90 percent for the diagnosis of OSA, its specificity is below 50 percent.*

Clinical features of obstructive sleep apnea (OSA)

Daytime sleepiness Obesity

Daytime sleepiness	Obesity
Nonrestorative sleep	Large neck circumference
Loud snoring	Systemic hypertension
Witnessed apneas by bed partner	Hypercapnia
Awakening with choking	Cardiovascular disease
Nocturnal restlessness	Cerebrovascular disease
Insomnia with frequent awakenings	Cardiac dysrhythmias
Lack of concentration	Narrow or "crowded" airway
Cognitive deficits	Pulmonary hypertension
Changes in mood	Cor pulmonale
Morning headaches	Polycythemia
Vivid, strange, or threatening dreams	Floppy eyelid syndrome
Gastroesophageal reflux	Nocturia

Polysomnography

- *Full*-night, attended, in-laboratory polysomnography is considered the "gold-standard diagnostic" test for OSA.
- It involves monitoring the patient during a full night's sleep.
- Unattended, out of centre sleep "(OCST) may be used as an alternative to polysomnography for the diagnosis of OSA in patients with a high pre-test probability of moderate to severe OSA, provided there are no medical comorbidities such as heart failure that predispose to alternative or additional sleep related breathing disorders.
- The diagnosis of OSA is based upon the presence or absence of related symptoms, as well as the frequency of respiratory events

during sleep (ie, apneas, hypopneas, and respiratory effort related arousals IRERAsJ as measured by polysomnography or out-of-center sleep testing (OCST).

In adults, the diagnosis of OSA is confirmed if either of the two conditions exists:

- *There are "fil_y" or more predominantly obstructive respiratory events (obstructive and mixed apneas, hypopneas, or RERAs) per hour of sleep (for polysomnography) or recor*ding time (for OCST) in a patient with one or more of the following:
- Sleepiness, nonrestorative sleep, fatigue, or insomnia symptoms.
- Waking up with breath holding, gasping, or choking.
- Habitual snoring, breathing interruptions, or both noted by a bed partner or other observer
- Hypertension, mood disorder, cognitive dysfunction, coronary artery disease, stroke, congestive heart failure, atrial fibrillation, or type 2 diabetes mellitus
- There are 15 or more predominantly obstructive respiratory events (apneas, hypopneas, or RERAs) per hour of sleep (for polysomnography) or recording time (for OCST), regardless of the presence of associated symptom*s or comorbidities*

287. Obstructive sleep apnoea may result in all of thefollowing except

a) Systemic hypertension

b) Pulmonary hypertension

c) Cardiac arrhythmia

d) Impotence

Correct Answer - C
Ans. is 'c' i.e., Cardiac arrhythmia

Daytime function and cognition

- *OSA is associated with excessive daytime sleepiness, inattention, and fatigue, which may impair daily function, induce or exacerbate cognitive deficits, and increase the likelihood of errors and accidents.*

Cardiovascular morbidity

- Patients wi*th OSA, are at increased risk for a broad range of cardiovascular morbidities, including systemic hypertension, pulmonary arterial hypertension, coronary artery disease, cardiac arrhythmias, heart failure, and stroke.*

Metabolic syndrome and type 2 diabetes

- Patients with OSA have an increased prevalence of insulin resistance and type 2 diabetes.

Nonalcoholic fatty liver disease

- Intermittent nocturnal hypoxia due to OSA may contribute to the development and severity of nonalcoholic fatty liver disease (NAFLD), independent of shared risk factors such as obesity.

Perioperative complications

- Patients with OSA may be at greater risk for perioperative complications such as postoperative oxygen desaturation, acute

respiratory failure, postoperative cardiac events, and intensive care unit transfers.

Mortality

- *Patients with untreated severe OSA (ie, AHI 30 events per hour) have a two- to three fold increased risk of all-cause mortality compared with individuals without OSA, indep*endent of other *risk factors such as obesity and cardiovascular disease.*

288. Tophi in gout found in all regions except

a) Prepatellar bursae

b) Muscle

c) Helix of ear

d) Synovial membrane

Correct Answer - B
Ans. is 'b' i.e., Muscle
Location of Tophi

- They are classically located along the helix of the ear.
- Can also be seen in :-
- Fingers
- Toes
- Prepattelar bursa
- Olecranon
- Although gout typically cuases joint inflammation, it can also cause inflammation in other synovial-based structures, such as bursae and tendons.
- Tophi are collections of urate crystals in the soft tissues. They tend to develop after about a decade in untreated patients who develop chronic gouty arthritis.
- Tophi may develop earlier in older women, particularly those receiving diuretics.

289. All drugs used in treatment of acute gout except

a) Allopurinol

b) Aspirin

c) Colchicine

d) Naproxen

Correct Answer - A
Ans. is 'a' i.e., Allopurinol
Management of gout
Treatment of acute gout

- *To provide rapid and safe pain relief*

Drugs used are :
i) NSAIDs:

- *These are the most frequently used drugs to treat gout because they are so well tolerated.*
- Indomethacin is the agent of choice but other NSAIDs may be just as effective. Aspirin is usually avoided because low doses of aspirin aggravate hyperuricemia.

ii) *Colchicinee:*

- *Colchicine is effective but less well tolerated than NSAIDs*

iii) GlucocorticoidsQ*:*

- *Usually reserved for patients in whom colchicines or NSAIDs are contraindicated or ineffective.*

Treatment of chronic gout *(maintain serum urate levels at 5.0 mg/dl or less) AllopurinolQ:*

- *X*anthine oxidase inhibitor
- Agent of choice for most patients w*ith gouty'*

Uricosuric agents

- *P*robenecid2
- SulfinpyrazoneQ

Treatment of gout according to the stage

Asymptomatic *hyperuricemia*	No treatment indicated, the causes should be determined and any associated problem should be addressed rigorously)
Acute gouty arthritis	NSAIDs or colchicines or glucocorticoid
Intercritical period	Prophylactic colchicines *(to reduce further attacks)*
Acute tophoaecous gout	Urate lowering drug *(allopurinol or probenecid, sulfinpyrinazole)*

290. Wrong abour continuous murmur

a) Seen with coarctation of aorta

b) Peaks at S2

c) Heard both in systole and diastole

d) Increase on squatting

Correct Answer - D
Ans. is 'd' i.e., Increase on squatting

- A continuous murmur is defined as one that begins in systole and extends through S_2 into part or all of diastole.
- It need not occupy the entire cardiac cycle.
- Continuous murmurs are not affected by dynamic auscultation maneuvers like squatting etc.
- They can oftern be difficult to distinguish from individual systolic and diastolic murmurs in patients with mixed valvular heart disease.
- The classic example of a continuous murmur is that associated with a patent ductus arteriosus, which usually is heard in the second or third interspace at a slight distance from the sternal border.

291. Banana shaped left ventricle is seen in

a) HOCM

b) DCM

c) RCM

d) Takotsubo cardiomyopathy

Correct Answer - A
Ans. is 'a' i.e., HOCM

Spherical ventricle	**Dilated cardiomyopathy**
Apical ballooning	Stress cardiomyopathy / Tako-Tsubo
Spade-shaped ventricle	Apical hypertrophic cardiomyopathy
Distortion of ventricle	Myocardial infarctions / aneurysms / remodeling
Banana - shaped ventricle	Hypertrophic cardiomyopathy

292. Wide QRS complex 0.12 seconds may be seen in all of the following, except

a) Hyperkalemia

b) Wolf Parkinson White Syndrome

c) Ventricular Tachycaridia

d) Left Anterior Fascicular Block

Correct Answer - D

Ans. is 'd' i.e., Left Anterior Fascicular Block

- *Le*ft Anterior Fascicular Block is a partial block in the left bundle system and does not prolong the QRS duration
- significantly. Typically the QRS duration is slightly prolonged and remains between 0.10 to 0.12 seconds.

Major causes of a wide ORS complex

- *Intr*insic intraventricular conduction delay o Left bundle branch block and variants
- Right bundle branch block and variants o Other nonspecific IVCD patterns
- Extrinsic intraventricular conduction delay
- Hyperkalemia
- Drug-induced - type 1 antiarrhythmic drugs and related sodium channel blocking agents (eg, tricyclic antidepressants and phenothiazines)
- Ventricular beat o Premature o Escape
- Paced
- Ventricular preexcitation
- Wolff-Parkinson-White (WPW) pattern and variants
- Factitious
- ECG unintentionally recorded at fast paper speeds (50 or 100 mm/s)

Wide QRS complex tachyarrhythmias

- Ventricular tachycardia
- *Supraventricular tachycardia or atrial fibrillation or flutter with aberrant intraventricular conduction due to:*
- Bundle branch block
- Atrioventricular bypass tract (preexcitation syndromes with orthodromic conduction

293. Subacture combined degeneration of cord is caused due to deficiency of

a) Vitamin B1

b) Vitamin B5

c) Vitamin B6

d) Vitamin B12

Correct Answer - D
Ans. is 'd' i.e., Vitamin B12

- Subacate combined degeneration of the spinal cord is the term used for the degeneration of the spinal cord due to vitamin B_{12} deficiency.
- *The spinal cord, brain, optic nerves, peripheral nerves may all be affected in vitamin B_{12} deficiency but the spinal cord is usually affected first and exclusively.*

The tracts *mainly* involved in the spinal cord are: o *Posterior column*

- Corticospinal tract
- Later on peripheral nerves are involved

Clinical features of vitamin B deficiency or subacute combined degeneration of the cord :

- *Patient first notices mild general weakenss and paresthesia consisting of tingling 'pins and needle'.*
- *As the illness progresses the gait becomes unsteady and stiffness and weakenss of the limbs and legs develop. If the disease remains untreated ataxic paraplegia evolve.*
- *Sometimes there may be loss of superficial sensations, such as tactile, pain and thermal sensations, but these signs are rare.*
- *Loss of "vibration sense" is the most consistent sign and is usually*

accompanied by loss of position sensee.

- *Motor signs seen are:-*
- *Loss of strength in proximal limb muscles*
- *Spasticity, changes in tendon reflexes*
- *Clonus and extensor plantar responses*
- *Sometimes tendon reflexes may be absent[e] (due to involvement of peripheral nerve)* **o** *Gait is ataxic*

Now,

The Clinicopathological Correlation

Clinical features	**Tracts involved**
Paresthesia, inpairment of deep sensation and ataxia	*Due to lesion in posterior column*
Weakness, spasticity and increased tendon reflexes	*Due to corticospinal tract involvement*
Occasional findings of loss of pain and temperature	*Due to spinothalamic tract involvement (rarely involved)*
Distal and symmetrical impairmeat of superficial	*Involvement of peripheral nerve (occassionally)*

294. Foot ulcers in diabetes are due to all except

a) Decreased immunity

b) Neuropathy

c) Microangiopathy

d) Macroangiopathy

Correct Answer - A

Ans. is 'a' i.e., Decreased immunity

- The reasons for the increased incidence of foot ulcers in DM involve the interaction of several pathogenic factors

Neuropathy (Microvascular complication)

- *Motor and sensory neuropathy lead to abnormal foot muscle mechanics and structural changes in the foot (hammertoe, claw toe deformity, prominent metatarsal heads, Charcot joint).*
- *Autonomic neuropathy*
- *Results in anhidrosis and altered superficial blood flow in the foot, which promote drying of the skin and fissure formation. PAD and poor wound healing impede the resolution of minor breaks in the skin, allowing them to enlarge and to become infected.*

Abnormal foot biomechanics.

- P.A.D. (Macrovascular complication)
- This leads to occlusive arterial disease that results in ischemia in the lower extremity and an increased risk of ulceration in diabetic patients.
- Poor wound healing.

Grades of diabetic foot ulcers

- Grade 0 skin intact but bony deformities produce a "foot at risk".
- Grade 1 localized, superficial ulcer.

- Grade 2 deep ulcer to tendon, bone, ligament, or joint.
- Grade 3 deep abscess, osteomyelitis
- Grade 4 gangrene of toes or forefoot
- Grade 5 gangrene of the entire foot

295. Not a cause of Gynaecomastia

a) Hypothyroidism

b) Kallman

c) obesity

d) Klinefelter syndrome

Correct Answer - A

. Ans. is 'a' i.e., Hypothyroidism

Causes of Gynaecomastia

Puberty

- During puberty, the serum oestradiol rises to adult levels before testosterone, causing transient gynaecomastia. This normally resolves within six months to two years.

Cirrhosis

- Gynaecomastia occurs due to altered sex hormone metabolism, and an increase in the oestradiol; free testosterone ratio.

Hypogonadism

- *Primary hypogonadism causes a compensatory rise in LH, in turn causing increased peripheral aromatization of testosterone to oestradiol.*
- *Secondary hypogonadism, due to pituitary or hypothalamic disease (e.g. prolactin excess, Kallman's syndrome haemachromatosis), may also cause gynaecomastia despite LH deficiency, since the adrenal cortex continues to produce oestrogen precursors, which are converted to oestrogens in peripheral tissues.*

Tumours

Testicular tumours:

- *Germ cell tumours account for over 95% testicular tumours. Gynaecomatia occurs in 5% of patients, due to hCG secretion*

stimulating oestradol production by the testes.

- *Leydig cell tumours cause gynaecomastia in 20 – 30% of cases. These tumours present with precocious puberty in boys, or poot libido and gynaecomastia in young males. Approximately 10% of these tumours are malignant.*
- *Sertoli cell turnours cause gynaecomastia through excess aromatization of androgents to oestrogens. These turnours may occur in Peutz- Jeger 's syndrome.*
- *Adrenocortical turnours may cause gynaecomastia through overproduction of androgens such as androstenedione, which are converted to oestrogens in peripheral tissues.*
- E*ctopic hCG-secreting tumours include lung, gastric, renal, and hepatocellular carcinomas.*
- *Hypogonadism from chemotherapy or radiotherapy may also cause gynaecomastia in patients with testicular tumours.*

Graves disease

- *Gynaecomastia may occur due to increased sex hormone-binding globulin (SHBG), and decreased free testosterone levels.*
- *Chronic renal failure:*
- *Half of patients receiving haemodialysis develop gynaecomastia due to decreased leydig cell function. Gynaecomastia may also occur following kidney transplantation due to ciclosporin use.*

Androgen insensitivity syndrome :

- Complete androgen insensitivity, .formerly termed 'testicular feminization syndrome', causes a female*phynotype i*n patients who are genotype males. These patients are regarded as female, and therefore present with infertility and amenorrhoea rather gynaecomastia. Partial androgen receptor defects maycause gynaecomastia in phenotyp*ic males.*

Drugs cause gynaecomastia

- Anti-androgens
- Cyproterone acetate
- Finasteride/dutasteride
- Gastrointestinal drugs
- Cimetidine / ranitidine
- Cancer chemotherapy
- Alkylating agents/vinca alkaloids (due to testicular damage and

hypogonadism)
- *Imatinib (tyrosine kinase inhibitor used for chronic myeloid leukemia (CML) and gastrointestinal stromal tumour (GIST).*

Cardiovascular drugs
- Spironolactone (displaces oestrogen from SHBG, increasing free oestrogen: testosterone ratio)
- Digoxin
- Amiodarone
- Methyl-dopa

Antimicrobial drugs
- Isoniazid
- Ketoconazole
- Metronodazole

Anti-viral drugs
- Highly active anti-retroviral (HAART) therapy (especially protease inhibitors)

Neurological drugs
- Phenothiazines
- Metoclopramide
- Tricyclic anti-depressants
- Opiates

296. Brain tumor causing hypernatremia in children

a) Medulloblastoma

b) Cerebellar astrocytoma

c) Craniophyrangioma

d) Brain stem glioma

Correct Answer - C
Ans. is 'c' i.e., Craniophyrangioma

- Craniophyrangioma leads to central diabetes mellitus and resultant loss of water leads to hypernatremia.

297. Poorly controlled diabetes with blood sugar of 450 mg% is associated with:

a) Hyponatremia

b) Hypernatremia

c) Hypokalemia

d) Hypomagnesemia

Correct Answer - A
Ans. is 'a' i.e., Hyponatremia

- Poorly controlled diabetes draws water out of cells resulting in hyponatremia.
n Plasma concentration falls by 1.4 mmol/L for every 100mg/d1 rise in plasma glucose concentration of sodium.

298. All of the following drugs may be used in the treatment of ulcerative colitis Except

a) Corticosteroids

b) Azathioprine

c) Sulfasalazine

d) Methotrexate

Correct Answer - D
Ans. is 'd' i.e., Methotrexate

Methotrexate in crohn's disease

- Methotrexate has been shown to be effective for inducing remission in patients with steroid dependent and steroid refractory crohn's disease.

Agents that may be used for treatment of ulcerative colitis

- 5-ASA
- Glucocorticoids
- Azathioprine and 6 mercaptopurine
- Cyclosporine or TNF alpha therapy (Infliximab).
- *Tacrolimus is a macrolide antibody that has shown to be effective in adults with steroid dependent or refractory ulcerative colitis.*

Drugs used in crohn's disease

- Cyclosporine or infliximab
- 6-Mercaptopurine or azathioprine
- Glucocorticoid IV
- Glucocorticoid oral
- Glucocorticoid rectal
- 5-ASA rectal or oral

299. With regards to hereditary spherocytosis, which of the following is false

a) Usually has autosomal dominant inheritance

b) Caused by mutations in genes for proteins such as spectrin, ankrin or band 3

c) Red blood cells are destroyed in the spleen

d) Aplastic crises are common

Correct Answer - D

Ans. is 'd' i.e., Aplastic Crisis are common

Aplastic crisis are a rare/uncommon complication of Hereditary Spherocytosis typically caused by virally induced bone marrow suppression.

- T*he most common aetiological agent that induces Aplastic Crisis in patients with Hereditary Spherocytosis is Parvovirus B19*
  Hereditary spherocytosis usually has autosomal dominant inheritance caused by mutation in genes for proteins such as spectrin. ankrin or band 3.
- The genes responsible for HS include akyrin, b spectrin, band-3-protein, a-spectrin, and protein 4.2. In approximately two-thirds to three-quarter of HS patients, inheritance is autosomal dominant. In the remaining patients, inheritance is non-dominant due to autosomal recessive inheritance of a de novo mutation.
  In patients with hereditary spherocytosis Red blood cells are destroyed in the spleen
- *The spleen plays a critical role in the pathobiology of HS, as destruction of spherocytes in the spleen is the primary cause of*

hemolysis in HS patients.

Aplastic Crisis is an Uncommon Complication

- Aplastic crisis following virally induced bone marrow suppression are uncommon, but may result in severe anaemia with serious complications including congestive heart failure or even death.
- The most common aetiological agent in these cases is parvovirus B19.
- Parvovirus selectively infects erythropoietic progenitor cells and inhibits their growth

300. All of the following are true regarding splenectomy in patients with hereditary spherocytosis, except ?

a) Avoid in mild cases

b) Delay splenectomy until at least 4 years old age

c) Anti-pneumococcal vaccination must be given before splenectomy

d) Prolonged anti-pneumococcal antibiotic prophylaxis must be given after splenectomy

Correct Answer - D

Ans. is 'd' i.e., Prolonged Anti-pneumococcal Antibiotic Prophylaxis must be given after splenectomy

Splencectomv in patients with Hereditary spherocytosis

- Avoid splenectomy in mild cases.
- Delay splenectomy until at least 4 years of age after the risk of severe sepsis has peaked.
- Anti-pneumococcal v*accination befoe splenectomy is imperative while anti-pneumococcal prophylaxis post-splenectomy is controversial.*

301. Most common heavy chain disease is

a) Franklin disease

b) Seligmann disease

c) Mu heavy chain disease

d) Waldenstrom cryoglobulinemia

Correct Answer - B
Ans. is 'b' i.e., Seligmann Disease (Alpha heavy chain disease)
There are four forms:
* Alpha chain disease (Seligmann's disease)- most common type
* Gamma chain disease (Franklin's disease)
* Mu chain disease
* Delta chain disease

302. Treatment of choice in acute sarcoidosis is

a) Prednisolone

b) Cyclosporin

c) Infliximab

d) IV immunoglobulins

Correct Answer - A
Ans. is 'a' i.e., Prednisolone

- Prednisolone (corticosteroid) is the treatment of choice for both acute and chronic phase of sarcoidosis that requires treatment.

303. MDR TB must be treated for at least ?

a) 12 months

b) 18 months

c) 20 months

d) 36 months

Correct Answer - C
Ans. is 'c' i.e., 20 months

Resistance (or intolerance) to H	Throughout (6)	RZE
Resistance (or intolerance) to R	Throughout (12-18)	HZEQ
Resistance to H + R	Throughout (at least 20 months)	ZEQ + S (for another injectable agents)
Resistance to all first-line drugs	Throughout (at least 20 months	1 injectable agent + 3 of of these 4 ethionamide cycloserine, Q, PAS
Intolerance to Z		HRE

304. The following are the complication of haemodialysis except -

a) Hypotension

b) Peritonitis

c) Hypertension

d) bleeding tendency

Correct Answer - B

Ans. is 'b' i.e., Peritonitis

- *P*atients with endstage renal disease (ESRD) on long term dialysis therapy have very high mortality due to predominantly cardiovascular causes.
- 'Sudden cardiac death is the single most common form of death in hemodialysis, accounting for 20% to 30 all deaths in this cohort.'
- Dialysis patients have extraordinarity high mortailty rates with cardic disease accounting for 43 percent deaths
- in this population. Data indicates that approximately 27% of the mortailties are due to sudden cardic death.

More on cardiovascular complications in dialysis

- *Cardiovasucular disease is the major cause of death in ESRD patients and atheroscleroses is present in all long term dialysis patients.*
- *Premature cardiac death has reached epidemic levels in world dialysis population occurring five to ten times as commonly as in age matched general population and accounting for at least half of all patients death.* o *Hypertension is a major risk factor*
- *Other risk factor are :-*
- *Hyperphosphetemia and elevated calcium phosphorus with calcium deposition in coronary arteries.*

Anemia
Hypertriglyceridemia

- Low HDL cholesterol
- Increased lipoprotein (a)
- Insulin deficiency or resistance
- Hyperhomocysteinem

Also know

Complications of dialysis

Acute complications of hemodialysis	**Long term complications**
o Hypotension	*o Cardiovascular*
o Cramps	*o Anemia*
Nausea and vomiting	*Secondary hyperparathyrodism and*
Headache o	*Malnutrition*
Chest pain o	*o Hepatitis (A, B, C, D, E*
Back pain	*Depression*
Itching	*o Dialysis encephalopathy*
Fever and chills	*Malignant tumours*
	Carpal tunnel syndrome
	Uremic neurophty

305. The most likely diagnosis in the case of a patient with multiple pulmonary cavities, hematuria and red cell casts is

a) Anti-GBM disease

b) Churg-Strauss

c) Systemic lupus erythematousus

d) Wegner's granulomatosis

Correct Answer - D

Ans. is 'd' i.e., Wegner's granulomatosis

- Multi lung cavities and hematuria are characteristic of Wegner's granulomatosis.
- Anti-GBM disease (Goodpasture's syndrome) usually does not cause lung cavities.
- Churg-strauss syndrome usually does not cause hematuria.
- SLE is not a usual cause of lung cavities.

306. Hung-up reflexes are seen in

a) Chorea

b) Atheotosis

c) Cerebral palsy

d) Cerebellar palsy

Correct Answer - A
Ans. is 'a' i.e., Chorea
Hung up knee jerk

- When patellor tendon is tapped while the foot is hanging free, the leg may be held in extension for few seconds before relaxing owing to prolonged contraction of quadriceps.
- This is seen in "chorea".

Other neurological signs associated with chorea

- Milkmaids grip
- Piano sign
- Handwriting

Milkmaid's grip

- Inability to maintain sustained voluntary contraction of muscle group at a constant level.
- Inability to apply steady pressure during handshake leading to a characteristic squeeze and release of grip.
- Patient's have difficulty maintaining sustained eyelid closure and sustained tongue protrusion

307. Arsenic poisoning causes

a) Polyneuritis

b) Mononeuritis multiplex

c) Radiculopathy

d) Myelopathy

Correct Answer - A
Ans. is 'a' i.e., Polyneuritis

- There is sensory and motor (i.e. mixed) polyneuropathy, with painful paresthesia of hands and feet and muscle tenderness.

308. Tropical pulmonary eosinophilia is caused because of

a) Occult filariasis

b) Cerebral melaria

c) Penumonic plague

d) Asthmatic bronchitis

Correct Answer - A
Ans. is 'a' i.e., Occult filariasis

- Occult filariasis is a rare condition which is caused by hypersensitivity reaction to filarial antigen.
- Micro filatia are absent in the blood.
- Lymphatic filariasis is absent.
- Indirect evidence of filarial infection is obtained by demonstrating antifilarial antibodies

309. Characteristic ECG finding of pulmonary embolism

a) Sinus tachycardia

b) S Q3T3

c) T wave inversion

d) Epsilon waves

Correct Answer - B
Ans. is `b' i.e., $S_JQ_3T_3$

E.C.G. changes of pulmonary embolism *?*

- Sinus tachycardia is the most frequent and nonspecific finding on electrocardiography in acute pulmonary embolism.
- Features suggesting acute right heart strain on the ECG occur relatively infrequently, these include.
- Acute right axis deviation
- P pulmonale
- Right bundle branch block
- Inverted T waves
- ST segment changes in right sided leads.
- Earlier the following E.C.G. changes were considered highly predictive of acute pulmonary embolism, but these observations were found in less than 12% of patients with pulmonary emboli in recent studies. These E.C.G. features are -
- S wave in lead I
- *Q wave in lead III*
- *Inverted Tin lead III* ("S1Q31.3")
- *S waves in lead I, II and III* ("S_i,S_2 S3")

Also know

Areterial blood gas analysis in pulmonary embolism :

- *Ar*terial blood gas analysis shows
- Mid to moderate hypoxemia
- Increased P (A - a) 0,
- Mildly reduced PaCO2
- Almost all patients with pulmonary embolism have PaO, < 80 mm Hg but no absolute level of $Pa0_2$ can be used to exclude the diagnosis.

310. Pleural effusion in rheumatoid arthritis is typically associated with the following features except

a) Glucose > 60 mg/dl

b) Protein > 3 gm/di

c) Pleural fluid protien to serum protein ratio of >0 .5

d) Pleural fluid LDH to serum LDH ratio of >0.6

Correct Answer - A
Ans. is 'a' i.e., Glucose > 60 mg/dl
Causes of low glucose pleural fluid

- Malignancy
- Rheumatoid arthritis
- Empyema
- Hemothorax
- Paragonimiasis
- Churg strauss syndrome
- Lupus pleuritis (occasionally)

311. In anklyosing spondylitis joint involvement is least in?

a) Wrist and hand

b) Sacroiliac joint

c) Acromio-clavicular joint

d) Costochondral junction

Correct Answer - A
Ans. is 'a' i.e., Wrist and hand
Ankylosing spondylitis (marie - strumpell disease)

- Ankylosing spondylitis is a chronic progressive inflammatory disease of the sacroiliac joints and the axial skeleton.
- Prototype of seronegative (absence of rheumatoid factor) spondyloarthropathies.
- Inflammatory disorder of unknown cause.
- *Usually begins in the second or third decade with a median age of 23, in 5% symptoms begin after 40.*
- *Male to female ratio is 2-3 : 1*
- Strong correlation with HLA-B27
- 90-95% of cases are positive for HLA - B27.

Joints involved *in* ankylosing spondylitis

- Primarily affects axial skeleton.
- The disease usually begins in the sacro-iliac joints and usually extends upwards to involve the lumbar, thoracic, and often cervical spine
- *In the worst cases the hips or shoulders are also affected. o Hip joint is the most commonly affected peripheral joint. o Rarely knee and ankle are also involved.*

Pathology

- ***Enthesitis i.e.*** *inflammation of the insertion points of tendons, ligaments or joint capsule on bone is one of the hallmarks of this entity of disease.*
- Primarily affects axial (spinal) skeleton and sacroiliitis is often the earliest manifestation of A.S..
- Involvement of costovertebral joints frequently occur, leading to diminished chest expansion (normal 5 cm)
- Peripheral joints e.g. shoulders, and hips are also involved in 1/3rd patients.
- *Extraarticular manifestations like acute anterior uveitis (in 5%); rarely aortic valve disease, carditis and pulmonary fibrosis also occur.*

Pathological changes proceed in three stages?

- Inflammation with granulation tissue formation and erosion of adjacent bone.
- Fibrosis of granulation tissue
- Ossification of the fibrous tissue, leading to ankylosis of the joint.
- Inflammatory bowel disease (CD, UC) may also be seen.

Clinicalfeatures (symptoms)

- Low back pain of insidious onset
- Duration usually less than 3 months
- *Significant morning stiffness and improvement with exercise*
- *Limited chest expansion*
- Diffuse tenderness over the spine and sacroiliac joints
- Loss of lumbar lordosis, increased thoracic kyphosis
- Decreased spinal movements (especially extension) in all directions.

Radiological features of an kvlasing spondylitis

- Radiographic evidence of sacroiliac joint is the most consistent finding in ankylosing spondylitis and is crucial for diagnosis.
- The findings are :-
- D Sclerosis of the articulating surfaces of SI joints
- Widening of the sacroiliac joint space
- Bony ankylosis of the sacroiliac joints
- Calcification of the sacroiliac ligament and sacro-tuberous ligaments
- *Evidence of enthesopathy - calcification at the attachment of the muscles, tendons and ligaments, particularly around the pelvis and around the heel.*

X-ray of lumbar spine may show :-

- *Li Squaring of ve*rtebrae : The normal anterior concavity of the vertebral body is lost because of calcification of the anterior longitudinal ligament.
- Loss of the lumbar lordosis.
- Bridging 'osteophytes' (syndesmophytes)
- Bamboo spine appearance
- **In** the early disease process, plain x-rays may be read as normal.
- More accurate and early diagnosis can be done by using MR1 and/or CT scan.
- *Dynamic MRI with fat saturation, either short tau inversion recovery (STIR) sequnece or TI weighted images with contrast enhancement is highly sensitive and specific for identifying early intra-articular inflammation, cartilage changes, and underlying bone marrow edema in sacroilitis.*
- *Magnetic resonance imaging allows for visualization of acute sacroilitis, spondylitis, and spondylodiscitis, and can also detect acute inflammation of the entheses, bone and synovium. The ability to detect early inflammatiion and acurately visualize cartilaginous and enthesal lesions makes magnetic resonance imaging a useful assessment tool in the spondyloarthropathies.*

312. Least common site involved in osteoarthritis is

a) Hip joint

b) Knee joint

c) Carpometacarpal joint of thumb

d) Distal carpophalangeal joint

Correct Answer - C
Ans. is 'C'
In the hand the joints specifically involved are ?

- Distal interphalangeal join& (of particular importance is the point that this joint is not involved in rheumatoid arthritis).
- Proximal interphalangeal join&
- First carpometacarpal jointsQ

Remember these two important features of joint involvement in osteoarthritis

- It does not involve the metacarpophalangeal jointso
- It does not involve the wrist joINTEGER(2. It also does not involve the carpometacarpalQ joint (except at the base of thumb).
- Osteoarthritis involves the carpometacarpal joint at the base of thumb, infact it is the second most common area of involvement in osteoarthritis.

Other joints which are commonly involved in osteoarthritis are

- Hips,
- Knees,
- Lower lumbar
- *Cervical.*

Joints which are usually spared in osteoarthritis are

- Wrists[Q], carpometacarpale
- ElbowsQ
- Shoulder joint

313. Inverted T waves are seen in

a) Hyperkalemia

b) Hyperthermia

c) Wellen syndrome

d) Coronary syndrome

Correct Answer - C
Ans. is 'c' i.e., Wellen syndrome

- Severe anterior wall Ischemia (with or without infarction) may cause prominent T-wave inversions in the precordial leads. This pattern (sometimes referred to as Wellens T-waves) is usually associated with a high-grade stenosis of the left anterior descending coronary artery.
- Hyperkalemia has tall Tented T-waves.
- Coronary syndrome Xis characterised by blockage of perforators while the epicardial coronary artery is normal. In these patients stenting of coronaries is not useful. Nitrates are mainstay of therapy.

314. Wide QRS complex is typically seen in

a) Bundle Branch block

b) Sick sinus syndrome

c) Mobitz type I block

d) Mobithz type II block

Correct Answer - A
Ans. is 'a' i.e., Bundle Branch block

- Repeat from previous session.
- Intrinsic intraventricular conduction delays such as left bundle block and right bundle branch block are associated with wide QRS complex.

315. Low QRS voltage on ECG indicates ?

a) Pulmonary embolism

b) Pericardial effusion

c) Cor pulmonale

d) Infective endocarditis

Correct Answer - B
Ans. is 'b' i.e., Pericardial effusion
Causes of low voltage QRS complexes

- Adrenal insufficiency
- Anasarca
- Artifactual or spurious, eg, unrecognized standardization of ECG at one-half the usual gain (i.e., 5 mm/mv)
- Cardiac infiltration or replacement (e.g., amyloidosis, tumor)
- Cardiac transplantation, especially with acute or chronic rejection
- Cardiomyopathy, idiopathic or secondary
- Chronic obstructive pulmonary disease
- Constrictive pericarditis
- *Hy*pothyroidism, usually with sinus bradycardia
- Left pneumothorax (mid-left chest leads)
- Myocardial infarction, extensive
- Myocarditis, acute or chronic
- *N*ormal varian
- Obesity
- Pericardial effusion
- Pericardial tamponade, usually with sinus tachycardia
- Pleural effusions

316. 65-year-old man presents with anemia, posterior columan dysfunction, and planter extensor. Which of the following is the likely cause

a) Tabes dorsalis

b) Frederich's ataxia

c) Vitamin B1 deficiency

d) Vitamin B 12 deficiency

Correct Answer - D
Ans. is 'd' i.e., Vitamin B12 deficiency

- Anemia along with involvement of posterior column is characteristic of *subacute combined degeneration of spinal cord* caused by vitamin B12 deficiency.

317. Proptosis is not seen in

a) Grave's disease

b) Sarcoidosis

c) Pituitary adenoma

d) Myxoedema

Correct Answer - D
Ans. is 'd' i.e., Myxoedema
Proptosis occurs in thyrotoxicosis not in hypothyroidism

Choices	Logic
Grave's	Cytokines appear to play a major role in thyroid-associated ophthalmopathy There is infiltration of the extraocular muscles by activated T cells; the release of cytokines such as IFN-alpha and TNF results in fibroblast activation and increased synthesis of glycosaminoglycans that trap water, thereby leading to characteristic muscle swelling

Sarcoidosis	Approximately 20%, of patients with ophthalmic findings of sarcoid have soft tissue involvement of the orbit or lacrimal gland and present as a mass lesion with proptosis, ptosis, or ophthalmoplegia.
Pituitary adenoma	Macro-adenoma associated with pituitary apoplexy can lead to proptosis.

318. True about obesity

a) Seen mostly in females

b) Prevalence decrease upto 40 years of age

c) No genetic predisposition

d) Smoking is a risk factor

Correct Answer - D
Ans. is 'd' i.e., Smoking is a risk factor
Cessation of smoking

- Weight gain is very common when people stop smoking.
- *This is thought to be mediated at least in part by nicotine withdrawal, which is associated with increased food intake and reduced energy expenditure.*
- *Weight gain of 1 to 2 kg in the first two weeks is often followed by an additional 2 to 3 kg weight gain over the next four to five months.*
- *The average weight gain is 4 to 5 kg but can be much greater.*
- *Obesity is common in both men and women (more common in women).*

Etiologic Classification of Obesity

- Iatrogenic causes
- Drugs that cause weight gain
- Hypothalamic surgery

Dietary obesity

- Infant feeding practices
- Progressive hyperplastic obesity
- Frequency of eating
- High fat diets
- Overeating

Neuroendocrine obesities

- Hypothalamic obesity
- Seasonal affective disorder
- Cushing's syndrome
- Polycystic ovary syndrome
- Hypogonadism
- Growth hormone deficiency
- Pseudohypoparathyroidism

Social and behavioral factors

- Socioeconomic status
- Ethnicity
- Psychological factors
- Restrained eaters
- Night eating syndrome
- Binge-eating

Sedentary lifestyle

- Enforced inactivity (post-operative)
- Aging

Genetic (dysmorphic) obesities

- Autosomal recessive traits
- Autosomal dominant traits
- X-linked traits
- Chromosomal abnormalities

Other

- Low birth weight

319. What is the of correction of sodium deficit

a) 0.5 mmol/hour

b) 1 mmol/hour

c) 1.5 mmol/hour

d) 2.0 mmol/hour

Correct Answer - A
Ans. is 'a' i.e., 0.5 mmol/Hr

- For serious symptomatic hyponatremia, the first line of treatment is prompt intravenous infusion of hypertonic saline, with a target increase of 6 mmol/L over 24 hours (not exceeding 12 mmol/L) and an additional 8 mmol/L during every 24 hours thereafter until the patient's serum sodium concentration reaches 130 mmol/L.

320. Maximum loss of sodium in a child occurs in

a) Gastric juice

b) Ileal fluid

c) Non cholera Diarrhoea

d) Cholera

Correct Answer - B
Ans. is 'b' i.e., heal fluid

Cations and anions in biological fluids in meq/dl

Fluid	Sodium	Potassium	Chloride
Gastric juice	60	10	85
heal fluid	130	10	115
Diarrhea stool	10-90	10-80	10-110

321. With regards to G6PD deficiency, which of the following in false

a) Affects the pentose phosphate pathway

b) Associated with neonatal jaundice

c) Acute haemolysis can be precipitated by broad beans

d) X-linked recessive disorder that does not affect heterozygous famales

Correct Answer - D

Ans. is 'd' i.e., X-linked recessive disorder that does not affect heterozygous famales

- *G*lucose 6-phosphate dehydrogenase (G6PD) deficiency, an X-linked disorder, is the most common enzymatic disorder of red blood cells in humans, affecting 400 million people worldwide.

Clinical spectrum

- *T*he clinical expressio*n* of G6PD variants encompasses a spectrum of hemolytic syndromes

The four forms of symptomatic G6PD deficiency :

- Acute hemolytic anemia
- Favism
- Congenital nonspherocytic hemolytic anemia
- Neonatal hyperbilirubinemia
- *G6PD deficiency is expressed in males carrying a variant gene that results in sufficient enzyme deficiency to lead to symptoms.*

Acute hemolytic anemia

- *Al*most all individuals with the most prevalent G6PD variants, G6PD A- and G6PD Mediterranean, are asymptomatic in the steady state.
- They have neither anemia, evidence of increased red cell destruction, nor an alteration in blood morphology,. o However

sudden destruction of enzyme deficient erythrocytes can be triggered by certain drugs or chemicals, by selected infections, and rarely by metabolic abnormali*ties (eg, diabetic ketoacidosis).*

Clinical course

- At two to four days after drug ingestion, there is the sudden onset of jaundice, pallor, and dark urine, with or without abdominal and back pain.
- This is associated with an abrupt fall in the hemoglobin concentration of 3 to 4 g/dL, during which time the
- peripheral blood smear reveals red cell fragments, microspherocytes, and eccentrocytes or "bite" cells.
- The anemia induces an appropriate stimulation of erythropoiesis, characterized by an increase in reticulocytes that is apparent within five days and is maximal at 7 to 10 days after the onset of hemolysis.
- Even with continued drug exposure, the acute hemolytic process ends after about one week, with ultimate reversal of the anemia.

Inciting events

- *P*atients with class II or III variants develop intermittent hemolysis only after one or more of the following inciting events.
- Infection
- Oxidant drugs
- Chemical agents (eg, moth balls, aniline dyes, henna compounds)
- Diabetic ketoacidosis
- Ingestion of fava beans

Drugs and chemicals

- Primaquine, dapsone, and a number of other drugs can precipitate hemolysis in G6PD deficient subjects.

Foods: fava beans and bitter melon

- G6PD deficiency can also be precipitated by the the ingestion of fresh fava beans (favism).
- Manifestation offavism begins 5-24 hrs after fava bean ingestion and include headache, nausea, back pain.

Congenital nonspherocytic hemolytic anemia

- Patients with class I G6PD variants have such severe G6PD deficiency that lifelong hemolysis occurs in the absence of infection or drug exposure.

- *Such patients fall under the category of having congenital nonspherocytic hemolytic anemia.*
- These G6PD variants have low in vitro activity and/or marked instability of the molecule, and most have DNA mutations at the glucose-6-phosphate or NADP binding sites.
- *These sites are central to the function of G6PD, which oxidizes glucose-6-phosphate and reduces NADP to NADPH. It is presumed that the functional defect is so severe that the red cells cannot withstand even the normal oxidative stresses encountered in the circulation.*
- Anemia and jaundice are often first noted in the newborn period, and the degree of hyperbilirubinemia is frequently of sufficient severity to require exchange transfusion.
- *After infancy, hemolytic manifestations are subtle and inconstant. Most individuals have mild to moderate anemia (hemoglobin 8 to 10 g/dL) with a reticulocyte count of 10 to 15 percent. Pallor is uncommon, scleral icterus is intermittent, splenomegaly is rare, and splenectomy generally is of little benefit.*
- Hemolysis can be exaggerated by exposure to drugs or chemicals with oxidant potential or exposure to fava beans.
- Some drugs with relatively mild oxidant potential that are safe in patients with class II or class III G6PD variants may increase hemolysis in patients with class I variants.

Neonatal hyperbilirubineinia

- The clinical picture of neonatal jaundice due to G6PD deficiency differs from neonatal jaundice seen in hemolytic disease of the fetus and newborn (HDFN) associated with Rh(D) incompatibility in two main respects.
- G6PD deficiency-related neonatal jaundice is rarely present at birth; the peak incidence of clinical onset is between days two and three.
- a There is more jaundice than anemia, and the anemia is rarely severe. The severity ofjaundice varies widely, from being subclinical to imposing the threat of kernicterus if not treated

322. All of the following statements about genetics of G6PD deficiency are true, except

a) X-linked inheritance

b) More severe in Men

c) Contradicts Lyon Hypothesis

d) May affect Heterozygous females

Correct Answer - C
Ans. is 'c' i.e., Contradicts Lyon Hypothesis
Genetics of G6PD

- The gene for G6PD is located on the X chromosome (band X q28) [8] and has been cloned and sequenced. o Even though females have two X chromosomes per cell, normal males and females have the same enzyme activity
- in their red cells because one of the X chromosomes in each cell of the female embryo is inactivated and remains
- inactive throughout subsequent cell divisions (Lyon hypothesis).
- G6PD deficiency is expressed in males carrying a variant gene, while heterozygous females are usually clinically normal.
- However, the mean red blood cell enzyme activity in heterozygous females may be normal, moderately reduced, or grossly deficient depending upon the degree of lyonization and the degree to which the abnormal G6PD variant is expressed.
- **G6PD** supports Lyon's hypothesis :-
- According to lyon's hypothesis one of the two chromosome in each cell of the female embryo is inactivated and remains inactive throughout subsequent cell division.

- G6PD is inherited as an X-linked (recessive) disorder, it is more common in males.
- Heterozygous Female may also be affected depend on the extent of lyonisation (inactivation of one X-chromosome) but the overall average degrees of hemolysis in heterozygous female is less.
- A heterozygous female with 50 percent normal G6PD activity has 50 percent normal red cells and 50 percent G6PD-deficient red cells.
- The deficient cells are as vulnerable to hemolysis as the enzyme-deficient red blood cells in males.

Male

- Males, who have only one copy of the X chromosome, are either normal or hemizygous for the variant glucose 6-phosphate dehydrogenase (G6PD) gene.
- *Thus, G6PD deficiency is expressed in males carrying a variant gene on their X chromosome that produces sufficient enzyme deficiency to lead to symptoms. All of the red cells in affected males are vulnerable to hemolysis.*

Female

- Females, who have two copies of the X chromosome, are either normal, heterozygous, or homozygous for the variant gene.
- *Heterozygous females are usually clinically normal.*
- *However, their mean red blood cell enzyme activity may be normal, moderately reduced, or grossly deficient depending upon the degree of X chromosome inactivation (lyonization) and the degree to which the abnormal G6PD variant is expressed.*
- *A female with 50 percent normal G6PD activity, due to inactivation of one X chromosome in each cell via lyonization, has 50 percent normal red cells and 50 percent G6PD-deficient red cells.*
- *The deficient cells are as vulnerable to hemolysis as the enzyme-deficient red blood cells in males.*
- *Homozygous females are as severely affected clinically as hemizygous males. All of their red cells are vulnerable to hemolysis*

323. Platelets in stored blood do not live after

a) 24 hours

b) 48 hours

c) 72 hours

d) 96 hours

Correct Answer - C
Ans. is 'c' i.e., 72 hours

- Platelets are provided as a pooled preparation from one or several donors, usually as a 6-unit bag, which is the
- usual amount given to an average-sized adult.
- Each unit contains approximately 8 x $10^{1°}$ platelets and should increase the platelet count by about 7000-10,000/ pL in a 75kg adult.
- Platelets stored at room temperature can be used for up to 5 days and have a life span of 8 days.
- *Those stored at 4°C are useful for only 24 hours (only 50-70% of total platelet activity is present at 6 hours) and have a life span of only 2-3 days.*
- ABO compatibility should be observed for platelets, but is not essential. For each donor used, there is a similar risk of transmitting hepatitis and HIV as for one unit of blood.
- Platelet should be administered through a 170pm filter.

324. Earliest and often the only presentation of TB kidney is

a) Increased frequency

b) Colicky pain

c) Hematuria

d) Renal calculi

Correct Answer - A
Ans. is 'a' i.e., Increased frequency

- *Urinary frequency, dysuria, nocturia, hematuria, and flank or abdominal pain is common presentations.*
- *However, patients may be asymptomatic and the disease is* discovered only after severe destructive lesions of the kidneys have developed.
- Urinalysis gives abnormal results in 90% of cases, revealing pyuria and hematuria.
- The documentation of culture-negative pyuria in acidic urine raises the suspicion of TB.
- IV pyelography, abdominal CT, or MRI may show deformities and obstruction, and calcifications and ureteral strictures are suggestive findings.
- Culture of three morning urine specimens yields a definitive diagnosis in nearly 90% of cases.

325. Most common cause of diarrhea in AIDS patients?

a) Salmonella typhimurium

b) Cryptosporidium

c) Candida

d) isophora

Correct Answer - B
Ans. is 'b' i.e., Cryptosporidium
Most common cause of diarrhea in HIV → Cryptosporidium.
Diseases of Oropharvnx and GI system in H.I.V.

- These are :?
- *Oral lesions : Thrush (oral candidiasis), oral Hairy leukoplakia (caused by EBV), and aphthous ulcer. Esophageal : Esophagitis by CMV, HSV or candida.*
- *Diarrhea : Diarrhea is caused by :-*
- *Bacteria : Salmonella, Shigella, Campylobacter, and mycobacteria avium intracellulare.*
- *Fungal : Histoplasma, Coccidioides, penicillium.*
- *Other :* CMV, *microsporidia, isospora helli,* and *cryptosporidia.*
- AIDS enteropathy (HIV enteropathy)

326. Not seen with uremic lung

a) alveolar injury

b) Pulmonary edema

c) Interstitial fibrosis

d) Fibrinous exudate in alveoli

Correct Answer - C
Ans. is 'c' i.e., Interstitial fibrosis
Uremic lung is referred to abnormalities expressed chest x-ray abnormalities seen in patients with CKD.

- The pathogenesis was believed to be related to blood urea nitrogen and creatinine retention.
- There is :
- Its pathophysiology is based on uremia-induced increased permeability of pulmonary alveolo-capillary interfaces, leading to
- Interstitial and intra-alveolar edema
- Atelectasis
- *Alveolar hemorrhage*
- *Pulmonary hyaline membrane formation.*
- *These changes are compounded by bleeding diathesis secondary to platelet dysfunction in advanced renal disease.*
- The pulmonary symptoms and radiographic findings are reversible with hemodialysis.

327. Oliguric phase of ARF is characterized by A/E

a) Chest pain

b) Acidosis

c) Hypertension

d) Hypokalemia

Correct Answer - D
Ans. is 'd' i.e., Hypokalemia

Maintenance phase (Oliguric phase) (Lasts for 1-2 weeks) Uremic complications and electrolyte abnormalities arise during this phase-
• GFR reaches its lowest point, urine output is lowest (typically 5-10 ml/min)
• Due to fluid overload and decreased electrolyte excretion, following electrolyte abnormalities are seen
• Hyperkalemia - (d/t reduced excretion)
. Hyponatremia -s (d/t volume overload)
. Hyperphosphatemia 4 (d/t reduced excretion)
. Hypermagnesemia - (d/t reduced excretion)
. Hyperuricemia -> (d/t reduced excretion)
. Hypocalcemia -> (d/t deposition of calcium phosphate)
. Elevation of B. U.N. 4 (d/t reduced excretion)
. Hyposmolality -> (d/t volume overload)
. Anemia 4 (d/t Impaired erythropoiesis Hemolysis, bleeding Dilution)

328. In EEG type of wave seen in metabolic encephalophathy

a) Alpha

b) Beta

c) Gamma

d) Delta

Correct Answer - D
Ans. is 'cl' i.e., Delta
E.E.G. changes in metabolic encephalopathy
In metabolic encephalopathy changes are typically nonfocal

- E.E.G. has been widely used to evaluate metabolic encephalopathy.
- The E.E.G findings are abnormal in acute encephalopathic stages.
- It is difficult to establish a diagnosis of metabolic encephalopathy with certainity through E.E.G.
- There is generalized slowing of the E.E.G with an excess of the delta and theta waves with suppression of normal alpha and beta wave activity and occasionally bilateral spikes and waves complexes occurring in absence of seizure activity".
- In metabolic encephalopathies, the E.E.G evolution correlates well with the severity of encephalopathy. **o** However EEG has little specificity in differentiating etiologies in metabolic encephalopathy.
- For example, though triphasic waves are most frequently mentioned in hepatic encephalopathy, they can also be seen in uremic encephalopathy or even in aged psychiatric patients treated with lithium. o Spikes and waves may appear in hypo or hyperglycemia uremic encephalopathy or vitamin deficiencies.

Common principles of EEG changes in metabolic

encephalopathy are : -

- Varied degrees of slowing
- Associated mixtures of epileptic discharge
- High incidence of triphasic waves
- Reversibility after treatment of underlying causes

Metabolic encephalopathy	EEG rythm
Grade I (almost normal)	Dominant activity is alpha rhythm with minimal teta activity
Grade II (mildly abnormal)	Dominant teta background with some alpha and delta activities.
Grade II (moderately abnormal)	Continuous delta activity predominates, little activity of faster frequencies
Grade IV (severely abnormal)	Low-amplitude delta activity or suppression-burst pattern
Grade V (extremely abnormal)	Nearly "flat" tracing or electrocerebral inactivity.

329. Asbestosis causes all except

a) Shaggy heart borders

b) Honeycombing

c) Hilar lymphadenopathy

d) Basal peribronchial fibrosis

Correct Answer - C
Ans. is 'c' i.e., Hilar lymphadenopathy

- *Asb*estosis causes fibrosis in the lower lobes of the lung.
- Pleural plaque formed by asbestosis most commonly affects anterolateral and posterolateral aspects of parietal pleura and over the dome of diaphragm

330. The most common cause of sudden death in sarcoidosis is

a) Pneumonia

b) Cor pulmonale

c) Arrythmias

d) Liver failure

Correct Answer - C
Ans. is 'c' i.e., Arrhythmias

- *Cardiac involvement occurs initially with inflammation and granuloma formation followed by scarring. The initial inflammation can lead to triggered ventricular arrhythmias with subsequent scarring resulting in the substrate for reentrant monomorphic ventricular tachycardia.*

331. Most common cause of unilateral Hilar lymphadenopathy

a) Histoplasmosis

b) Sarcoidosis

c) Aspergillosis

d) Tuberculosis

Correct Answer - D
Ans. is 'd' i.e., Tuberculosis

- Primary TB most commonly presents with focal alveolar pneumonia and associated unilateral hilar or mediastinal adenopathy.

332. Which of the following is cause of RBBB

a) It can occur in a normal person

b) Pulmonary embolism

c) Corpulmonale

d) All of the above

Correct Answer - D
Ans. is 'd' i.e., All of the above
Causes of RBBB

- Normal physiological
- Pulmonary embolism/corpulmonale
- Pulmonary artery hypertension
- ASD
- Rheumatic heart disease

333. Alternating RBBB with Left anterior hemiblock is seen in

a) 1' degree heart block

b) Complete heart block

c) Mobitz type II block

d) Bi-fascicular block

Correct Answer - D
Ans. is 'd' i.e., Bi-fascicular block
Bifascicular block → *combination of RBBB with either left anterior hemiblock or left posterior hemiblock.*
Tri fascicular block → RBBB plus either LAHB/LPHB+ first degree AV block.
Complete heart block destruction of → AV node leading to AV dissociation

334. In LVH, SV1 +RV6 is more than mm

a) 25

b) 30

c) 35

d) 45

Correct Answer - C
Ans. is 'c' i.e., 35
Arrhythmias by Kathryn Lewis p. 219] o In LVH, SV-1 plus RV-6 is more than 15 mm.

- To diagnose the left ventricular hypertrophy on ECG one of the following criteria should be met :?

The sokolow-lyon criteria is most often used -

- R in V, or V6 + 5 in V > 35 mm in men

The cornell-criteria has different values

- R in aVL and S in V3 > 28 mm in men
- R in aVL and S in V3 > 20 mm in women

As the left ventricular wall becomes thicker QRS complexes are larger in leads V1-V6

- S wave is deep in V,
- R wave is high in V4
- ST depression in V„-V, (strain pattern)

335. Most common site for berry aneurysm rupture

a) Anterior circulation of brai

b) Posterior circulation of brain

c) Ascending aorta

d) Descending aorta

Correct Answer - A
Ans. is 'a' i.e., Anterior circulation of brain
The most common sites in descending order of frequency are -

- *Li Pro*ximal portion of anterior communicating artery (at the junction of anterior communicating artery with cerebral artery)
- At the origin of the posterior communicating artery from the stem of the internal carotid artery.
- At the first major bifurcation of middle cerebral artery.
- At the bifurcation of internal carotid into middle and anterior cerebral arteries.
- Vertibrobasilar bifurcation (3%)

336. Obesity is seen in all except

a) Cushing syndrome

b) Pickwinian syndrome

c) Prader willi syndrome

d) Sipple syndrome

Correct Answer - D
Ans. is `d' i.e., Sipple syndrome
Important syndromes associated with obesity

- Albright hereditary osteodystrophy (pseudohypoparathyroidism type la)
- Alstrom syndrome
- Bardet-Biedl syndrome
- Beckwith-Wiedemann syndrome
- Carpenter syndrome

Cohen syndrome • *Prader-willi syndrome*

337. Cause of death in diabetic ketoacidosis in children

a) Cerebral edema

b) Hypokalemia

c) Infection

d) Acidosis

Correct Answer - A
Ans. is 'a' i.e., Cerebral edema

- High blood sugar will cross the blood-brain barrier and simultaneously will draw water inside leading to cerebral edema. Cerebral edema accounts for 60-90% of all DKA related deaths in children.
- Infection is a precipitator for the development of DKA.
- Other precipitating factors can be tissue ischemia, inadequate insulin administration, drugs (cocaine) and pregnancy.

338. Acute hyponatremia becomes symptomatic at

a) < 135 mEq

b) < 125 mEq

c) < 120 mEq

d) < 110 mEq

Correct Answer - B
Ans. is 'b' i.e., < 125 mEq
Serum level of sodium at which symptoms develop
Acute < 125 meq/L
Chronic < 120 meq/L

- Hyponatremia is commonly defined as a serum sodium < 135 mmol/L (< 135 mEq/L). Neurological symptoms
- occur at different levels of low sodium, depending not only on the absolute value but also on the rate of fall.
- In patients with hyponatremia that develops over hours, life-threatening seizures and cerebral edema may occur
- at values as high as 125 mmol/L.
- In contrast, some patients with more chronic hyponatremia that has slowly developed over months to years may be asymptomatic even with serum levels < 110 mmol.

Acute or hyperacute hyponatremia

- The hyponatremia developed within the previous 24 hours, it is called "acute."
- If the hyponatremia developed over just a few hours due to a marked increase in water intake (self-induced water intoxication, as may be seen in marathon runners, psychotic patients, and users of ecstasy), it is called "hyperacute."

Chronic hyponatremia

- If it is known that the hyponatremia has been presentfbr more than 48 hours, or if the duration is unknown (such as in patients who develop hyponatremia at home), it is called "chronic."

Mild to moderate hyponatremia

- Mild hyponatremia is usually defined as a serum sodium concentration between 130 and 135 meq/L.
- Moderate hyponatremia is often defined as a serum sodium concentration between 121 and 129 meq/L.

Severe hvponatremia

- Severe hyponatremia can be defined as a serum sodium of 120 meq/L or less.

Symptoms of hvponatremia

Absent symptoms

- Patients with hyponatremia are frequently asymptomatic, particularly if the hyponatremia is chronic and of mild or moderate severity (ie, serum sodium >120 meq/L).
- However, such patients may have subclinical impairments in mentation and gait.

Mild to moderate symptoms

- Mild to moderate symptoms of hyponatremia are relatively nonspecific and include headache, nausea, vomiting, fatigue, gait disturbances, and confusion.
- In patients with chronic hyponatremia (ie, >48 hours duration), these findings are not associated with impending herniation; however, in patients with more acute hyponatremia, such symptoms should be considered ominous and may evolve without warning to seizures, respiratory arrest, and herniation.

Severe symptoms

- Severe symptoms of hyponatremia include
- u Seizures
- Obtundation
- Coma
- Respiratory arrest.

339. Hyponatremia is seen in

a) Hyperthyroidism

b) Hypothyroidism

c) Diabetes insipidus

d) Increased insensible losses

Correct Answer - B

Ans. is 'b' i.e., Hypothyroidism [RefHarrison's *18th*

- Hypothyroidism is characterised by low cardiac output leading to increased AVP production and resultant hyponatremia.
- *Addison disease must be ruled out in chronic cases of hyponatremia*

Major causes of hyponatremia

Disorders in which ADH levels are elevated

- Effective circulating volume depletion
- True volume depletion
- Heart failure
- Cirrhosis
- Thiazide diuretics
- Syndrome of inappropriate ADH secretion, including reset osmostat pattern
- Hormonal changes
- Adrenal insufficiency
- Hypothyroidism
- Pregnancy

Disorders in which ADH levels may be appropriately suppressed

- Advanced renal failure
- Primary polydipsia
- Beer drinker's potomama

Hyponatremia with normal or elevated plasma osmolality

- High plasma osmolality (effective osmols)
- Hyperglycemia
- Mannitol
- High plasma osmolality (ineffective osmols)
- Renal failure
- Alcohol intoxication with an elevated serum alcohlo concentration
- Normal plasma osmolality
- Psedohyponatremia (laboratory artifact)
- High triglycerides
- Chloestatic and obstructive jaundice (lipoprotein x)
- Multiple myeloma
- Absorption of irrigant solutions
- Glycine Sorbitol Mannitol

340. Chronic Non-Spherocytic hemolytic anemia is seen in which class of G6PD deficiency

a) Class I

b) Class II

c) Class III

d) Class IV

Correct Answer - A
Ans. is 'a' i.e., Class I
The four forms of symptomatic G6PD deficiency :

- Acute hemolytic anemia
- Favism
- Congenital nonspherocytic hemolytic anemia
- Neonatal hyperbilirubinemia

Congenital nonspherocvtic hemolytic anemia

- Patients with class I G6PD variants have such severe G6PD deficiency that lifelong hemolysis occurs in the absence of infection or drug exposure.
- Such patients fall under the category of having congenital nonspherocvtic hemolytic anemia.
- These G6PD variants have low in vitro activity and/or marked instability of the molecule, and most have DNA mutations at the glucose-6-phosphate or NADP binding sites.
- *These sites are central to the function of G6PD, which oxidizes glucose-6-phosphate and reduces NADP to NADPH. It is presumed that the functional defect is so severe that the red cells cannot withstand even the normal oxidative stresses encountered in the*

circulation.

- *Anemia and jaundice are often first noted in the newborn period, and the degree of hyperbilirubinemia is frequently of sufficient severity to require exchange transfusion.*
- *After infancy, hemolytic manifestations are subtle and inconstant. Most individuals have mild to moderate anemia (hemoglobin 8 to 10 g/dL) with a reticulocyte count of 10 to 15 percent. Pallor is uncommon, scleral icterus is intermittent, splenomegaly is rare, and splenectomy generally is of little benefit.*
- *Hem*olysis can be exaggerated by exposure to drugs or chemicals with oxidant potential or exposure to fava beans.
- Some drugs with relatively mild oxidant potential that are safe in patients with class II or class III G6PD variants may increase hemolysis in patients with class I variants.

Disease variants of Glucose 6 phosphate dehvdrogenase deficiency

- *T*he World Health Organization has classified the different G6PD variants according to the magnitude of the enzyme deficiency and the severity of hemolysis. Classes **IV** and V are of no clinical significance.

Types	Features
Class I	*Variants have severe enzyme deficiency (less than 10* percent *of normal) and have chronic (nonspherocytic) hemolytic anemia.*
Class II	*Variants, such as G6PD Mediterranean, also have severe enzyme deficiency, but there are, usually only intermittent episodes of acute hemolysis associated with infection, drugs, or chemicals.*
Class	*Variants, such as G6PD A-, have moderate enzyme deficiency (10 to 60 percent of normal) with intermittent*

III	*episodes of acute hemolysis usually associated with infection, drugs, or chemicals*
Class IV	*Variants have no enzyme.deficiency or hemolysis.*
Class V	*Variants have increased enzyme activity*

341. What is the Neutrophil count for moderate neutropenia

a) < 500/mm'

b) 500-1000/mm'

c) > 1000/mm^3

d) 100/mm3

Correct Answer - B
Ans. is 'b' i.e., 500-1000mm'
Mild neutropenia → Is present when the ANC is 1000-15000 cells/µL
Moderate neutropenia → Is present with an ANC of 500-1000/4

- *Se*vere neutropenia ANC lower than 500 cells/pL.
- The risk of bacterial infection is related to both the severity and duration of the neutropenia.

342. Gout can be precipitated by all of the following

a) Thiazides

b) Furosemide

c) Cyclosporine

d) High dose salicylates

Correct Answer - D
Ans. is 'd' i.e., High dose salicylates
High dose Salicylates are uricosuric and do not cause Hyperuricemia.

- Diuretics including Thiazides and Furosemide are known to cause Hyperuricemia. Cyclosporine and Tacrolimus are also associated with Hyperuricemia.
- High Doses of Salicylates ≥ 3.0 g/day are uricosuric, while Low doses (0.3 to 3.0 g/day) are associated with uric acid retention and Hyperuricemia.

Also know
<u>Causes of drug or diet induced hyperuricemia.</u>

- Diuretics (thiazides and loop diuretics)
- Cyclosporine and tacrolimus.
- Low dose salicylates.
- Ethambutol.
- Pyrazinamide.
- Ethanol.
- Levodopa.
- Methoxyflurane.
- Laxative abuse (alkalosis).
- Salt restriction.

343. Relative risk of developing TB in patients already infected with TB bacilus is highest in

a) Diabetes

b) Recent infection

c) Post transplantation

d) Malnutrition

Correct Answer - C
Ans. is 'c' i.e., Post transplantation
Relative risk of developing T.B.

Post transplantation	20-70
HIV	30
Silicosis	30
Recent infection	12
Diabetes	3-4
Malnutrition	2-3

344. I.R.I.S. is

a) Immune reconstitution idiopathic syndrome

b) Immune reconstitution immunological syndrome

c) Immune reconstitution inflammatory syndrome

d) Inflammatory reconstitution immune syndrome

Correct Answer - C
Ans. is 'c' i.e., Immune reconstitution inflammatory syndrome
Causes of bone marrow suppression in patients with HIV infection

HIV infection	Medications
Mycobacterial infections	Zidovudine
Fungal infections	Dapsone
B 19 parvovirus infection	Trimethoprim/Sulfamethoxazole
	Pyrimethamine
	5-Flucytosine
Lymphoma	Ganciclovir Interferon a
	Trimetrexate
	Foscarnet

345. In renal failure, metabolic acidosis is due to

a) Increased fr production

b) Loss of HCO,

c) Decreased ammonia synthesis

d) Use of diuretics

Correct Answer - C
Ans. is 'c' i.e., Decreased ammonia synthesis
The predominant reason for metabolic acidosis in C.R.E is decreased ammonia production.

- *M*etabolic acidosis is a common disturbance in advanced chronic kidney disease
- The majority of patients can still acidly the urine but they produce less ammonia and, therefore, cannot excrete the normal quantity of protons in combination with this urinary buffer.

346. Diagnostic feature of CRF is

a) Broad casts in urine

b) Elevated blood urea

c) Proteinuria

d) Bleeding diathesis

Correct Answer - A
Ans. is 'a' i.e., Broad casts in urine
Casts *?*

- Urinary casts are formed only in the distal convoluted tubule[e] **(DCT)** or the collecting dud[e] (distal nephron).
- The proximal convoluted tubule and loop of henle are not the locations for cast formation.
- Casts are
- formed through the solidification of materials in the tubules of nephrons
- Later the material is flushed out of the kidney upon the production of more urine leaving a small solidified microscopic cylinder that can also contain what ever other materials that might be within the tubules of the kidneys at the time of cast formation.
- The microscopic detection of various types of casts can often be helpful diagnostic tool in the study of various types of renal diseases

347. Eosinophilic meningitis is seen with all except?

a) Coccidiomycosis

b) Cryptococcal meningitis

c) Lepto meningeal metastasis

d) Helminthic infections

Correct Answer - B
Ans. is 'b' i.e., Cryptococcal meningitis
Causes of eosinophilic meningitis
Infectious, parasitic causes
<u>Roundworm (nematode) infections - commonly present as eosinophilic meningitis</u>

- Angiotronglylus cantonensis - migrating larvae inherently neurotropic
- Gnathostoma spinigerum - migrating larvae in visceral and/or neural tissues
- Baylisascaris procyonis - migrating larvae inherently neurotropic

Tapeworm (cestode) infections - may present as eosinophilic meningitis

- Cysticercosis -Cysts develop in CNS and/or visceral tissues

Fluke (trematode) infections - occasionally cause eosinophilic meningitis

- Paragonimus westermani - ectopic spinal or cerebral localization.
- Schistosomiasis - ectopic spinal or cerebral localization.
- Fascioliasis - ectopic CNS localization.

Other roundworm infections which occasionally cause eosinophilic meningitis

- Toxocariasis - migrating larvae

Nonparasitic, infectious causes

- Coccidioidomycosis
- Cryptococcosis - CSF eosinophilia rare
- Myiasis - with CNS penetration
- Virus and bacteria - are of uncertain causality
- Noninfectious causes
- Idiopathic hypereosinophilic syndromes
- Ventriculoperitoneal shunts
- Leukemia or lymphoma with CNS involvement (Hodgkin's)
- Nonsteroidal antiinflammatory drugs
- Antibiotics - ciprofloxacin, trimethoprim - sulfamethoxazole, intraventricular gentamicin or vancomycin
- Myelography contrast agents

348. Christmas tree appearance of urinary bladder is seen in

a) Neurogenic bladder

b) Stress incontinence

c) Autonomous bladder

d) Enuresis

Correct Answer - A
Ans. is 'a' i.e., Neurogenic bladder

- *Christmas tree appearance of the bladder is seen in neurogenic bladder caused by detrusor hyperreflexia.*
- *Detrusor hyperreflexia is caused by lesions of the spinal cord above the sacral segments but below the pons. Such patients have noperception of bladder filling or emptying and voluntary voiding is not possible.*
- *Voiding when it does occur is involuntary with simultaneous contractions of the detrusor and external sphincter muscles.*
- *Common neurological condition resulting in detrusor hyperreflexia include*
- *Multiple sclerosis*
- *Myelodysplasia,*
- *Spinal cord trauma*
- *Spinal cord tumours,*
- *A-V malformatio not the spinal cord*
- *Radiologically, patients with long terms untreated detrusor hyperreflaxia have characteristic changes of the urinary tact.*
- *Bladder is vertically oriented, with an irregular contours, consistent with trabeculation. There are frequently multipel diverticula, Such a bladder is referred to as a christmas tree.*

	Automatic bladder	Autonomous bladder
Lesion site	Above T5 or higher	Cauda equina damage / lower motero neuron
Manifestation	Small spastic bladder	damage Large flaccid bladder
Why this name	urge comes again and again due to repeated contractions and hence empties repeatedly after some time	Has no urge sensation and continuous DRIBBLING occurs, So it is like the bladder is working all the time but Brain has no control over it and hence called autonomous bladder
Radiological data	Christmas tree appearance	No VUR but still bladder is large and holds lots of residual urine

349. the diffusion capacity of lung (DL) is decreased in all of the following conditions except

a) Inerstitial lung diseas

b) Goodpasture's syndrome

c) Pneumocystis Jiroveci

d) Primary pulmonary hypertension

Correct Answer - B

Ans. is 'b' i.e., Goodpasture's syndrome

Gas diffusion tests :

- Gas diffusion tests measure the amount of oxygen and other gases that cross the alveoli into the blood.
- These tests evaluate how well gases are being absorbed into the blood from lungs. Gas diffusion tests include.
- Carbon monoxide diffusing capacity (transfer factor DLcy)
- Arterial blood gases

Carbon monoxide diffusing capacity (DL):

- *This measures how well the lung transfers a small amount of carbon monoxide into the blood0.*
- *Normally, in the lung, a gas has to cross the alveolar membrane, capillary membrane to reach the blood where it combines with hemoglobin.*

So quiet obviously the diffusion capacity of gas depends upon

- *Driving pressure of the gas*
- Surface area of alveolar capillary membrane
- Thickness of alveolar capillary membrane
- Diffusion coefficient of the gas

- Red blood cell volume.
- Reaction rate with hemoglobin and hemoglobin level of patient.
- *Degree of V/Q mismatching.*

350. Keratoderma-Blenorrhagicum is pathogno-monic of

a) Behcet's disease

b) Reiter's disease

c) Lyme's disease

d) Glucagonoma

Correct Answer - B
Ans. is 'b' i.e., Reiter's disease
Keratoderma Blenorrhagica is the characteristic skin lesion seen in patients with Reactive Arthritis.

- "The Characteristic skin lesions in Reactive Arthritis, Keratoderma Blenorrhagica, consist of vesicles that become hyperkeratotic, ultimately forming a crust before disappearing. These are seen in palms and soles.

351. In Takayasu's arteritis there is

a) Intimal fibrosis

b) Renal hypertension

c) Coronary aneurysm

d) All of the above

Correct Answer - B
Ans. is `b' i.e., Renal hypertension

Artery	Potential clinical manifestation
Subclavian	Arm claudication, Raynaud's phenomenon
Commoncarotid	Visual changes, syncope transient, ischaemic attacks stroke
AbdominalAorta	Abdominal pain, nausea vomiting
Renal	Hypertension, renal failure, aortic insufficiency, congestive

	heart failure
Vertebral	Visual changes, dizziness
Coeliac axis	Abdominal pain, nausea vomiting
Iliac Leg claudication	
Pulmonary	Atypical chest pain dyspnea
Coronary	Chest pain myocardial infarction

352. Which is not a high pitched heart sound

a) Mid systolic click

b) Pericardial shudder

c) Opening snap

d) Tumor plop sound

Correct Answer - D
Ans. is 'd' i.e., Tumor plop sound
Low pitch heart sounds are :

- S3
- S4
- Tumor plop sound

Mid systolic clicks are

- Heard in mitral valve prolapse during systole and are high pitch sounds.

The pericardial knock (PK) is

- Also high-pitched and occurs slightly later than the opening snap, corresponding in timing to the abrupt cessation of ventricular expansion after tricuspid valve opening and to an exaggerated y descent seen in the jugular venous waveform in patients with constrictive pericarditis.

A tumor plop is

- A lower-pitched sound that can be heard in patients with atrial myxoma.
- *It* may be appreciated only in certain positions and arises from the diastolic prolapse of the tumor across the mitral va*lve*

353. Broad complex tachycardia, due to ventricular tachycardia is suggested by all except

a) Fusion beats

b) AV dissociation

c) Capture beats

d) Termination of tachycardia by carotid sinus massage

Correct Answer - D

Ans. is `d' i.e., Termination of tachycardia by carotid sinus massage

Supports Ventricular tachycardia

QRS duration	Broad complex tachycardia : QRS duration > .14ms
QRS pattern	QRS pattern does not resemble mimic typical LBBS or RBBB
P wave	P and QRS rate and rhythm linked to suggest atrial activation
QRS morphology	Monophasic or biphasic complexes
Fusion beat	Present
Capture beat	Present
AV dissociation	Present
Vagal maneuveres	No effect of vagal maneuveres

354. Rupture of berry aneurysm most commonly results in

a) Subarachnoid hemorrhage

b) Subdural hemorrhage

c) Extradural hemorrhage

d) Intra-parenchymal hemorrhage

Correct Answer - A
Ans. is 'a' i.e., Subarachnoid hemorrhage

Most common cause of subarachnoid hemorrhage	*Trauma*
Most common cause of spontaneoussubarachnoid hemorrhage	*Rupture of Berry aneurysm* (or Saccular aneurysm)

Also know
Mycotic aneurysm ?

- Mycotic aneurysm is caused by a septic embolus that weakens the wall of the vessel in which it lodges.

355. Target BP before thrombolysis in ischemic stroke is below

a) 185/110 mmHg

b) 165/100 mm Hg

c) 145/100 Hg

d) 120/80 mm Hg

Correct Answer - A
Ans. is 'a' i.e., 185/110 mm Hg

- *Recommended target blood pressure before thrombolysis in patients with ischemic stroke is less than 185/110mm Hg.*

356. The most common cause of malignant adrenal mass is

a) Adrenocortical carcinoma

b) Malignant phaeochromocytoma

c) Lymphoma

d) Metastasis from another solid tissue tumor

Correct Answer - D

Ans. is 'd' i.e., Metastasis from another solid tissue tumor

The most common cause of adrenal tumors is metastasis from another solid tumor like breast cancer and lung cancer.

Malignant	Percentage
Adrenocortical carcinoma	2-5%
Malignant pheochromocytoma	<I%
Adrenal neuroblastoma	<0- 1%
Lymphomas (incl. primary adrena lymphoma)	<1%
Metastases (most frequent : Breast, lung)	*15%*

357. The drug used in the management of medullary carcinoma thyroid is

a) Cabozantinib

b) Rituximab

c) Tenofovir

d) Anakinra

Correct Answer - A
Ans.is 'a' i.e., Cabozantinib
Medullary thyroid cancers (MTCs) are neuroendocrine tumors of thyroid paraf011icular cells that do not concentrate iodine.

- The primary treatment for MTC is extensive and meticulous surgical resection.
- There is a limited role for external-beam radiotherapy.
For patients with asymptomatic metastatic tumors generally less than 1 to 2 cm in diameter, growing in diameter less than 20 percent per year
- *Syste*mic therapy is not required
- Such patients should be monitored for disease progression. Known sites of metastatic disease should be imaged by CT or MRI every 6 to 12 months, and potential new sites of disease should be imaged every 12 to 24 mont*hs.*
- *For* patients with metastatic tumors at least 1 to 2 cm in diameter, growing by at least 20 percent per year, or Or patients with symptoms related to multiple metastatic foci that cannot be alleviated with surgery or external beam radiotherapy
- Administer systemic treatment as part of a clinical trial.

- Forpatients with metastatic tumors at least I to 2 cm in diameter,

growing by at least 20 percent per year, or
for patients with .symptoms related to multiple metastatic foci who cannot participate in a clinical trial

- An oral tyrosine kinase inhibitor (TKI) is suggested, rather than traditional cytotoxic chemotherapy.
- For initial **TKI** therapy
- Cabozantinib or vandetanib rather than sorafenib or sunitinib.
- Cytotoxic chemotherapy, of which dacarbazine-based regimens such as cyclophosphamide-vincristinedacarbazine are preferable, is an alternative option for patients who cannot tolerate or who fail multiple TKIs

Drugs used in medullary carcinoma thyroid

Tyrosine kinase inhibitors	**Cytotoxic chemotherapy**
Cabozanitib	*Cyclophosphamide*
Vandetanib	*Vincristine*
Sorafenib	*Dacarbazine*
Sunitinib	

358. Incorrect about cerebral salt wasting syndrome

a) Urine sodium > 20mEq/d1

b) Hyponatremia

c) Fludrocortisone is used

d) Expansion of plasma volume

Correct Answer - D

Ans. is 'd' i.e., Expansion of plasma volume

Cerebral salt wasting syndrome (renal salt wasting)

- *Cerebral salt wasting (CSW) is characterized by hyponatremia and extracellular fluid depletion due to inappropriate sodium wasting in the urine in the setting of acute disease in central nervous system (CNS), usually subarachnoid hemorrhage.*
- *CSW is a much less common cause of hyponatremia in patients with cerebral injury than the syndrome of inappropriate ADH secretion (SIADH).*

  The pathophysiology of CSW is related to impaired sodium reabsorption, possibly due to the release of brain natriuretic peptide and/or diminished central sympathetic activity.
- *R*egardless of the mechanism, sodium wasting can lead sequentially to volume depletion, increased ADH release, hyponatremia due to the associated water retention, and possibly increased neurologic injury.

Laboratory findings

- Hyponatremia with a low plasma osmolality
- An inappropriately elevated urine osmolality (above 100 mosmol/kgand usually above 300mosmol/kg)
- A urine sodium concentration above 40meq/L, and

- A low serum uric acid concentration due to urate wasting in the urine.

CSW mimics all of the laboratory findings in the SIADH

- *The* only clue to the presence of CSW rather than SIADH is clinical evident of extracellular volume depletion, such as hypotension and decreased skin turgor, and/or increased hematocrit, in a patient with a urine sodium concentration above 40meq/L
- Unlike SIADH, volume repletion in CSW leads to a dilute urine, due to removal of the hypovolemic stimulus to ADH release, and subsequent correction of the hyponatremia.

Treatment

- IV hypertonic saline solutions are employed to correct intravascular vloume depletion and hyponatremia and to replace ongoing urinary sodium loss
- Flurocortisone promotes sodium re-absorption

359. A 70 kg adult male presents with serum sodium of 110 meq/dl. Calculate correction required in 24 hours

a) 100 mEq

b) 200 mEq

c) 300 mEq

d) 400 mEq

Correct Answer - D
Ans. is `d' i.e., 400 mEq
Goals of therapy in hyponatremia

- In patients who are treated to increase the serum sodium, the goal of initial therapy is to raise the serum sodium concentration by 4 to 6 meq/L in a 24-hour period.
- *In patients who require emergency therapy, this goal should be achieved quickly, over six hours or less; thereafter, the serum sodium can be maintained at a constant level for the remainder of the 24-hour period to avoid overly rapid correction.*
  Every effort should be made to keep the rise in serum sodium less than 9 meq/L in anv 24-hour period.
- In general, the same rate of rise can be continued on subsequent days until the sodium is normal or near normal. The rationale for these recommendations is as follows:
- Sodium deficit = Total body water x desired SNa - Actual SNa = .6 x 70 x 120 - 110 =420 mEq
  Treatment of hvponatrentia
  Aprviatitleaet_ulsupon risk stratification
- The following general approach for treating patients with

hyponatremia is based upon the duration and severity of the hyponatremia and upon the presence and severity of symptoms:

Disposition

- Patients with acute or hyperacute hyponatremia, most patients with severe hyponatremia, and many symptomatic patients with moderate hyponatremia should be treated in the hospital.
- In contrast, patients with mild hyponatremia and asymptomatic patients with moderate hyponatremia usually do not require hospitalization.

Emergency therapy

- Aggressive therapy to raise the serum sodium as soon as possible (typically with hypertonic saline) is indicated in the following settings.
- *Patients with severe symptoms due to hyponatremia, such as seizures or obtundation.*
- *Patients with acute hyponatremia who have symptoms due to hyponatremia, even if such symptoms are mild. Because of osmotically driven water flow across the blood-brain barrier, an acute onset of hyponatremia can result in life-threatening cerebral edema. Thus, even mild symptoms in acute hyponatremia present a medical emergency that requires prompt and aggressive treatment with hypertonic saline to prevent brain herniation.*
- *Patients with hyperacute hyponatremia due to self-induced water intoxication, even if there are no symptoms at the time of initial evaluation. Brain herniation has been reported in such patients, and the serum sodium may worsen spontaneously due to delayed absorption of ingested water*
- *Symptomatic patients who have either acute postoperative hyponatremia or hyponatremia associated with intracranial pathology. As with hyperacute hyponatremia, herniation may occur; and the serum sodium may decrease further because of absorption of ingested water or the excretion of high concentrations of sodium in the urine (desalination).*

360. Which of the following is a quantitative defect in globin synthesis

a) Thalassemia

b) Sickle cell hemoglobinopathy

c) G6PD deficiency

d) Diamond-Black fan syndrome

Correct Answer - A
Ans. is 'a' i.e., Thalassemia
The thalassemia syndromes are a heterogeneous group of disorders caused by inherited mutations that decrease the synthesis of either the c-globin or p-globin chains that compose adult hemoglobin, HbA (c2p2), leading to anemia, tissue hypoxia, and red cell hemolysis related to the imbalance in globin chain synthesis.

361. The most important diagnositic feature for beta thalassemia trait

a) Raised HbF

b) Reduced MCH

c) Reduced MCV

d) Raised HbA2

Correct Answer - D

Ans. is 'd' i.e., Raised HbA_2

- *An abnormal increase in the level of HbA_2 is the most significant parameter in the diagnosis of beta-thalassemia carriers.* HbA-2 is constanly elevated in heterozygous carriers of [3-thalassemia in all the ethnic groups studied. The values range from 3·5 to 7%.

Investigations in thalassemia

- *Hemoglobin electrophoresis* should always be the first investigation to include/exclude the diagnosis of thalasemia. The level of normal adult hemoglobin HbA is markedly decreased with proportionate increase in HbA2 and HbF.
- X-ray skull shows *:?*
  i) Crew-cut appearance
  ii) Hair on end appearance

362. Uricase used in the treatment of chronic gout is

a) Allopurinol

b) Benzbromarone

c) Pegloticase

d) Methotrexate

Correct Answer - C

Ans. is 'c' i.e., Pegloticase

Pegloticase is a recombinant mammalian Uricase linked to polyethylene glycol (PEG) approved for the treatment *of Hype*ruricemia in patients with treatment refractory gout.

- Pegloticase facilitates the conversion of Uric acid into allantoin, which is far more soluble. Pegloticase is approved for intravenous administration and its use is associated with rapid and marked decline in serum uric acid levels.

Agents inhibiting IL-1 action are used for the treatment of refractory Gout

- *Anakinra*
- *Canakinumab*

363. All are seen in acute HiV syndrome except

a) Diarrhoea

b) Pneumonia

c) Wight loss

d) Myelopathy

Correct Answer - B
Ans. is 'b' i.e., Pneumonia
Clinical findings in the acute HIV syndrome

General	Neurologic	Dermatology rash
• Fever • Pharyngitis • Lymphadenopathy • Headache/retroorbital pain • Arthralgias/myalgias • Lethargy/malaise • Anorexia/weight loss • Nausea/vomiting/diarrhea	• Meningitis • Encephalitis • Peripheral neuropathy • Myelopathy	• Erythematous ulceration maculo-papular • Mucocutaneous

[Ref Harrison 19th/e p. 1249]

364. Nephrocalcinosis is seen in all except

a) Polycystic kidney

b) Hyperparathyroidism

c) Medullary sponge kidney

d) Renal tubular acidosis

Correct Answer - A
Ans. is 'a' i.e., Polycystic kidney
Causes of Nephrocalcinosis

- Medullary sponge kidney
- Hyperparathyroidism
- Hypoparathyroidism
- Renal tubular acidosis (specifically distal RTA)
- Renal tuberculosis
- Renal papillary necrosis
- Hyperoxaluria
- Immobilization
- Milk-alkali syndrome
- Hypervitaminosis D
- Sarcoidosis

365. Most common acute complication of dialysis is

a) Hypotension

b) Bleeding

c) Dementia

d) Muscle cramps

Correct Answer - A
Ans. is 'a' i.e., Hypotension

- Hypotension is the most common acute complication of hemodialysis particularly among patients with diabetes mellitus.
- Factors involved are :-
- *Excessive ultrafiltration, with inadequate compensatory vascular filling, impaired vasoactive or autonomic response, osmolar shifts, overzealous use of antihypertensives*

366.

Characteristic features of a lesion in the lateral part of the medulla include all except

a) Ipsilateral Homer's syndrome

b) Contralateral loss of proprioception to the body and limbs

c) Nystagmus

d) Dysphagia

Correct Answer - B
Ans. is 'b' i.e., Contralateral loss of proprioception to the body and limbs

- Damage to lateral part of medulla (lateral medullary syndrome or wallenberg syndrome) causes *:?*
  1) Ipsilateral : Facial sensory loss, facial pain, ataxia, nystagmus, homer syndrome.
  2) Contralateral
- Other features are nausea & vomitng, vertigo dysphagia and horseness.

367. Round pneumonia is seen with

a) Streptococcal pneumonia

b) Kerosene oil aspiration

c) Lung cancer

d) Mendelson syndrome

Correct Answer - A
Ans. is 'a' i.e., Streptococcal pneumonia

- Streptococcus Pneumoniae (pneumococcus) is the most common organism responsible for round pneumonia.
- Round Pneumonia is spherical pneumonia that is usually seen in children due to the lack of collateral air drift.
- Streptococcus Pneumoniae (pneumococcus) is the most common organism responsible for round pneumonia.
- Round pneumonia is important as they may simulate a tumor mass from which they must be differentiated

368. An elderly male admitted for Pneumonia presents with diarrhea and gripping abdominal pain five days after discharge from the hospital. Drug which is likely to benefit is

a) Imodium

b) Metranidozole

c) Diphenoxylate

d) Levofloxacin

Correct Answer - D
Ans. is 'd' i.e., Levofloxacin

- *Dev*elopment of pneumonia and gastrointestinal symptoms (diarrhea & gripping abdominal pain) within 10 days after discharge from hospital hints to a possible diagnosis of Legionnaire's disease. The drugs of choice for legionnairs's disease include Azithromycin and Respiratory Fluoroquinolones such as levofloxacin, gatifloxacin, Gemifloxacin and Moxifloxacin
- It is a case of legionnaire's disease.
- Legionnaires disease usually presents as atypical pneumoniae.
- The unique feature of legionnaires disease is that the clinical manifestation of this disease are usually more severe than those of most atypical pneumonias and the course and prognosis of legionella pneumonia more closely resemble those of bacteremic pneumococcal pneumonia than those ofpneumonia due to other organisms

Think about the diagnosis as legionaire's disease whenever the

question talks about a pneumonia like picture along with any of the following -

- Gastrointestinal disturbances such as diarrhoea.
- Neurological abnormalities such as confusion and headache altered sensorium.
- High fever (> 40°C or > 104°F)
- Numerous neutrophils, but no organisms revealed by gram's staining of respiratory secretions.
- *Failure to respond to $ lactam drugs (penicillins and cephalosporins) and aminoglycoside antibiotics. Hyponatremia (S.Na- < 131 meq/1)*
- Elevation in liver function tests.
- *Oc*currence of illness in an environment in which the potable water supply is known to be contaminated with legionella.
- Onset of symptoms within 10 days of discharge from hospital.
- Occurence of illness in immunocompromised individual

369. Duration of apnea in obstructive sleep apnea is

a) <10 sec

b) <20 sec

c) <30 sec

d) <60 sec

Correct Answer - A
Ans. is 'a' i.e., <10 sec

Sleep apnea ?

- o Sleep apnea is defined as intermittent cessation of airflow at the nose and mouth during sleep.
- o By convention apneas of at least 10 seconds duration have been considered important but in most patients the apneas are 20s to 30 seconds in duration and may be as long as 2-3 minutes.
- o Sleep apnea is of two types -

Sleep apnea

Obstructive sleep apnea	**Central sleep apnea**
Occurs due to occlusion of upperairway at the level of oropharynx	*Occurs due to transient abolition ofthe central neural drive to the respiratory muscles*
*Conditions associated are adenotonsillar*hypertrophy,	*Primary and secondary central alveolar*hypoventilation syndrome, hypoxia (high altitude)

retrognathia, macroglossia*alcohol, obesity*	*cardiovascular disease, pulmonary congestion, central nervous system disease, prolonged circulation time.*

Clinical features of sleep apnea -

- Excessive daytime sleepiness
- Cardiorespiratory disturbances which include
- Recurrent respiratory failure
- Pulmonary hypertension
- Heart failure
- Systemic hypertension 7 Chronic hypoventilation
- Polycythemia
- o Arterial blood gas analysis reveals hypoxemia and hypercapnia.

370. Causes of haemorrhagic pleural effusion are all except

a) Pulmonary infarction

b) Mesothelioma

c) Bronchial adenoma

d) Tuberculosis

Correct Answer - C
Ans. is 'c' i.e., Bronchial adenoma
Causes of hemorrhagic pleural effusion

- Trauma
- Malignancy
- Postpericardiotomy syndrome
- Asbestos related effusion
- Tuberculosis

371. Following is characteristic neurologic finding in primary amyloidosis

a) Peripheral motor and sensory neuropathy

b) Peripheral neuropathy associated with cerebral manifestation

c) Guillain - Barre type of syndrome

d) Spinal cord compression in thoracic region

Correct Answer - A
Ans. is 'a' i.e., Peripheral motor and sensory neuropathy

- ATTR usually presents as a syndrome of familial amyloidotic polyneuropathy or familial amyloidotic cardiomyopathy.
- Peripheral neuropathy usually begins as a lower-extremity sensor and motor neuropathy and progresses to the upper extremities.
- Autonomic neuropathy is manifest by gastrointestinal symptoms of diarrhea with weight loss and orthostatic hypotension.

372. Reactive arthritis is usually caused by

a) Shigella flexneri

b) Shigella boydii

c) Shigela shiga

d) Shigela dysentriae

Correct Answer - A
Ans. is 'a' i.e., Shigella Flexneri
Organisms that have been associated with ReiterArthritis include the following:

- C trachomatis (L2b serotype)
- Ureaplasma urealyticum
- Neisseria gonorrhoeae
- Shigella flexneri
- Salmonella enterica serovars Typhimurium
- Mycoplasma pneumoniae
- Mycobacterium tuberculosis
- Yersinia enterocolitica and pseudotuberculosis
- Campylobacter jejuni
- Clostridium difficile
- Beta-hemolytic (example, group A) and viridans streptococci

373. Which of the following arrhythmia is most commonly associated with alcohol binge in the alcoholics

a) Ventricular fibrillations

b) Ventricular premature contractions

c) Atrial flutter

d) Atrial fibrilation

Correct Answer - D
Ans. is 'd' i.e., Atrial fibrilation
When ever the pulse is irregularly irregular atrial fibrillation is almost always the diagnosis.

- Arrythmia occuring after a drinking binge is k/a Holiday heart syndrome**.**

Arrythmias known to follow drinking Binge in order of frequency

- *Atrial fibrillation (MC)*
- *Atrial flutter*
- *Ventricular premature Contractions*

Also know

- *T*he most common cardiac effect of chronic drinking is Dilated Cardiomyopathy

374. Treatment of asymptomatic bradycardia is

a) No treatment is required

b) Give atropine

c) Isoprenaline

d) Cardiac pacing

Correct Answer - A

Ans. is 'a' i.e., No treatment is required

- *The normal heart rate has been considered historically to range from* 60 *to 100 beats per minute, with sinus bradycardia being defined as a sinus rhythm with a rate below* 60 *beats per minute.*
- ***Treatment is not indicated in asymptomatic patients with sinus bradycardia.***

n *Pharmacologic therapy may be important in an acute myocardial infarction when the SA node is depressed by excessive parasympathomimetic activity or possibly ischemia. Treatment is indicated when Sinus bradycardia results in hemodynamic compromise.*

375. WPW syndrome is caused by

a) Bundle Branch Block

b) Right sided accessory pathway

c) Ectopic pacemaker in atrium

d) Left budle Branch block

Correct Answer - B
Ans. is 'b' i.e., Right sided accessory pathway
Anatomy (Location ofAccessory pathway) in W.R W syndrome

- Electrophysiological studies and mapping have shown that accessory. Atrioventricular pathways may be located anywhere along the A-V rign or groove in the septum.
- The most frequent locations are : -
- Left lateral (50%), posteroseptal (30%) right anteroseptal (10%).
- Right lateral (10%).
- Preexcitation resulting from left sided accessory is called type A preexcitation.
- Preexcitation resulting from right sided accessory pathway is called type B preexcitation.

376. Dose of rTPA in ischaemic stroke is

a) 60 mg

b) 90 mg

c) 100 mg

d) 120 mg

Correct Answer - B
Ans. is 'b' i.e., 90 mg

- Recommended dose for thrombolysis with IV TPA is 0·9 mg/kg with the maximum dose being 90 mg. 10% should be given as a bolus over one minute, followed by remaining 90% as a continuous infusion over 60 minutes.

377. Cerebral angiography was performed by

a) Sir Walter Dandy

b) George Moore

c) Seldinger

d) Egas Moniz

Correct Answer - D
Ans. is 'd' i.e., Egas Moniz

- ***Egas Moniz first performed cerebral Angiography in 1927.*** *n He received the Nobel Prize for developing for developing frontal leucotomy as a treatment* for *psychiatric diseases.*

378. Mauriac's syndrome is characterized by all except

a) Diabetes

b) Obesity

c) Dwarfism

d) Cardiomegaly

Correct Answer - D
Ans. is D i.e., Cardiomegaly
Mauriac Syndrome
Children with poorly controlled type I diabetes may develop Mauriac syndrome. It is characterized by : -

- Growth attenuation
- Delayed puberty
- Hepatomegaly
- Abnormal glycogen storage and steatosis
- Cushingoid features
- Rare in the modern era of insulin therapy but is occasionally reported.

379. Which of the following is associated with hyponatremia and low osmolality

a) Hyperlipidemia

b) SIADH

c) CHF

d) CKD

Correct Answer - C
Ans. is 'c' i.e., CHF

- CHF is characterised by low perfusion of kidneys stimulating R.A.A.S and resultant absorption of salt and disproportionate amout of water would lead to hyponatremia with decreased osmolality.
- *Isotonic hyponatremia is seen with hyperlipidemia and hvperproteinemia like in paraproteinemia.*
- *Intravenous immunoglobulin therapy also interferes with measurement of serum sodium.*
- Major causes of hyponatremia

Disorders in which ADH levels are elevated

- Effective circulating volume depletion
- True volume depletion
- Heart failure
- Cirrhosis
- Thiazide diuretics
- Syndrome of inappropriate ADH secretion, including reset osmostat pattern
- Hormonal changes
- Adrenal insufficiency
- Hypothyroidism
- Pregnancy

Disorders in which ADH levels may be appropriately suppressed

- Advanced renal failure
- Primary polydipsia
- Beer drinker's potomania

Hyponatremia with normal or elevated plasma osmolality

- High plasma osmolality (effective osmols)
- Hyperglycemia
- Mannitol
- High plasma osmolality (ineffective osmols)
- Renal failure
- Alcohol intoxication with an elevated serum alcohlo concentration
- Normal plasma osmolality
- Psedohyponatremia (laboratory artifact)
- High triglycerides
- Chloestatic and obstructive jaundice (lipoprotein x)
- Multiple myeloma
- Absorption of irrigant solutions
- Glycine Sorbitol Mannitol

380. Deletion of one alpha globin gene on one chromosome is best defined as

a) Hb Barts hydrops fetails

b) Alpha thalassemia major

c) Alpha thalassemia trait

d) Alpha thalassemia silent carrier

Correct Answer - D
Ans. is 'd' i.e., Alpha thalassemia silent carrier

Condition	Defect	Genotype	Clinical syndrome
Silent Thalassemia	Deletion of 1 alpha genes	-a/aa	Normal
Thalessemia trait	Deletion of 2 alpha genes	-a/-a (homogygous)	Microscopic hypochromic
		(heterogenous)	Blood picture but No/Minimal Anemia
HbH disease	Deletion of 3 alpha genes	--/-a	Hemolytic anemia
Hydrops fetalis (Hb Barts)	Deletion of 4 alpha genes	--/--	Fatal in utero or at birth

381. Which of the following is caused by deletion of all four alpha globin genes

a) Beta thalassemia major

b) Hb Barts

c) HbH

d) a° thalassemia trait

Correct Answer - B
Ans. is 'b' i.e., Hb Barts

Condition	Defect	Genotype	Clinical syndrome
Silent Thalassemia	Deletion of 1 alpha genes	-a/aa	Normal
Thalessemia trait	Deletion of 2 alpha genes	-a/-a (homogygous)	Microscopic hypochromic
		(heterogenous)	Blood picture but No/Minimal Anemia
HbH disease	Deletion of 3 alpha genes	--/-a	Hemolytic anemia
Hydrops fetalis (Hb Barts)	Deletion of 4 alpha genes	--/--	Fatal in utero or at birth

382. In Beta thalassemia, the most common gene mutation is

a) Intron 1 inversion

b) Intron 22

c) 619 bp deletion

d) 3.7 bp deletion

Correct Answer - A
Ans. is 'a' i.e., Intron 1 inversion

- Thalassemias are autosomal recessive disorder
- The most common mutation causing 13 thalassemias is intron/inversion

Also know:
Synthesis of alpha chain is controlled by 2 gene clusters on → Chromosome 16
Synthesis of beta chain is controlled by 2 gene clusters on → Chromosome 11
Thalassemia mutations in India

Multations	**Frequency**
IVS1-5 (G —>C)	48%
619 bp defection	18%
IVS-1 (G T)	9%
FR41/42(TCTT)	9%
FR8/9 (+G)	5%
Codonl5 (G --> A)	6%
Others	100%

383. Bence jones proteinuria is best detected by

a) Dipstick method

b) Sulfosalicylic acid

c) Heat test

d) Electrophoresis

Correct Answer - D
Ans. is `d' i.e., Electrophoresis
Bence Jones proteins are seen in multiple myeloma.

- Urinary protein electrophoresis will exhibit a discrete protein peak.
- *In myeloma plasma cells produce immuno-globulin of a single heavy and light chain, a monoclonal protein commonly referred to as a paraprotein.*
- *Heat test is false negative in 50% of patients with light chain myeloma.*
- *Dipstick detects albumin and not paraproteins.*

384. HIV RNA by PCR can detect as low as

a) 30 copies viral RNA/ml of blood

b) 40 copies viral RNA/ml of blood

c) 50 copies of viral RNA/ml of blood

d) 60 copies of viral RNA/ml of blood

Correct Answer - B
Ans. is 'b' i.e., 40 copies viral RNA/ml of blood

- This assay generates data in the form of number of copies of HIV RNA per milli litre of serum or plasma and can reliably detect as few as 40 copies of HIV RNA per mili litre of plasma.
- Research based assay can detect down to one copy/ml.

385. Most common cause of pleural effusion in AIDS patients

a) Kaposi sarcoma

b) TB

c) Pneumocystis Jiroveci

d) Mycoplasma

Correct Answer - A
Ans. is 'a' i.e., Kaposi sarcoma
Ophthalmological diseases

- The most common abnormal findings on fundoscopic examination are cotton wool spots.
- CMV retinitis is the most severe ocular complication and occurs when CD4 T-cells count is less than 50/ml. It typical presents as perivascular hemorrhage and exudae with Cottage-Cheese appearance.
- Acute retinal necrosis syndrome, also called progressive outer retinal necrosis (PORN) is caused by HSV and VZV
- Other manifestations are chorioretinitis by toxoplasma and P carinii, kaposi sarcoma of eyelid, and lymphoma.

386. Biomarker not involved in acute kidney injury is

a) NGAL

b) KIM 1

c) Micro RNA 122

d) Cystatin C

Correct Answer - C
Ans. is 'c' i.e., Micro RNA 122

Biomarkers of acute kidney injury

- *Alanine aminopeptidase (AAP)*
- *Alkaline phosphatase (AP)*
- *a-glutathione-S-transferase (a-GST)*
- *y-glutamyl transpeptidase (yGT)*
- *N-acetyl-13-glucosaminidase (NAG)*
- pfmicroglobulin
- *a imicroglobulin*
- *Retinol-binding protein (RBP)*
- *Cystatin C*
- Microalbumin
- *Kidney injury molecule-1 (KIM-1)*
- *Clusterin*
- *Neutrophil gelatinase associated lipocalin (NGAL)*
- *Interleukin-18 (IL-18)*
- *Cysteine-rich protein (CYR-61)*
- *Osteopontin (OPN)*
- *Fatty acid binding protein (FABP)*
- *Sodium/hydrogen exchanger isoform (NHE3)*
- *Exosomal fetuin-A*

387. Most common site of cerebral infarction is in the territory of

a) Anterior cerebral artery

b) Middle cerebral artery

c) Posterior cerebral artery

d) Posterior inferior cerebellar artery

Correct Answer - B
Ans. is 'b' i.e., Middle cerebral artery
Hemiplegia most commonly occurs due to lesion of middle cerebral artery

388. Hemiplegia is most often caused by thrombosis of ?

a) Anteiror cerebral artery

b) Middle cerebral artery

c) Posterior cerebral artery

d) Basiliar artery

Correct Answer - B
Ans. is 'b' i.e., Middle cerebral artery
Middle Cerebral Artery

- Deep branches of the middle cerebral artery on the lenticulostriate branches supply the internal capsule (posterior limb).
- Motor tracts are densely packed in this region and hence occlusion of deep branches or lenticulostrials branches leads to Densse Hemiplegia/Pure motor Hemiplegia.
- Anterior choroidal artery supplies the posterior limb of internal capsule (and not anterior limb of internal capsule).
- Anterior chorodial artery arises from the internal carotid artery and supplies the posterior limb of internal capsule. The complete syndrome of anterior choroidal artery occlusion consists of contralateral hemiplegia hemianesthesia (hypoesthesia) and homonymous hemianopia

Posterior Cerebral Artery

- The posterior cerebral artery supplies the midbrain, thalamus lateral geniculate bodies, posterior of chroid plexus, occipital lobes, inferior and medial aspect of the temporal lobe and posterior inferior areas of the parietal lobe

Occlusion of the Posterior Cerebral Artery usually results in two common clinical syndrome depending on the areas

involved

P1 Syndrome	P2 Syndrome
Occlusion of the proximal segment ofPCA from its origin to its union withthe posterior communicating artery	Occlusion of the distalsegment of PCA distal to the junction of PCA with theposterior communicating artery
P1 syndrome present primarily withthe following signs	P2 syndrome presents primarily withthe following signs
Midbrain signs	Temporal lobe signs
Thalamic signs	Occipital lobe signs
Subthalamic signs	

389. Indication for prophylaxis in pneumocystis carini pneumonia include

a) CD_4 count < 200

b) Tuberculosis

c) Viral load > 25,000 copies/ml

d) Oral candidiasis

Correct Answer - A

Ans. is 'A' i.e., CD_4 count < 200

PROPHYLAXIS OF PNEUMOCYSTIC CARINI PNEUMONIA

Primary prophylaxis is indicated for

- Patients with CD4- cell counts of< 200/4
- History of oropharyngeal candidiasis

Secondary prophylaxis is indicated for

- Both HIV infected and non-HIV infected patients.
- Who has recovered from pneumocystosis

Primary and secondary prophylaxis may be discontinued in HIV infected persons once.

- CD4+ counts have risen to > 200/p1 and remained at that level for 3 months.

Also know

First choice agent for prophylaxis

- *Trimethoprim, sulphamethoxazole.*

Other agents used in prophylaxis.

- Dapsone, pentamidine.

390. Canon 'a' wave is seen in

a) Junctional rhythm

b) Atrial fibrillation

c) Atrial flutter

d) Ventricular fibrillation

Correct Answer - A
Ans. is 'a' i.e., Junctional rhythm
Regularly –> *During junctional rhythm*
• ***Irregularly*** ***A-*** *V dissociation with ventricular tachycardia* complete heart block.

391. Most common cause of unilateral pedal edema

a) Pregnancy

b) Lymphedema

c) Venous insufficiency

d) Milroy disease

Correct Answer - C
Ans. is 'c' i.e., Venous insufficiency
<u>The most likely cause of leg edema in patients over age 50 is venous insufficiency.</u>

- Venous insufficiency affects up to 30% of the population, whereas heart failure affects only approximately 1%.
- The most important cause of unilateral pedal edema is venous insufficiency.

<u>Milroys disease</u> :

- The defect in Milroy's disease is present from birth and symptoms are usually first experienced in childhood.
- *The most common problem is one-sided leg swelling, unilateral edema, which is progressive and can affect both legs.*
- *Impaired intestinal lymphatics can cause steatorrhea due to impaired transport of chylomicrons*

392. Grisel syndrome all are true except

a) Post-adenoidectomy

b) Conservation treatment

c) Inflammation of cervical spine ligaments

d) No need for neurosurgeon

Correct Answer - D

Ans. d. No need for neurosurgeon

- Grisel Syndrome:
- Non-traumatic atlanto-axial subluxation may occur secondary to any inflammatory process in the upper neck
- It is described following tonsillectomy and adenoidectomy
- Conservation treatment: Cervical immobilization, Analgesia and Antibiotics to reduce the risk of neurological deficit

Grisel Syndrome

- Non-traumatic atlanto-axial subluxation may occur secondary to any inflammatory process in the upper neck[Q]
- Due infection in the peri-odontoid vascular plexus[Q] that drains the region, bringing about paraspinal ligament laxity
- Described following tonsillectomy and adenoidectomy[Q]
- It maybe associated with overuse of diathermy either for removal of adenoid or following curettage[Q], when used for hemostasis.
- Children with Down syndrome° have atlanto-axial instability

Treatment:

- Cervical immobilization[Q]
- Analgesia[Q]
- Antibiotics[Q] to reduce the risk of neurological deficit

393. A female patient of 26 years, presents with oral ulcers, photosensitivity and skin malar rash in face sparing the nasolabial folds of both side.

a) Sturge weber syndrome

b) SLE

c) Dermatitis

d) Psoriasis

Correct Answer - B
Answer- B (SLE)
Common symptoms include painful and swollen joints, fever, chest pain, hair loss, mouth ulcers, swollen lymph nodes, feeling tired, and a red rash which is most commonly on the face.

394. Most characteristic cardiovascular defect seen in Rubella-

a) Pulmonary artery stenosis

b) Coarctation of aorta

c) Ankylosis spondylitis

d) Rheumatic fever

Correct Answer - A
Answer. A. Pulmonary artery stenosis
The classic triad for congenital rubella syndrome is:

- Sensorineural deafness (58% of patients)
- Eye abnormalities? especially retinopathy, cataract, and microphthalmia Congenital heart disease? especially pulmonary artery stenosis and patent ductus arteriosus.

395. Osborn J waves is seen in-

a) Hypothermia

b) Hyperkalemia

c) Hypocalemia

d) Hypokalemia

Correct Answer - A
Answer. A. Hypothermia
Cause people suffering from hypothermia with a temperature of less than 32°C (90°F).

396. Which is not related to HIV

a) Primary CNS lymphoma

b) Tertiary syphilis

c) Oesophageal candidasis

d) None

Correct Answer - B
Answer. B. Tertiary syphilis
Tertiary Syphilis has no relation to HIV status and primarily based on the duration of the infection and complications of Syphilis.

397. Essential major blood culture criteria for infective endocarditis.

a) Single positive culture of hacek

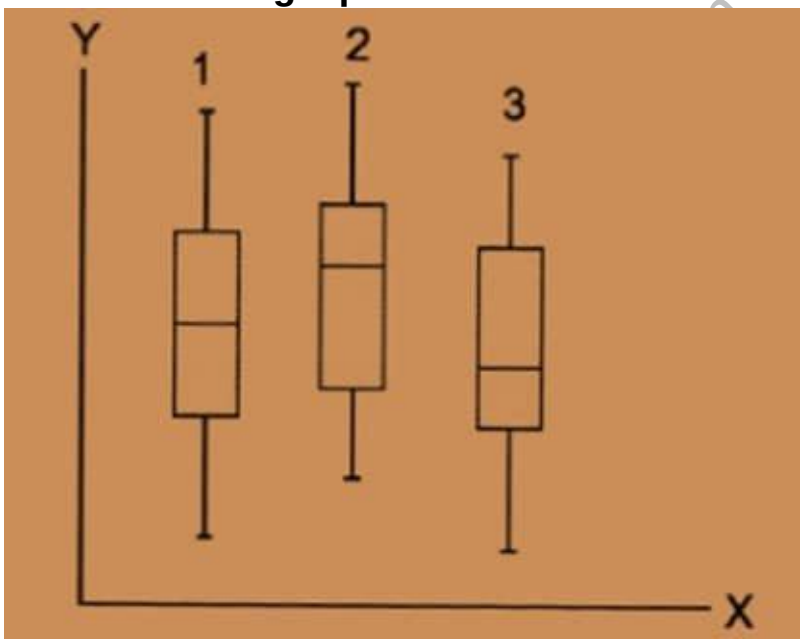
b) Single positive culture of coxiella

c) Single positive culture of cornybacterium

d) Both a & b

Correct Answer - A

Answer. A. Single positive culture of HACEK



398. Respiratory centres are stimulated by

a) Oxygen

b) Lactic acid

c) Carbon dioxide

d) Calcium

Correct Answer - C
Answer. C. Carbon dioxide
The body's respiratory center in the medulla is normally stimulated by an increased concentration of carbon dioxide, and to a lesser extent, by decreased levels of oxygen in arterial blood. Stimulation of the respiratory center causes an increase in the rate and depth of breathing, thus blowing off excess carbon dioxide and reducing blood acidity.

399. Alcoholic shows which type of cardiomyopathy-

a) Hyper cardiomyopathy

b) Dilated cardiomyopathy

c) Pericarditis

d) Myocarditis

Correct Answer - B
Answer. B. Dilated cardiomyopathy
Alcoholic cardiomyopathy is a disease in which the chronic long-term abuse of alcohol (i.e., ethanol) leads to heart failure.Alcoholic cardiomyopathy is a type of dilated cardiomyopathy.

400. Which murmur increases on standing?

a) HOCM

b) MR

c) MS

d) VSD

Correct Answer - A
Answer. A. HOCM
Murmur will get softer with Valsalva or standing from squatting because less blood is being ejected through the aortic valve. Rapid squatting from a standing position forces increased venous return and would have the opposite effect of Valsalva or rapid standing.

401. Which wall of heart enlargement can be seen on barium swallow in patient with mitral stenosis-

a) Left atrium

b) Right atrium

c) Left ventricle

d) Right ventricle

Correct Answer - D

Answer. D. Right ventricle

Mitral stenosis is associated with right ventricular hypertrophy.
Left ventricular diastolic pressure is normal in isolated MS.

Mitral stenosis : Features

- left atrial pressure is increased
- pulmonary arterial pressure is increased
- Increased right ventricular afterload impedes the emptying of this chamber and Right ventricular end diastolic pressure and volume increase.
- Right ventricular hypertrophy occurs.

402. Which of the following statements is true about the bundle of kent?

a) Abnormal pathway between two atria

b) It is muscular or nodal pathway between the atria and ventricle in WPW syndrome

c) It is slower than the AV nodal pathway

d) None

Correct Answer - B

Answer. B. It is muscular or nodal pathway between the atria and ventricle in WPW syndrome

The Wolff-Parkinson-White syndrome is defined by the combination of an atrioventricular pre-excitation (bundle of Kent) and paroxysmal supraventricular tachycardias. The diagnosis of atrioventricular pre-excitation in sinus rhythm is established on the association between a short PR interval, a wide QRS, a delta wave, a normal terminal QRS portion and frequent repolarization disorders.

403. Deep venous thrombosis which is incorrect –

a) Clinical assessment highly reliable

b) Mostly bilateral

c) Most common clinically presents as pain and tenderness in calf

d) Some cases may directly present as pulmonary thromboembolism

Correct Answer - B

Answer. B. Mostly bilateral

Wells score or criteria: (possible score -2 to 9)

- Active cancer (treatment within last 6 months or palliative): +1 point
- Calf swelling = 3 cm compared to asymptomatic calf (measured 10 cm below tibial tuberosity): +1 point
- Swollen unilateral superficial veins (non-varicose, in symptomatic leg): +1 point
- Unilateral pitting edema (in symptomatic leg): +1 point
- Previous documented DVT: +1 point
- Swelling of entire leg: +1 point
- Localized tenderness along the deep venous system: +1 point
- Paralysis, paresis, or recent cast immobilization of lower extremities: +1 point
- Recently bedridden = 3 days, or major surgery requiring regional or general anesthetic in the past 12 weeks: +1 point
- Alternative diagnosis at least as likely: -2 points

404. Punched out ulcer in esophagus is seen in

a) herpes

b) cmv

c) Oesophagitis

d) candida

Correct Answer - C
Answer. C. Oesophagitis
It is likely to present with a single, large shallow linear ulcer as opposed to the multiple vesicular/ “punched-out” ulcers seen in herpes esophagitis.

405. Type of sensation lost on same side of Brown Sequard syndrome-

a) Pain

b) Touch

c) Proprioception

d) Temperature

Correct Answer - C
Answer. C. Proprioception
Damage to one half of the spinal cord, resulting in paralysis and loss of proprioception on the same (or ipsilateral) side as the injury or lesion, and loss of pain and temperature sensation on the opposite (or contralateral) side as the lesion.

406. Achondroplasia shows which type inheritance-

a) XLR

b) XLD

c) Autosomal recessive

d) Autosomal dominant

Correct Answer - D
Answer. D. Autosomal dominant
Achondroplasia is inherited in an autosomal dominant pattern, which means one copy of the altered gene in each cell is sufficient to cause the disorder.

407. MELD score includes

a) Serum creatinine

b) Transaminase

c) Albumin

d) Alkaline phosphatase

Correct Answer - A
Answer. A. Serum creatinine
The Model for End-stage Liver Disease (MELD) is a prospectively developed and validated chronic liver disease severity scoring system that uses a patient's laboratory values for –
Li Serum bilirubin
Serum creatinine
The international normalized ratio (INR) for prothrombin time to predict three month survival.
Patients with cirrhosis, and increasing MELD score is associated with increasing severity of hepatic dysfunction and increased three-month mortality risk.
Given its accuracy in predicting short-term survival among patients with cirrhosis, MELD was adopted by the United network for organ sharing (UNOS) in 2002 for prioritization or patients awaiting liver transplantation in the United states.

408. Infarcts involving which portion of the myocardium cause aneurysm as a post-MI complication-

a) Subendocardial

b) Anterior transmural

c) Posterior transmural

d) Inferior wall

Correct Answer - D
Answer. D. Inferior wall
Left ventricular aneurysm formation:

- Left ventricular apical aneurysm formation usually occurs following antero-apical myocardial infarction, after LAD occlusion.
- This weakening of the apical wall results in an outpouching or “dyskinesis” of the apex of the heart during systole.

409. Risk factors for alzheimer's disease include-

a) Klinefelter syndrome

b) Low BP

c) Down's syndrome

d) None

Correct Answer - C
Answer. C. Down's syndrome
People with **Down syndrom**e are born with an extra copy of chromosome 21, which carries the APP gene. This gene produces a specific protein called amyloid precursor protein (APP) with age these get accumulated in the brain cell and affects the functioning of the brain leading to alzheimer's dementia.

410. A patient with native aortic valve disease came with right hemiparesis. What will you do to prevent further stroke?

a) Antiplatelet only

b) Anticoagulant only

c) Both antiplatelet and anticoagulant

d) One dose of low molecular weight heparin sub-cutaneously followed by dual antiplatelet therapy

Correct Answer - A
Answer- A. Antiplatelet only
* Aspirin is the only antiplatelet agent that has been proven elfectivefor the acute treatment of ischemic stroke; use of aspirin within 48 hoars of stroke onset reduced both stroke recurrence risk and mortality minimally.
* Asprin is the only antiplatelet agent that has been proven effecfive for the acute treatment of ischemic stroke; there are several antiplatelet agents proven for the secondary prevention of stroke.
* Two layer trials, the International Stroke Trial (IST) and the Chinese Acute Stroke Trial (CAST),found that the use ofaspirin within 48 hours ofstroke onset reduced both stroke recurrence risk and mortality minimally.

411. The most common subtype of Non-Hodgkin's lymphoma in India is:

a) Diffuse small cell lymphocytic lymphoma

b) Diffuse large B cell lymphoma

c) Follicular lymphoma

d) Burkitt's lymphoma

Correct Answer - B
Answer- B. Diffuse large B cell lymphoma

- The most common subtype of Non-Hodgkin's lymphomt in India is dilfuse large B cell lymphoma.
- Diffuse large B-cell lymphoma: MC subtype (34%)
- Follicular centre-cell lymphomas: 12.6% .
- B-celf small lymphocytic lymphoma:.5.7%
- Mantle-cell lymphoma: 3.4%
- Marginal zone B-cell lymphomas (including MALT lymphomas): 8.2%

412. Which of the following drug can be given in patients of primary pulmonary hypertension?

a) Icatibant

b) Bosentan

c) Labetolol

d) Sodium nitroprusside

Correct Answer - B
Answer- B. Bosentan
Treatment for Primary pulmonary hypertension:
CALCIUM CHANNEL BLOCKERS:

- Patients who respond to short-acting vasodilators at the time of cardiac catheterization should be treated with calcium channel blockers.
- The endothelin receptor antagonists bosentan and ambrisentan are approved treatments of PAH
- Bosentan is contraindicated in patients who are on cyclosporine or glyburide concurrently.

413. An 86 years old lady presented with severe constipation. She was a known hypertensive on medications for 10 years. In clinic, her BP was 157/98 mm Hg with a heart rate of 58/min. On taking here BP in the supine position it was found to be 90/60 mm Hg. She had the recent history of depression. She is taking atenolol, thiazide, imipramine, haloperidol and docusate. What will be the next best step in the management?

a) Change atenolol and thiazide to calcium channel blocker and ACE inhibitor and add bisacodyl for constipation

b) Change imipramine and haloperidol to fluoxetine and risperidone and add bisacodyl for constipation

c) Only add bisacodyl for constipation and continue rest of the medications

d) Discontinue all her medications and start her on steroids

Correct Answer - B

Ans: B. Change imipramine and haloperidol to fluoxetine and risperidone and add bisacodyl for constipation

(Ref Harrison 19/e p1623-1624, 18/e p3531: Goodman Gilman 12/e p410. 1333)

Effects of Imipramine:

- Postural hypotension - Due to alpha blockade by Imipramine & thiazides interaction.
- Anti-cholinergic side-effect.
  - Hence, Imipramine (TCA) must be discontinued.
  - Should be started on SSRI, fluoxetin & laxative (existing constipation).

Effect of haloperidol:

- Anti-cholinergic side effects.
- Should start on atypical antipsychotic Risperidone.

414. pANCA positive vasculitis is

a) Wegener's granulomatosis

b) Churg - Strauss syndrome

c) Polyarteritis nodosa

d) All of the above

Correct Answer - B
Answer- b. Churg - Strauss syndrome
PANCA
Typically found in:

- Microscopicpolyangiitis
- Churg-Strausssyndrome
- Idiopathiccrescenticglomerulonephritis
- Goodpasteur'ssyndrome.
- pANCA's are also associated with certain non-vasculitic entities such as certain rheumatic and nonrheumatic autoimmune diseases, Inflammatory bowel diseases, certain drugs. Infections such as endocarditis and bacterial airway infection in patients with cystic fibrosis

415. Levine sign is seen in

a) Stable angina pectoris

b) Acute bronchial asthma

c) Hemolytic anemia

d) Gastroesophageal reflux disease

Correct Answer - A
Answer- A. Stable angina pectoris
Stable Angina Pectoris:

- This episodic clinical syndrome is due to transient myocardial ischemia
- When the patient is asked to localize the sensation, he or she typically places a hand over the sternum, sometimes with a clenched fist, to indicate a squeezing, central, substernal discomfort (Levine's sign).

416. Which of the following complications is not seen in mitral valve prolapse?

a) Stroke

b) Infective endocarditis

c) Mitral stenosis

d) Ventricular arrhythmia

Correct Answer - C
Answer- C. Mitral stenosis
Surface marking of the mitral valve is Behind sternal end of left 4th costal cartilage.
Infective endocarditis

- Mitral insuficiency (mitral regurgitation)
- Stroke or other systemic infarct resulting from embolism of leaflet thrombi
- Arrhythmias

417. HbA1c control for how much time

a) 2 -3 weeks

b) 3 - 6 weeks

c) 6 - 8 weeks

d) 14 - 18 weeks

Correct Answer - C

Answer- C. 6 - 8 weeks

- The half-life of an erythrocyte is typically 60 days, the level of glycated hemoglobin (HbA1c) reflects the mean blood glucose concentration over the preceding 6-8 weeks.

418. All are seen in MEN IIA syndrome except

a) Medullary carcinoma of thyroid is seen in 100% of the patients

b) 40 - 30% patients have phaeochromocytoms

c) Caused by loss of function mutation in IIRT protooncogene

d) Primary hyperparathyroidism is the most variable feature of MEN II A syndrome

Correct Answer - C

Answer- C. Caused by loss of function mutation in IIRT protooncogene

- MEN-2A or Sipple syndrome, is characterized by pheochromocytoma, medullary carcinoma of the thyroid, and parathyroid hyperplasia.
- Parathyroid hyperplasia and evidence of hypercalcemia or renal stones.
- MEN-2A is clinically and genetically distinct from MEN-I and is caused by germline gain-of-function mutations in the
- RET proto-oncogene on chromosome l0qll.2.
- 40% to 50% have pheochromocytomas.
- Primary hyperparathyroidism is the most variable feature of MEN 2A syndrome.

419. Hypoxic pulmonary vasoconstriction due to -

a) Irreversible pulmonary vasocontriction hypoxia

b) Reversible pulmonary vasoconstriction due to hypoxia

c) Direct blood to poorly ventilated areas

d) Occurs hours after pulmonary vasoconstriction

Correct Answer - B

Answer- b. Reversible pulmonary vasoconstriction due to hypoxia

- Hypoxic pulmonary vasoconstriction (HPV) is an adaptive vasomotor response to alveolar hypoxia which redistributes blood to optimally ventilatid lung segments by an active process of 'vasoconstriction, particularly involving the small muscular resistance pulmonary arteries (PA).

420. Polyuria with low fixed specific gravity urine is seen in ?

a) Diabetes mellitus

b) Diabetes insipidus

c) Chronic glomerulonephritis

d) Potomania

Correct Answer - C

- **Answer- C. Chronic glomerulonephritis**
- Polyuria with fixed low specific gravity is a feature of chronic glomerulonephritis.
- Specific gravity measures the kidney's ability to concentrate or dilute urine about plasma.
- Because urine is a solution of minerals, salts, and compounds dissolved in water, the specific gravity is greater than 1.000. The more concentrated the urine, the higher the urine specific gravity.
- An adult's kidneys have a remarkable ability to concentrate or dilute urine.
- In infants, the range for specific gravity is less because immature kidneys are not able to concentrate urine as effectively as mature kidneys.
- A low specific gravity occurs in three situations.
- In diabetes insipidus, there is an absence or decrease of anti-diuretic hormone. Without anti-diuretic hormone, the kidneys produce an excessive amount of urine, often up to 15 to 20 liters per day with low specific gravity.
- Glomerulonephritis and pyelonephritis cause decreased urine volume and low specific gravity. In these diseases, damage to the kidney's tubules affects the ability of the kidney to re-absorb water. As a result, the urine remains to dilute.
- The third reason for low specific gravity is renal failure, which results in a fixed specific gravity between 1.007 and 1.010. In renal failure, the remaining functional nephrons undergo compensatory structural and hypertrophic changes. These compensatory changes result in urine that is almost isotonic with plasma. Therefore, a patient experiencing renal failure will present with specimens measuring the same, or fixed, specific gravity regardless

- of water intake.

421. DOC for treatment of SSPE -

a) Abacavir

b) Inosine pranobex

c) Glatiramer

d) Interferon

Correct Answer - B

Answer- B. Inosine pranobex

- Inosine pranobex is used as an immune-modulator for the management of patients with-
- Immune-depression sufereing from viral infections as SSPE recurrent herpes simplex genital warts.

422. Rademecker complex in EEG is seen in -

a) SSPE

b) vCJD

c) cCJD

d) Kuru

Correct Answer - A

Answer- A. SSPE

- Characteristic periodic activity (Rademecker complex) is seen on EEG showing widespread cortical dysfunction in SSPE.
- It is characterised by high voltage spike occuning at higlr lrequency of 0.5- 1.5 seconds.

423. Charcot's joint in diabetes affects commonly -

a) Shoulder joint

b) Knee joint

c) Hip joint

d) Tarsal joint

Correct Answer - D

Answer- D. Tarsal joint

- Tabes dorsalis → Knees, hip & ankles
- **Loose body in joint**
  - A loose body is a free-floating piece of bone, cartilage or foreign object in a joint.
  - *The knee is the most common joint where one would find a loose body.*
  - Causes of loose bodies include :-

i) Osteoarthritis iii) Osteochondral fracture(injury) v) Synovial chondromatosis

ii) Osteochondritisdessicans iv) Charcot's disease

424. Shelf life of platelets to blood bank is

a) 5 days

b) 7 days

c) 10 days

d) 21 days

Correct Answer - A

Answer- A. 5 days

- Platelets are approved by FDA for stored upto 5days at 20-24 (RoomTemperature) because of risk of bacterial contamination.

425. DOC for listeria meningitis -

a) Ampicillin

b) Cefotaxime

c) Cefotriaxone

d) Ciprofloxacin

Correct Answer - A

Answer- A. Ampicillin

- The antibiotic of choice for listeria infection is ampicillin or penicillin G.

426. Dent's disease is characterized by all except

a) Chloride channel defect

b) Males are affected

c) Nephrolithiasis

d) Defect in limb of Loop of Henle

Correct Answer - D

Answer- D. Defect in limb of Loop of Henle

- Dent's disease refers to heterogenous group of X-linked disorders.
- It b characterized by manifestations of proximal tubule dysfunction (PT) dysfunction associated with hypercalciuria nephrolithiasis, nephrocalcinosis and progressive renalfailure
- These features are found in males only.
- mutation in gene encoding CLS-S, a Voltage gated Chloide channel.

427. All are true for transplanted kidney except

a) Humoral antibody responsible for rejection

b) CMI is responsible for rejection

c) Previous blood transfusion

d) HLA identity similarity seen in 1:100 people

Correct Answer - D

Answer- D. HLA identity similarity seen in 1:100 people

- Within any particular family, sibling's have a 7:4 chance of being HLA identical. In contrast among unrelated
- people, the probabilities of HLA identity in several thousand depending upon phenotype involved' It is due to the fact that
- HLA complex is inherited intact as two haplotypes.

428. Best management after human bite -

a) Ampicillin plus sulbactam

b) Clindamycin plus TMP-SMX

c) Fibroquinolone

d) Doxycycline

Correct Answer - A
Answer- A. Ampicillin plus sulbactam
1. Ampicillin/sulbactam
2. Imipenem
3. Cefoxitin in penicillin allergics

429. Duroziez's sign is seen in

a) Aortic Regurgitation

b) Tricuspid RegurgitationMitral stenosis

c) Pericardial effusion

d) None

Correct Answer - A

Answer- A. Aortic Regurgitation

- In severe aortic regurgitation, gradual pressure over the femoral artery leads to a systolic and diastolic bruit.
- Refers to systolic and distolic murmurs heard over the femoral artery while partially compresslng the vessel with the diaphragm of the stethoscope.

430. TTKG in hypokalemia is -

a) < 3-4

b) > 6-7

c) > 9-10

d) > 10-15

Correct Answer - A

Answer- A. < 3-4

- A normal TTK in normal subjects on normal diet is 8-9
- Without other disease, hypokalemia should produce a TTKG <3

431. Most common cause of death in diphtheria is due to

a) Airway compromise

b) Toxic cardiomyopathy

c) Sepsis

d) Descending polyneuropathy

Correct Answer - B

Answer- B. Toxic cardiomyopathy

- Most common cause of death in diphtheria cardiomyopathy

432. Upper lobe bronchiectasis is seen in which disease?

a) Cystic fibrosis

b) Aspergilloma

c) HIV

d) Bronchogenic carcinoma

Correct Answer - A

Answer- A. Cystic fibrosis

- Upper lobe bronchiectasis-
- Cystic fibrosis
- Tuberculosis
- Non tuberculous mycobacterial infections

433. On medical check up of a Punjabi student following findings were seen Hb of 9.9gm/d1, RBC count of 5.1 million, MCV of 62.5 fl and RDW of 13.51%. What is the most probable diagnosis ?

a) HbD

b) Thalassemia trait

c) Iron deficiency anemia

d) Anemia of chronic disease

Correct Answer - B
Answer- B. Thalassemia trait
Normal RDW with low MCV is seen in--
1. Anemia of chronic disease
2. Heterozygous thalassemia (Thalassemia trait)
3. Hemoglobin E trait.

434. Risk factors associated with health care associated pneumonia (HCAP)-

a) Acute care hospitalization for at least 2 days in the preceding 90 days

b) Home infusion therapy

c) Immunosuppressive disease or immunosuppressive therapy

d) Antibiotic therapy in the preceding 90 days

e) Hospitalization for > 48 h

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

Answer- (A) Acute care hospitalization for at least 2 days in the preceding 90 days (B) Home infusion therapy (C) Immunosuppressive disease or immunosuppressive therapy (D) Antibiotic therapy in the preceding 90 days (E) Hospitalization for > 48 h

- Acute care hospitalization for at least 2 days in the preceding 90 days
- Residence in a nursing home or extended care facility
- Home infusion therapy, including chemotherapy, within the past 30 days
- Long-term dialysis within the past 30 days
- Home wound care
- Family member with an infection involving a multiple drug resistant pathogen
- Immunosuppressive disease or immunosuppressive therapy

435. Malignancy associated with hypercalcemia:

a) Breast cancer

b) Small cell lung cancer

c) Non-small lung cancer

d) Prostate cancer

e) Multiple myeloma

Correct Answer - A:C:D:E

Answer- A,Breast cancer C,Non-small lung cancer D,Prostate cancer E,Multiple myeloma

- Lung carcinoma, breast carcinoma, and multlple myeloma account for more than 50% of all cases of malignancy-associated hypercalcemia.
- Gastrointestinal tumars and prostate carcinoma are less common causes of hypercalcemia.

436. Capnography helps to know the following

a) Correct intubation

b) Pulmonary embolism

c) Adequate ventilation

d) Lung perfusion

e) Significant metabolic change

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

Answer- A,Correct intubation B,Pulmonary embolism C,Adequate ventilation D,Lung perfusion E,Significant metabolic change

- Conditions that affect ET CO2
- Increased
- Hypoventilation
- Rebreathing
- Malignant hyperthermia,
- Neuroleptic malignant syndrome
- Increased skeletal muscle activity (shivering
- Hypermetabolism
- Hyperthyroidism & thyroid storm
- Decreased
- Hyperventilation
- Pulmonary embolism
- Hypoperfusion, hypotension, hypovalemia, shock
- Hypothermia

437. The severity of mitral stenosis can be judged by-

a) Intensity of murmur

b) Duration of murmur

c) Left ventricular S3

d) Loud S1

Correct Answer - B
Answer- B. Duration of murmur
Duration depends on severity of MS.
In severe MS, the mid diastolic murmur is long and merges with the presystolic murmur to produce holodiastolic murmur..

438. Pure motor palsy seen in poisoning of

a) Lead poisoning

b) Arsenic poisoning

c) Cocaine poisoning

d) Cannabis poisoning

Correct Answer - A

Ans. is 'A' i.e., Lead poisoning

The peripheral neuropathy of lead toxicity is a pure motor neuropathy affecting the upper limbs more than the lower limbs, presenting as symmetric or asymmetric wrist drop. The weakness may also involve other muscle groups of the distal upper extremities, the involvement of lower extremities, including isolated foot drop, also may occur.

439. Smokers are prone to which lung infection

a) Mycobacterium tuberculosis

b) Pneumonia

c) Influenza

d) All the above

Correct Answer - D
Answer- D. All the above

440. Some patients with severe form of Idiopathic infantile hypercalcemia, presnt with phenotypic features similar to which of the following?

a) Williams syndrome

b) Potters syndrome

c) Angelman syndrome

d) VHL syndrome

Correct Answer - A
Answer- A. Williams syndrome
In the severe form, Prenatal and postnatal growth failure are common and number of phenotypic features of Williams syndrome are observed in some of the patients include cardiovascular abnormalities (usually supravalvular aortic stenois and peripheral pulmonic stenosis), late psychomotor development, selective mental deficiency, a characteristic unusual facies and short stature.
The serum calcium levels range between 12 - 19mg/ dL.

441. Which liver disease/s is/are associated with ductopenia?

a) Chronic graft rejection

b) Hepatic sarcoidosis

c) Paraneoplastic syndrome related to hodgkins lymphoma

d) All the above

Correct Answer - D
Answer- D. All the above
Loss of bile ducts from the portal tracts is referred to as ductopenia. Ductopenia is most commonly seen related to chronic allograft rejection and includes drug related injury, primary binary cirrhosis, primary sclerosing cholangitis, chronic graft-vs-host disease, hepatic sarcoidosis, paraneoplastic syndrome related to Hodgkin disease, and syndromic paucity of bile ducts (Alagille syndrome).

442. Which of the following is not true about metabolic syndrome?

a) It is also called Syndrome X

b) Acanthosis and signs of hyperandrogenism may be seen

c) Type A has autoantibodies against the insulin receptor

d) Insulin resistance increases the risk of type 2 DM in patients with PCOS

Correct Answer - C

Answer- C. Type A has autoantibodies against the insulin receptor

It is an insulin resistance condition which comprises a spectrum of disorders, with hyperglycemia representing one of the most readily diagnosed features.

The metabolic syndrome, the insulin resistance syndrome, or syndrome X are terms used to describe a constellation of metabolic derangements that includes insulin resistance, hypertension, dyslipidemia (decreased HDL and elevated triglycerides), central or visceral obesity, type 2 diabetes or IGT/IFG, and accelerated cardio-vascular disease.

Acanthosis nigricans and signs of hyperandrogenism (hirsutism, acne, and oligomenorrhea in women) are also common physical features.

Two distinct syndromes-

1. type A, which affects young women and is characterized by severe hyperinsulinemia, obesity, and features of hyperandrogenism; and type A insulin resistance syndrome have an undefined defect in the insulin-signaling pathway.
2. type B, which affects middle-aged women and is characterized by

severe hyperinsulinemia, features of hyperandrogenism, and autoimmune disorders.

443. Metabolic syndrome diagnosis in men based on NCEP ATP III criteria includes the following except

a) Abdominal obesity > 40 inches

b) HDL < 50 mg / dL

c) BP >/= 130/85 mm Hg

d) Fasting glucoe > 110 mg/ dL

Correct Answer - B

Answer- B. HDL < 50 mg / dL

Table 1. Diagnostic Criteria for Metabolic Syndrome[a]

Criterion	Definition
Abdominal obesity	Waist circumference: men, >40 in. (>102 cm); women, >35 in. (>88 cm)
Hypertriglyceridemia	≥150 mg/dL
Low HDL-C	Men, <40 mg/dL; women, <50 mg/dL
High blood pressure	≥130/85 mmHg
High fasting glucose	≥110 mg/dL

[a] Diagnosis based on presence of three of five factors.
Source: Reference 6.

444. Ejection click of pulmonary stenosis is better heard in

a) Inspiration

b) Expiration

c) Patient bending forward

d) Patient lying in left lateral position

Correct Answer - B
Answer- B. Expiration
It emanates from a stenotic pulmonary valve or a dilated pulmonary artery.
Its most characteristic feature is to disappear or become markedly softer with inspiration i.e. it is better heard in expiration.
It is localized to 2nd and 3rd intercostal spaces.
They may also be present in patients with pulmonary hypertention or the ones with dilated pulmonary artery.

445. Reciprocal changes in ECG in patients with inferior wall myocardial infarction are seen in which leads

a) I

b) II

c) III

d) aVF

Correct Answer - A

Answer- A. I

Localization - Myocardial Infarct

Localization	ST elevation	Reciprocal ST depression	Coronary Artery
Anterior MI	V1-V6	None	LAD
Septal Mi	V1-V4, disappearance of septum Q in leads V5,V6	none	LAD
Lateral MI	I, aVL, V5, V6	II,III, aVF (inferior leads)	LCX
Inferior MI	II, III, aVF	I, aVL (lateral lead)	RCA (80%) or LCX (20%)
Posterior MI	V7, V8, V9	high R in V1-V3 with ST depression V1-V3 > 2mm (mirror view)	RCA or LCX
Right Ventricle MI	V1, V4R	I, aVL	RCA
Atrial MI	PTa in I,V5,V6	PTa in I,II, or III	RCA

446. All are features of aortic stenosis except

a) Congestive heart failure due to systolic or diastolic dysfunction

b) Presence of ejection systolic murmur

c) Presence of pulsus tardus

d) Pressure in the aorta is the same as in left ventricle

Correct Answer - D

Answer- D. Pressure in the aorta is the same as in left ventricle

Clinical Findings-

- Systolic ejection murmur
- Carotid pulsus parvus et tardus
- Diminished aortic component of 2nd heart sound
- Sudden death in severe stenosis after exercise

Classical triad-

- Angina
- Syncope
- Shortness of breath (heart failure)

447. Which of the following is not true about bicuspid aortic valve?

a) Usually undetected in early life

b) It is more common in females than in males

c) Post-stenotic dilatation of ascending aorta can be seen

d) Diagnosis is made by echocardiography

Correct Answer - B

Answer- B. It is more common in females than in males

The congenital bicuspid aortic valve, which may initially be functionally normal, is one of the most common congenital malformations of the heart and may go undetected in early life.

More frequent in males (3:1)

Diagnosis is made by echocardiography, which reveals the morphology of the aortic valve and aortic root and quantitates severity of stenosis or regurgitation.

The ascending aorta is often dilated, misnamed "poststenotic" dilatation; this is due to histologic abnormalities of the aortic media similar to those in Marfan's syndrome and may result in aortic dissection.

448. Which of the following hemodynamic changes is not evident in cardiac tamponade during diastole?

a) Right atrial and ventricular collapse

b) Absent y wave on JVP

c) Biphasic venous return

d) Elevated pericardial pressure

Correct Answer - C
Answer- C. Biphasic venous return
During the diastole the pericardial pressure remains elevated.
It is greater than the intracavitary pressure thus there is no filling during the diastole
The absence of venous return during the diastole leads to absence of "y" waves on the J.V.P. and the "diastolic collapse" of the right atria and ventricle.

449. Major criteria for infective endocarditis include which of the following

a) Injection drug user

b) Fever

c) Oslers nodes

d) Typical organism of infective endocarditis isolated from two separate blood cultures

Correct Answer - D

Answer- D. Typical organism of infective endocarditis isolated from two separate blood cultures

Diagnosis of infective endocarditis (modified Duke criteria)
Major criteria
• Positive blood culture: typical organism from two cultures; persistent positive blood cultures taken >12 hrs apart; three or more positive cultures taken over >1 hr • Endocardial involvement: positive echocardiographic findings of vegetations; new valvular regurgitation
Minor criteria
• Predisposing valvular or cardiac abnormality • IV drug misuse • Pyrexia ≥38°C • Embolic phenomenon • Vasculitic phenomenon • Blood cultures suggestive – organism grown but not achieving major criteria • Suggestive echocardiographic findings
Definite endocarditis: two major, or one major and three minor, or five minor **Possible endocarditis**: one major and one minor, or three minor

450. Which of the following ECG features are not seen in patients with ventricular tachycardias?

a) Bizzare QRS complexes

b) Presence of AV dissociation [fusion beats]

c) Prolonged duration of QRS complexes

d) P pulmonale

Correct Answer - D
Answer- D. P pulmonale
AV dissociation (atrial capture, fusion beats)
QRS duration > 140 ms for RBBB type V1 morphology, VI > 160 ms for LBBB type VI morphology
Frontal plane axis - 900 to 1800
Delayed activation during initial phase of the QRS complex
LBBB pattern - R wave in V1, V, > 40 ms
RBBB pattern - onset of R wave to nadir of S > 100 ms
Bizarre QRS pattern that does not mimic typical RBBB or LBBB QRS complex.
Concordance of QRS complex in all precordial leads
RS or dominant S in V6 for RBBB VT Q wave in V6 with LBBB QRS pattern
Monophasic R or biphasic qR of R/S in V, with RBBB pattern

451. Cerebro-occulo-genital syndrome has the following features except

a) Microcephaly

b) Short stature

c) Agenesis of corpus callosum

d) Flaccid quadriplegia

Correct Answer - D
Answer- D. Flaccid quadriplegia
Cerebro-occulo-genital syndrome is associated with microcephaly, short stature, microophthalmia, agenesis of corpus callosum, hypospadias and spastic quadriplegia.

452. Pulsus biseferians, which of the following is not true

a) It is seen in aortic regurgitation

b) It is better felt in peripheral arteries

c) It has one peak in systole and one in diastole

d) It has two peaks

Correct Answer - C
Answer- C. It has one peak in systole and one in diastole
It is characterized by two systolic peaks.
It is seen in patients of aortic regurgitation.
The pulse wave upstroke rises rapidly and forcefully producing the first systolic peak (percussion wave). A brief decline in pressure is followed by a smaller and somewhat slower rising positive pulse wave.
In bisiferians pulse the second rise in systole is enhanced by reflection from peripheral arteries therefore it is more prominent in peripheral pulse.

453. Square wave seen in ECG recording denote

a) Atrial depolarization

b) Ventricular depolarization

c) Ventricular repolarization

d) Standardization of ECG

Correct Answer - D
Answer- D. Standardization of ECG
Each ECG machine has a provision for Standardization (STD) of Calibration (CAL).
The standardization lever releases a current of 1 mV to the stylus of ECG machine that records a shift of 10 mm on the ECG paper.
The standardization current gives rise to a wave pattern called square wave pattern as depicted in the image below.

454. Which of the following is not true about Torsades de pointes?

a) Presence of prolonged QT interval on ECG

b) Presence of polymorphic QRS complexes

c) It is a type of supraventricular tachycardia

d) QRS complexes appear to rotate around the isoelectric baseline of ECG

Correct Answer - C
Answer- C. It is a type of supraventricular tachycardia
The significance of the long QT syndrome is its association with the development of a specific type of ventricular tachycardia called Torsades de points or polymorphic ventricular tachycardia
A wide complex tachyarrythmia with QRS complexes of varying axis and morphology that appear to rotate around the iso electric baseline.

455. Prolonged QT interval is seen in all of the following except

a) Hypokalemia

b) Hypocalcemia

c) Use of macrolide antibiotitcs

d) Hypernatremia

Correct Answer - D
Answer- D. Hypernatremia
Metabolic

- Hypokalemia
- Hypocalcemia
- Hypomagnesemia

456. Following are the clinical signs of widened pulse pressure seen in patients of aortic regurgitation except

a) Corrigans sign

b) De Mussets sign

c) Water Hammer pulse

d) Diastolic murmur

Correct Answer - D
Answer- D. Diastolic murmur
Corrigan's pulse: A rapid and forceful distension of the arterial pulse with a quick collapse
De Musset's sign: Bobbing of the head with each heartbeat (like a bird walking)
Muller's sign: Visible pulsations of the uvula
Quincke's sign: Capillary pulsations seen on light compression of the nail bed
Traube's sign: Systolic and diastolic sounds heard over the femoral artery ("pistol shots")
Duroziez's sign: Gradual pressure over the femoral artery leads to a systolic and diastolic bruit
Hill's sign: Popliteal systolic blood pressure exceeding brachial systolic blood pressure by ≥ 60 mmHg (most sensitive sign for aortic regurgitation)
Water hammer pulse

457. Episode of stable angina pectoris typically lasts for

a) Less than 1 min

b) 2 - 5 mins

c) 5 - 10 mins

d) > 10 mins

Correct Answer - B
Answer- B. 2 - 5 mins
Angina is usually crescendo- decrescendo in nature, typically lasts 2 to 5 min, and can radiate to either shoulder and to both arms (especially the ulnar surfaces of the forearm and hand).
It also can arise in or radiate to the back, interscapular region, root of the neck, jaw, teeth, and epigastrium. Angina is rarely localized below the umbilicus or above the mandible.

458. Not True about Prinzmetal's angina:

a) May present at rest

b) Occurs due atherosclerotic obstruction of coronary arteries

c) Smoking is a risk factor

d) Nitrates are used for treatment

Correct Answer - B

Answer- B. Occurs due atherosclerotic obstruction of coronary arteries

This syndrome is due to focal spasm of an epicardial coronAry artery, leading to severe myocardial ischemia leading to severe myocardial ischemia.

The right coronary artery is the most frequent site, followed by the left anterior descending coronary artery.

Acetylcholine released by the parasympathetic system at rest will simply cause contraction of the vascular smooth muscle.

It usually occurs at rest and is associated with transient ST- segment elevation.

Etiology

cigarette smokers

459. Obstructive shock can be seen in

a) Pulmonary embolism

b) Tension pneumothorax

c) Pericardial tamponade

d) All the above

Correct Answer - D
Answer- D. All the above
Causes in trauma patients include pulmonary embolism, pericardial tamponade, acute coronary syndromes, increased intrathoracic pressure as in tension pneumothorax, positive pressure ventilation and excessive PEEP.

460. Pharmacological stress during stress myocardial radionucleotide perfusion imaging can be induced using

a) Dipyridamole

b) Adenosine

c) Dobutamine

d) All the above

Correct Answer - D
Answer- D. All the above
Dipyridamole or adenosine can be given to create a coronary "steal" by temporarily increasing flow in nondiseased segments of the coronary vasculature at the expense of diseased segments. Alternatively, a graded incremental infusion of dobutamine may be administered to increase MVO2.
The development of a transient perfusion defect with a tracer such as thallium-201 or 99m-technetium sestamibi is used to detect myocardial ischemia.

461. While treating patients with malignant hypertention the maximum allowed decrease in blood pressure in the first 2 - 6 hours should not exceed %

a) 15

b) 20

c) 25

d) 30

Correct Answer - C
Answer- C. 25
Hypertension with systolic BP 180 mmHg and diastolic BP 120 mm Hg is classified as "severe hypertension".
Severe hypertension (180/120) does not necessarily mean hypertensive emergency or malignant hypertension. ? Patients with B.P. 180 / 120 may remain asymptomatic without causing any complications.
The initial aim of treatment in malignant hypertension and hypertensive encephalopathy is to lower diastolic blood pressure to about 100 to 105 mm Hg within minutes to, two- six hours with the maximum fall in B.P. over this period of time not exceeding 25% of the original value.

462. Contraindication for percutaneous ballon mitral valvotomy include the following except

a) Presence of pulmonary hypertension

b) Left atrial thrombus

c) Severe mitral regurgitation

d) Commissural calcification

Correct Answer - A

Answer- A. Presence of pulmonary hypertension

Patients with valvular calcification, thickened fibrotic leaflets with decreased mobility and subvalvular fusion, have incidence of acute complications and higher rate of restenosis on followup. Such patients are considered a contraindication for the procedure. Other contraind ications include more than moderate mitral regurgitation, presence of left atrial thrombi, and commissural calcification.

463. Mitral valve replacement is recommended in patients with

a) Moderate MS in NYHA class II

b) Moderate MS in NYHA class III

c) Severe MS in NYHA class II

d) Severe MS in NYHA class III

Correct Answer - D
Answer- D. Severe MS in NYHA class III
Since there are also long-term complications of valve replacement, patients in whom preoperative evaluation suggests the possibility that MVR may be required should be operated on only if they have severe MS—i.e., an orifice area "1 cm2—and are in NYHA Class III, i.e., symptomatic with ordinary activity despite optimal medical therapy".

464. HOCM is common in which age group?

a) 10 - 30 years

b) 20 - 40 years

c) 30 - 50 years

d) 40 - 60 years

Correct Answer - B
Answer- B. 20 - 40 years
Hypertrophic cardiomyopathy is characterized by marked left ventricular hypertrophy in the absence of other causes, such as hyper- tension or valve disease.
Earlier termed hypertrophic obstructive cardiomyopathy (HOCM)
Hypertrophic cardiomyopathy is characterized hemodynamically by diastolic dysfunction, originally attributed to the hyper¬trophy, fibrosis, and intraventricular gradient when present.
Hypertrophic cardiomyopathy usually presents between the ages of 20 and 40 years. Dyspnea on exertion is the most common presenting symptom, reflecting elevated intracardiac filling pressures

465. Preferred vein for central venous catheter insertion is

a) Right internal jugular vein

b) Left internal jugular vein

c) Right subclavian vein

d) Right antecubital vein

Correct Answer - A

Answer- A. Right internal jugular vein

- Placement of the central venous catheter is indicated for the monitoring of the central venous pressure and for prolonged drug administration for parenteral nutrition.
- The preferred site for insertion of catheter into the superior venacava is from internal jugular vein of the neck. Other used sites are from the subclavian vein or from the peripheral vein in the antecubital fossa.

Commonly used vein cannulation sites for central venous access include:

- Jugular vein
- External jugular vein
- Internal jugular vein (central, posterior, anterior approaches)
- Subclavian vein (supraclavicular, infraclavicular, axillary approaches)
- Femoral vein
- Basilic vein

466. Kerley B lines seen in mitral stenosis when the resting left atrial pressure exceeds

a) 10 mm Hg

b) 20 mm Hg

c) 30 mm Hg

d) 40 mm Hg

Correct Answer - B

Answer- B. 20 mm Hg

Kerley B lines are fine, dense, opaque, horizontal lines that are most prominent in the lower and mid-lung fields and that result from distention of interlobular septae and lymphatics with edema when the resting mean LA pressure exceeds approximately 20 mmHg.

467. Which of the following is the most common anamoly in patients with fanconi's anemia?

a) Hyperpigmentation of the trunk, neck and intertriginous areas

b) Absent radii and thumb

c) Weak radial pulse

d) Presence of horse shoe kidneys

Correct Answer - A

Answer- A. Hyperpigmentation of the trunk, neck and intertriginous areas

Fanconi anemia (FA) is primarily inherited in an autosomal recessive manner (one uncommon form is X-linked recessive).

The most common anomaly in FA is hyperpigmentation of the trunk, neck, and intertriginous areas, as well as café-au-lait spots and vitiligo, alone or in combination.

Anomalies of the feet, congenital hip dislocation, and leg abnormalities are seen.

468. Patients with which of the following conditions are at greatest risk of pernio

a) Raynaud's phenomenon

b) Kawasaki disease

c) Henoch Schonlen purpura

d) Hepatitis C infection

Correct Answer - A
Answer- A. Raynaud's phenomenon
The two most common nonfreezing peripheral cold injuries are chilblain (pernio) and immersion (trench) foot.
Chilblain results from neuronal and endothelial damage induced by repetitive exposure to dry cold.
Young females, particularly those with a history of Raynaud's phenomenon, are at greatest risk of pernio (chilblain).
Persistent vasospasticity and vasculitis can cause erythema, mild edema, and pruritus. Eventually plaques, blue nodules, and ulcerations develop.

469. What is Tiffeneau - Pinelli index?

a) FEV1/FVC ratio

b) Body mass index

c) Quetlet index

d) Ventilation/Perfusion ratio

Correct Answer - A
Answer- A. FEV1/FVC ratio

470. Lights criteria is used for

a) Pleural effusions

b) Pericardial effusions

c) Ascites

d) Increased intracranial tension

Correct Answer - A
Answer- A. Pleural effusions
Light's critena for classification of unilateral pleural effusion

- The pleural fluid is an exudate if one or more of the following citeria are met.
- Pleural fluid protein divided by serum protein >0.5
- Pleural fluid lacato dehyoctogenase LDH divided by serum LDH > 0.6

471. Common cause of death in a patient with chronic bronchieactasis is

a) Right sided heart fail

b) Infection

c) Hemoptysis

d) Carcinoma

Correct Answer - A
Answer- A. Right sided heart fail
In todays world, right sided heart failure in patients with diffuse long standing bronchieactasis is a common cause of death in patients with chronic bronchieactasis.
Pneumonia and hemorrhage are less common causes of death.

472. Leutriene inhibitors are used in asthma for

a) Monotherapy for acute attack

b) Add-on therapy in patients not controlled by low dose inhaled glucocorticoids

c) Status asthmaticus

d) None of the above

Correct Answer - B

Answer- B. Add-on therapy in patients not controlled by low dose inhaled glucocorticoids

Cysteinyl-leukotrienes are potent bronchoconstrictors, cause microvascular leakage, and increase eosinophilic inflammation through the activation of cys-LT1-receptors.

Lukotriene inhibitors such as montelukast and zafirlukast, block cys-LT 1-receptors and provide modest clinical benefit in asthma.

They are less effective than inhaled corticosteroids in controlling asthma and have less effect on airway inflammation, but are useful as an add-on therapy in some patients not controlled with low doses of inhaled corticosteroids.

473. Apnea hypoapnea index indicating obstructive sleep apnea is -

a) <1

b) 2 - 5

c) 5 - 8

d) >8

Correct Answer - A
Answer- A. <1
Normal preschool and school-age children generally have a total AHI of less than 1.5 (obstructive AHI <1), and this is the most widely used cutoff value for Obstructive Sleep Apnea in children 12 yr and below; in older adolescents, the adult cutoff of an AHI 5 is generally used.

474. Multiple episodes of acute chest syndrome are associated with

a) Asthma

b) Bronchieactasis

c) SLE

d) Sjogrens syndrome

Correct Answer - A
Answer- A. Asthma
Patient presents with recurrent episodes of acute chest syndrome. The characteristic symptoms during an episode of asthma are wheezing, dyspnea, and coughing, which are variable, both spontaneously and with therapy.
Prodromal symptoms may precede an attack, with itching under the chin, discomfort between the scapulae, or inexplicable fear (impending doom).

475. Triad of skin lesions, mononeuritis multiplex, eosinophils seen in

a) Alports syndrome

b) Churg - Strauss syndrome

c) Cryoglobulinemia

d) Wegeners granulomatosus

Correct Answer - C
Answer- C. Cryoglobulinemia
Churg & Strauss is characterized by asthma, eosinophilla, extravascular granuloma formation, vasculitis.
Clinical Features-Fever, malaise, anorexia, weight loss.
Mononeuritis multiplex is the second most common features.
Allergic rhinitis and sinusitis.
Asthma
Peripheral and tissue eosinophillia, extravascular necrotizing granuloma.

476. Chronic bronchitis is said to be present when patient has chronic cough

a) 3 consecutive months in at least two consecutive years

b) 2 consecutive months for 3 consecutive years

c) 3 consecutive months in one year

d) 1 month in a year for 2 consecutive years

Correct Answer - A
Answer-A. 3 consecutive months in at least 2 consecutive years.
Cigarette smoking is the most important risk factor; air pollutants also contribute.
The dominant pathologic features are mucus hypersecre- tion and persistent inflammation.
Histologic examination demonstrates enlargement of mucous-secreting glands, goblet cell hyperplasia, chronic inflammation, and bronchiolar wall fibrosis.

477. Brocks syndrome is due to which lobe of lung?

a) Right middle lobe

b) Right lower lobe

c) Left upper lobe

d) Left lower lobe

Correct Answer - A
Answer- A. Right middle lobe
Brocks syndrome is due to collapse of right middle lobe of lung. It is seen as an acute complication of pulmonary tuberculosis. It occurs secondary to hilar node involvement.

478. Presence of Velcro crackles at the lung base on auscultation is a sign of

a) Scleroderma

b) Systemic Lupus

c) Wegeners Granulomatosus

d) Polyarteritisnodosa

Correct Answer - A
Answer- A. Scleroderma
CLINICAL FEATURES-

- Skin- sclerodactyly, Ranaud's phenomenon, calcinosis, telangiectasia, skin thickening. (inadvance stage fingers become claw like & face mask like)
- Musculoskeletal features- Arthralgia, flexor tenosynovitis
- GIT- oesophagitis, dysphagia, malabsorption
- Cardiorespiratory features- pulmonary fibrosis, pulmonary hypertension
- Renal features- hypertensive renal crisis
- Malignant hypertension
- Physical examination may reveal "Velcro" crackles at the lung bases.

479. Type IV respiratory failure occurs due to

a) Alveolar flooding

b) Inability to eliminate CO2

c) Lung atelactasis

d) Hypoperfusion of respiratory muscles

Correct Answer - D
Answer- d. Hypoperfusion of respiratory muscles
Type IV Respiratory Failure: results from hypoperfusion of respiratory muscles in patients in shock.
Commonly caused by cardiogenic shock, septic shock and hypovolemic shock.

480. Tool/s which objectively asses the risk of adverse outcomes in a patient with pneumonia is/are

a) Pneumonia severity index [PSI]

b) CURB - 65 criteria

c) Apachee Score

d) Glasgow scale

Correct Answer - A:B

Answer- (A) Pneumonia severity index [PSI] (B) CURB - 65 criteria

Tools that objectively assess the risk of adverse outcomes are the Pneumonia Severity Index (PSI), a prognostic model used to identify patients at low risk of dying; and the CURB-65 criteria, a severity-of-illness score.

The CURB-65 criteria include five variables: confusion (C); urea >7 mmol/L (U); respiratory rate 30/min (R); blood pressure, systolic "90 mmHg or diastolic" 60 mmHg (B); and age 65 years (65).

481. In ICU setting patients suffering from which respiratory pathology are at risk of CO2 narcosis?

a) Pneumonia

b) Asthma

c) Emphysema

d) Bronchieactasis

Correct Answer - C
Answer- C. Emphysema
Hypoventilation syndrome occurs most frequently in patients with a history of chronic CO, retention who are receiving oxygen therapy for emphysema or chronic pulmonary disease.
The elevated Paco, leading to CO, narcosis may have a direct anesthetic effect, and cerebral vasodilation from increased Paco, can lead to increased ICP

482. Inspiratory squeaks are the physical examination finding of

a) Bronchiolitis

b) Pulmonary hypertension

c) Pneumonia

d) Pulmonary edema

Correct Answer - A
Answer- A. Bronchiolitis
ILD associated with inflammation but are less likely to be heard in the granulomatous lung diseases.
Crackles may be present in the absence of radiographic abnormalities on the chest radiograph.
Scattered late inspiratory high-pitched rhonchi—so-called inspiratory squeaks—are heard in patients with bronchiolitis.
Cyanosis and clubbing of the digits occur in some patients with advanced disease.

483. Which of the following are the clinical abnormalities of uremia?

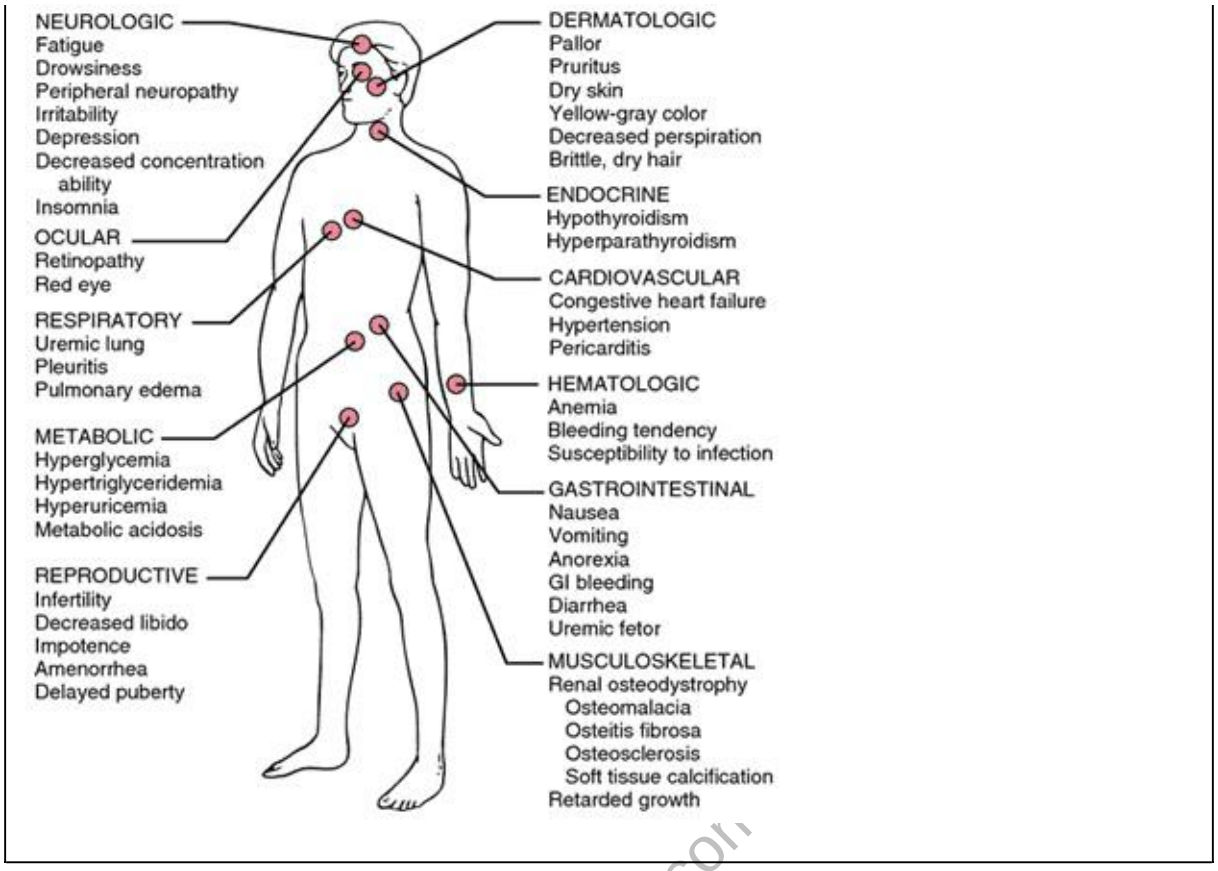
a) Hyperphosphatemia

b) Uremic frost

c) Peptic ulcer

d) All the above

Correct Answer - D
Answer- D. All the above
Volume expasion (I)
Hyperkalemia (I)
Hyponatremia (1)
Hyperphosphatemia (I)



484. Which type of Bartter's syndrome is associated with mutations in barttin?

a) Type 1

b) Type 2

c) Type 3

d) Type 4

Correct Answer - D
Answer- D. Type 4
Bartter's syndrome may result from mutations affecting any of five ion transport proteins in the TAL.
The proteins affected include the apical loop diuretic-sensitive sodium-potassium-chloride co-transporter NKCC2 (type 1), the apical potassium channel ROMK (type 2), and the basolateral chloride channel C1C-Kb (type 3).
Bartter's type 4 results from mutations in barttin, an essential subunit of CIC-Ka and C1C-Kb that enables transport of the chloride channels to the cell surface. Barttin is also expressed in the inner ear; this accounts for the deafness invariably associated with Bartter's type 4.

485. Test used for screening for urinary tract infection is

a) Nitrite test

b) Na nitropruss ide test

c) Paul Bunnel test

d) Fentons test

Correct Answer - A
Answer- A. Nitrite Test
Effective and rapid method used for screening urine for the presence of bacterial infection.
Test is based on the fact that most bacteria present in the urine, have the capacity to reduce urine nitrate to nitrite.

486. Patient with nephrotic syndrome has decreased amount of which antibody

a) IgG

b) IgE

c) IgM

d) IgA

Correct Answer - A
Answer- A. IgG
The immunological abnormalities noted are very peculiar
IgG antibody is decrease
IgE and IgM antibody increase
Reduced responses to PHA and Con A (Concanavalin A)
Increase of beta microglobulinlevels
Reduced production of IL 2
Increased production of vascular permeability and immunosuppressor factors by CD4 T cells and CD 8 T cells respectively.

487. RIFLE criteria is used for diagnosis of

a) Acute kidney injury

b) Acute splenic injury

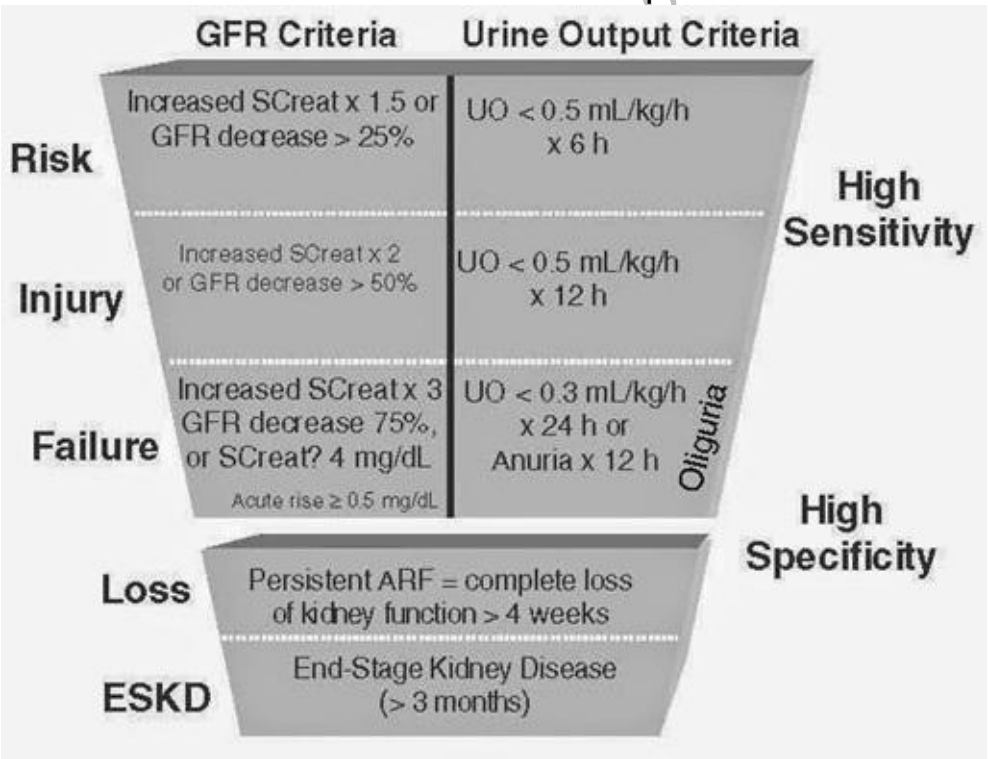
c) Acute liver injury

d) Acute bowel injury

Correct Answer - A

Answer- A. Acute kidney injury

The RIFLE criteria, defines threes increasing levels of severity of acute kidney injury on the basis of the increase in serum creatinine concentration or decrease in urine output.



488. Hemodynamically important lesions of renal artery stenosis are predicted by renal artery velocities more than on Doppler ultrasound.

a) 100 cm/s

b) 125 cm/s

c) 150 cm/s

d) 200 cm/s

Correct Answer - D
Answer- D. 200 cm/s
Renal artery velocities by Doppler ultrasound above 200 cm/s generally predict hemodynamically important lesions (above 60% vessel lumen occlusion), although treatment trials require velocity above 300 cm/s to avoid false positives.
Renal resistive index has predictive value regarding the viability of the kidney. It remains operator- and institution- dependent.

489. Gitelman's syndrome resembles the effects of which of the following drugs?

a) Thiazide

b) Furosemide

c) Spironolactone

d) Amiloride

Correct Answer - A
Answer- A. Thiazide
Gitelman's syndrome is due to mutations in the thiazide-sensitive Na-Cl co-transporter, NCCT, in the distal convoluted tubule (DCT). Defects in NCCT in Gitelman's syndrome impair sodium and chloride reabsorption in the DCT and thus resemble the effects of thiazide diuretics. It remains unclear how this defect leads to severe magnesium wasting.

490. Definition of complicated urinary tract infection is, the infection which fail to resolve or recur within week/s of standard therapy.

a) 1 week

b) 2 weeks

c) 3 weeks

d) 4 weeks

Correct Answer - B
Answer- B. 2 weeks
Complicated urinary tract infections refers to the infections that fail to resolve or recur within 2 weeks of standard therapy.
These are associated with bacteremia or sepsis and are assocated with periurethral abscess, obstructions and pyelonephritis

491. A patient presents with blunt trauma to abdomen. On investigations patient is found to have hepatic injury which has a ruptured subcapsular hematoma with active bleeding. What is the grade of liver injury?

a) Grade I

b) Grade II

c) Grade III

d) Grade IV

Correct Answer - C
Answer- C. Grade III

CHART 1 - Grade of lesions and injury desccription

	Grade	Injury Description
I.	Hematoma	Subcapsular, nonexpanding, < 10cm surface area
	Laceration	Capsular tear, nonbleeding, < 1cm parenchymal bleeding
II.	Hematoma	Subcapsular, nonexpanding, 10 to 50% surface area Intraparenchymal nonexpanding < 10cm in diameter
	Laceration	Capsular tear, active bleeding; 1-3cm parenchymal depth < 10cm in length
III.	Hematoma	Subcapsular, > 50% surface area or expanding; Ruptured subcapsular hematoma with active bleeding; Intraparenchymal hematoma > 10cm or expanding
	Laceration	> 3cm parenchymal depth
IV.	Hematoma	Ruptured intraparenchymal hematoma with active bleeding
	Laceration	Parenchymal disruption involving 25% to 75% of hepatic lobe
V.	Laceration	Parenchymal disruption involving > 75% of hepatic lobe
	Vascular	Justahepatic venous injury (i.e., retrohepatic vena cava)
VI.	Vascular	Vascular avulsion

492. Excellent predictor of mortality and morbidity in patients after hepatectomy is

a) Serum lactate levels

b) Serum magnesium level

c) Serum iron level

d) Serum copper level

Correct Answer - A

Answer- A. Serum lactate levels

Hyperlactemia and hypophosphatemia are common derangements in patients undergoing liver resection.

Gluconeogenesis carried out by the liver normally consumes 40-60% of lactate.

When the liver is damaged, stressed or resected, it produces lactate rather than metabolizing it.

Due to the additive effects of lactate-containing intravenous solution, non-lactate containing solutions are recommended for postoperative use after hepatectomy.

493. Ascitic fluid SAAG < 1.1 what is the disease associated with

a) Hepatic failure

b) Idiopathic portal fibrosis

c) Constrictive pericarditis

d) Peritoneal carcinomatosis

Correct Answer - D
Answer- D. Peritoneal carcinomatosis
Low albumin gradient (SAAG <1.1 g/dL)

- Peritoneal carcinomatosis
- Peritoneal tuberculosis
- Pancreatitis
- Serositis
- Nephrotic syndrome

494. Gene associated with the development of Peutz-Jeghers syndrome is

a) STK 11

b) PTEN

c) KRAS

d) BRCA 1

Correct Answer - A
Answer- A. STK 11
Germline heterozygous loss-of-function mutations in the gene STKil are present in approximately half of individuals with familial Peutz-Jeghers syndrome as well as a subset of patients with sporadic Peutz-Jeghers syndrome.

495. Right hand dominant patient presents with normal comprehension but speaks with short utterances of a few words at a time, comprised mostly of nouns. What is the most probable location of the lesion

a) Left inferior frontal gyrus

b) Right inferior frontal gyrus

c) Left superior temporal gyrus

d) Right superior temporal gyrus

Correct Answer - A

Answer- A. Left inferior frontal gyrus

Patient has normal comprehension but speaks with short utterances of a few words at a time, comprised mostly of nouns. These findings are suggestive of brocas aphsia. It is seen in patients having affection of the inferior frontal gyrus of the dominant hemisphere. The patient is right handed so the left hemisphere, will the dominant one. Thus most probable location of the lesion is left inferior frontal gyrus.

496. Pure word deafness is associated with

a) Middle cerebral artery stroke

b) Posterior cerebral artery stroke

c) Vertebral artery aneurysm

d) Basilar artery aneurysm

Correct Answer - A
Answer- A. Middle cerebral artery stroke
The most common causes are either bilateral or left-sided middle cerebral artery (MCA) strokes affecting the superior temporal gyrus. The net effect of the underlying lesion is to interrupt the flow of information from the auditory association cortex to Wernicke's area.

497. Global aphasia is seen due to

a) Strokes involving entire middle cerebral artery distribution in left hemisphere

b) Strokes involving entire middle cerebral artery distribution in right hemisphere

c) Strokes involving entire posterior cerebral artery distribution in left hemisphere

d) Strokes involving entire posterior cerebral artery distribution in right hemisphere

Correct Answer - A

Answer- A. Strokes involving entire middle cerebral artery distribution in left hemisphere

This syndrome represents the combined dysfunction of Broca's and Wernicke's areas and usually results from strokes that involve the entire middle cerebral artery distribution in the left hemisphere. Related signs include right hemiplegia, hemisensory loss, and homonymous hemianopia.

498. Lambert Eaton syndrome true is

a) It is a paraneoplastic syndrome associated with squamous cell carcinoma of lung

b) IgM antibodies against ligand gated calcium channels

c) There is increase in release of presynaptic acetylcholine

d) With continuous stimulation there is marked increase in amplitude of action potentials.

Correct Answer - D

Answer- D. With continuous stimulation there is marked increase in amplitude of action potentials.

- **It is a para**neoplastic syndrome associated with cancer particularly small cell Ca of lung.
- It is a disorder of neuromuscular junction transmission (Presynaptic)
- These IgG autoantibodies against the voltage sensitive calcium channels reduce the number of functioning channels.
- This causes decrease in release of presynaptic acetylcholine.

Symptoms

- Muscles of the trunk shoulder girdle, pelvic girdle and muscles of lower extremities (muscles of the proximal leg are the most commonly involved muscles)
- Often the first symptoms are difficulty in arising from a chair, climbing stairs and walking, the shoulder muscles are affected later on.

499. Which is not seen in Alzheimers disease

a) Gradual development of forgetfulness

b) Defective visuospatial orientation

c) Depression

d) Sequence of neurological abnormalities follows a described order

Correct Answer - D

Answer- D. Sequence of neurological abnormalities follows a described order

The sequence of neurological disabilities may not follow any described order and one or another deficit may take preceedence but usually the disease preceedes in the following four observed patterns.

1) Korsakoff amnestic state
2) Dysnomia
3) Visuospatial orientation becomes defective
4) Paranoia and other personality changes

500. Which lobe is affected in the early course of alzheimers disease

a) Frontal lobe

b) Parietal lobe

c) Medial temporal lobe

d) Lateral temporal lobe

Correct Answer - C
Answer- C. Medial temporal lobe
Structures of the medial temporal lobe, including hippocampus, entorhinal cortex and amygdala, are involved early in the course and are usually severely atrophied in the later stages.

501. Which is/are the usual first deformity/ies to be seen in CMT disease?

a) Pes cavus

b) Club hand

c) Mannus valgus

d) Flexion deformity of knee

Correct Answer - A

Answer- A. Pes cavus

Charcot-Marie-Tooth (CMT) disease is the most common type of hereditary neuropathy.

There is progressive muscle weakness and atrophy that usually begins in the first two decades of life.

The first signs of the disease are usually pes cavus, foot deformities and scoliosis.

There is slowly progressive weakness and wasting, first of the feet and legs and then of the hands.

The most common form of CMT is type 1, a demyelinating neuropathy with autosomal dominant inheritance, mapped most commonly to the short arm of chromosome 17.

502. Huntingtons disease is commonly seen in age group between

a) 15 - 35 years

b) 25 - 45 years

c) 35 - 55 years

d) 45 - 65 years

Correct Answer - B
Answer- B. 25 - 45 years
HD is a progressive, fatal, highly penetrant autosomal dominant disorder characterized by motor, behavioral, and cognitive dysfunction.
Onset is typically between the ages of 25 and 45 years (range, 3-70 years) with a prevalence of 2-8 cases per 100,000 and an average age at death of 60 years.
Huntigton's disease is characterized by triad of
Autosomal dominant inheritence
Choreoathetosis
Dementia

503. Which cranial nerve is involved in Weber syndrome?

a) II

b) III

c) IV

d) V

Correct Answer - B
Answer- B. III
Weber's syndrome- Midbrain- Oculomotor nerve- Ipsilateral third-nerve palsy

504. Violent abnormal flinging movements which are irregular and affecting one side are called as -

a) Chorea

b) Athetosis

c) Dystonia

d) Hemiballismus

Correct Answer - D
Answer- D. Hemiballismus
It is defined as the dysfunction in the implementation of appropriate targeting and velocity of intended movements, dysfunction of posture and abnormal involuntary movement, or the performance of normal appearing movements at inappropriate or unintended times.

505. Wernickes encephalopathy develops secondary to accumulation of which substrate?

a) Glutamate

b) Aspartate

c) Lactate

d) Acetate

Correct Answer - A
Answer- A. Glutamate
Glutamate accumulates owing to impairment of a ketoglutamate dehydrogenase activity and in combination with energy deficiency may result in excitotoxic cell damage.

506. Which of the following clinical test when positive suggests presence of sensory ataxia?

a) Romberg test

b) Adson test

c) Stinchfield test

d) Crossed SLR test

Correct Answer - A
Answer- A. Romberg test
The Romberg test is a test of the body's sense of positioning (proprioception), which requires healthy functioning of the dorsal columns of the spinal cord.
The Romberg test is used to investigate the cause of loss of motor coordination (ataxia).
A positive Romberg test suggests that the ataxia is sensory in nature, that is, depending on loss of proprioception.

507. Todds paralysis is experience following episode of

a) Focal seizure

b) Generalised seizure

c) After correction of hyponatremia

d) After correction of hypokalemia

Correct Answer - A
Answer- A. Focal seizure
Focal seizures arise from a neuronal network either discretely localized within one cerebral hemisphere.
The routine interictal (i.e., between seizures) electroencephalogram (EEG) in patients with focal seizures is often normal or may show brief discharges termed epileptiform spikes, or sharp waves.
Second, patients may experience a localized paresis (Todd's paralysis) for minutes to many hours in the involved region following the seizure.

508. Cerebro-occulo-genital syndrome has the following features except

a) Microcephaly

b) Short stature

c) Agenesis of corpus callosum

d) Flaccid quadriplegia

Correct Answer - D
Answer- D. Flaccid quadriplegia
Cerebro-occulo-genital syndrome is associated with microcephaly, short stature, microophthalmia, agenesis of corpus callosum, hypospadias and spastic quadriplegia.

509. Frontal lobe syndrome consists

a) Euphoria

b) Indifference

c) Irritability

d) All the above

Correct Answer - D
Answer- D. All the above
Euphoria, indifference, disinhibition, and irritability are consequences of frontal lobe lesions. These emotional and behavioural disturbances are usually referred to as frontal lobe syndrome. Other features are decreased social concern, jocularity, facetiousness, coarseness, hyperkinesia, disinhibition, loss of social graces, inappropriate sexual advances, sexual exhibitionism, impulsiveness, restlessness, and grandiose delusions.

510. Flapping tremors are not seen in

a) CO2 toxicity

b) Hypomagnesemia

c) Subarachnoid hemorrhage

d) Carbolic acid poisoning

Correct Answer - D
Answer- D. Carbolic acid poisoning
It is an important clinical sign
It is not pathognomonic of any condition but it gives clue to serious underlying disease process.
Flapping tremor is a motor disturbance marked by intermettent lapses of an assumed posture as a result of intermittency of sustained contraction of group of muscles.

511. Features which differentiate seizures from syncope include the following except

a) No immediate precipitating factors like stress, valsalva, orthostatic hypotension

b) Immediate transition to unconciousness

c) Presence of cyanosis and frothing of mouth

d) Presence of premonitory symptoms like diaphoresis and tunneling of vision

Correct Answer - D

Ans. D. Presence of premonitory symptoms like diaphoresis and tunneling of vision

Features That Distinguish Generalized Tonic-Clonic Seizure From

Features	Seizure	Syncope
Immediate precipitating factors	Usually none	Emotional stress, Valsalve, orthostatic hypotension, cardiac etiologies
Premonitory symptoms	None or aura (e.g., odd odor)	Tiredness, nausea, diaphoresis, tunneling of vision
Posture at onset	Variable	Usually erect
Transition to unconsciousness	Often immediate	Gradual over seconds
Duration of unconsciousness	Minutes	Seconds
Duration of tonic or clonic movements	30-60 s	Never more than 15 a
Facial appearance during event	Cyanosis, frothing at mouth	Pallor
Disorientation and sleepiness after event	Many minutes to hours Often	< 5 min
Aching of muscles after event Biting	Sometimes	Sometimes
of tongue	Sometimes	Rarely
Incontinence	Sometimes	Sometimes
Headache		Rarely

512. Fine tremors are found in which disorder

a) Mercury poisoning

b) Excess smoking

c) Hypoglycemia

d) All the above

Correct Answer - D
Answer- D. All the above
Fine tremors are noted when a limb is held in an antigravity posture
They are noted in situations of catecholamine excess such as anxiety states, thyrotoxicosis, hypoglycemia and in alcoholism and excess smoking.
They are also noted after ingestion of drugs like caffeine, salbutamol, theophylline, amphetamine, tricyclic antidepressants, Lithium, valproate, steroids, and in mercury poisoning.

513. True about electrophoresis in patients of multiple myeloma

a) M component spike is for the alpha globulins

b) Monoclonal antibody must be present at a concentration of at least 10 g/L [1.0 g/dL] to be accurately quantitated by electrophoresis

c) M component is IgM in 53% of the patients

d) M component is IgA in 25% of the patients

Correct Answer - D

Answer- D. M component is IgA in 25% of the patients

The immunoglobulins move heterogeneously in an electric field and form a broad peak in the gamma region. The y globulin region of the electrophoretic pattern is usually increased in the sera of patients with plasma cell tumors. There is a sharp spike in this region called an M component (M for monoclonal).

The serum M component in multiple myeloma will be IgG in 53% of patients, IgA in 25%, and IgD in 1%; 20% ofMietits will have only light chains in serum and urine.

514. All but one is true for beta thalassemia major

a) Growth and development is impaired

b) Red cell count <4 x 10'2/L

c) Levels of HbA2 < 3.5%

d) Bone marrow iron is depleted

Correct Answer - D
Answer- D. Bone marrow iron is depleted
Anaemia Hb gm/dl- < 7 (severe)
Increased HbF, HbA2 and absence of HbA.

- Severity of disease ++++
- Growth and development impaired
- Splenomegaly ++++
- Skeletal changes +++
- Thalassemia facies

B.M. Iron- decreased

515. Immune thrombocytopenic puprpura associated with

a) Hepatitis A infection

b) Hepatitis B infection

c) Hepatitis C infection

d) Hepatitis D infection

Correct Answer - C
Answer- C. Hepatitis C infection
Immune thrombocytopenic purpura (ITP; also termed idiopathic thrombocytopenic purpura) is an acquired disorder in which there is immune-mediated destruction of platelets and possibly inhibition of platelet release from the megakaryocyte.
ITP is termed secondary if it is associated with an underlying disorder; autoimmune disorders, particularly systemic lupus erythematosus (SLE), and infections, such as HIV and hepatitis C, are common causes.

516. Which of the following is not a cause of secondary Idiopathic thrombocytopenic purpura?

a) Systemic lupus erythmatosus

b) Hepatitis C infection

c) Rheumatoid arthritis

d) HIV infection

Correct Answer - C
Answer- C. Rheumatoid arthritis
ITP is termed secondary if it is associated with an underlying disorder; autoimmune disorders, particularly systemic lupus erythematosus (SLE), and infections, such as HIV and hepatitis C, are common causes.

517. Drug/s used in management relapsed multiple myeloma is

a) Bortezomib

b) Lenalidomide

c) Doxorubicin

d) All the above

Correct Answer - D
Answer- D. All the above
The combination of bortezomib and liposomal doxorubicin is active in relapsed myeloma.
Thalidomide, if not used as initial therapy, can achieve responses in refractory cases.
High-dose melphalan and stem cell transplant, if not used earlier, also have activity in patients with refractory disease.

518. Treatment of chronic phase of CML in pregnant women is -

a) Imatinib

b) Leukapheresis

c) Spleenectomy

d) Interferon therapy

Correct Answer - B
Answer- B. Leukapheresis
Intensive leukapheresis may control the blood counts in chronic-phase CML; however, it is expensive and cumbersome.
It is useful in emergencies where leukostasis-related complications such as pulmonary failure or cerebrovascular accidents are likely.
Splenectomy was used in CML in the past because of the suggestion that evolution to the acute phase might occur in the spleen.
Splenic radiation is used rarely to reduce the size of the spleen.

519. Which of the following drug/s can be used for immediate parenteral anticoagulation in patients with venous thromboembolism?

a) Unfractioned heparin

b) Low molecular weight heparin

c) Fondaparinux

d) All the above

Correct Answer - D
Answer- D.�All the above
Immediately effective anticoagulation is initiated with a parenteral drug: unfractionated heparin (UFH), low-molecular-weight heparin (LMWH), or fondaparinux.
One should use a direct thrombin inhibitor�argatroban, lepirudin, or bivalirudin�in patients with proven or suspected heparin-induced thrombocytopenia.
Warfarin requires 5-7 days to achieve a therapeutic effect.

520. A patient presents with icterus, but there is no evidence of bilirubin in urine. What is the most likely cause of jaundice in this patient?

a) Hemolysis

b) Gall stones

c) Carcinoma head of pancreas

d) Biliary atresia

Correct Answer - A

Answer- A. Hemolysis

Hemolysis and hyperbilirubinemia

- Increased destruction of erythrocytes leads to increased bilirubin turnover and unconjugated hyperbilirubinemia; the hyperbilirubinemia is usually modest in the presence of normal liver function.
- Therefore, hemolysis alone cannot result in a sustained hyperbilirubinemia of more than -68 umol/L (4 mg/dL).
- When hemolysis is the only abnormality in an otherwise healthy individual, the result is a purely unconjugated hyperbilirubinemia.

521. True about sideroblastic anemia

a) Severity of the disease depends on the residual erythroid ALA synthase activity

b) Prussian blue staining sideroblasts are observed

c) Pyridoxine supplementation can be used for treatment

d) All the above

Correct Answer - D

Answer- D. All the above

XLSA results from the deficient activity of the erythroid form of ALA-synthase and is associated with ineffective erythropoiesis, weakness, and pallor.

Typically, males with XLSA develop refractory hemolytic anemia, pallor, and weakness during infancy.

Peripheral blood smears reveal a hypochromic, microcytic anemia with striking anisocytosis, poikilocytosis, and polychromasia; the leukocytes and platelets appear normal.

A variety of Prussian blue-staining sideroblasts are observed. Levels of urinary porphyrin precursors and of both urinary and fecal porphyrins are normal.

522. Massive transfusion is defined as transfusion of

a) 10/ 24 or more red cell products in hours.

b) 5/12 or more red cell products in hours.

c) 10/48 or more red cell products in hours.

d) 5/24or more red cell products in hours.

Correct Answer - A

Answer: A 10/ 24 or more red cell products in hours.

Various definitions of massive blood transfusion (MBT) have been published in the medical literature such as:

- Replacement of one entire blood volume within 24 h
- Transfusion of >10 units of packed red blood cells (PRBCs) in 24 h
- Transfusion of >4 units of PRBCs in 1 h when on-going need is foreseeable

523. Which is the most common cause of thrombocytopenia in an ICU patient?

a) Sepsis

b) Bone marrow failure

c) ITP

d) Drug induced

Correct Answer - A

Answer- A. Sepsis

Thrombocytopenia is a common laboratory abnormality that has been associated with adverse outcomes in ICU patients.

Thrombocytopenia is defined as platelet count < 150 X 103 cells / mcL.

Common causes of thrombocytopenia in ICU patients:

- Sepsis
- Disseminated intravascular coagulation
- Consumption (eg, major trauma, cardiopulmonary bypass)
- Dilution (with massive transfusion)
- Myelosuppressive chemotherapy
- Mechanical circulatory support devices (eg, intra-aortic balloon pump)

Less common but important causes of thrombocytopenia that should not be missed:

- Heparin-induced thrombocytopenia
- Hemophagocytic syndrome

Uncommon causes of thrombocytopenia that develop during ICU admission

- Drug-induced thrombocytopenia (other than heparin or cytotoxic chemotherapy)

- Leukemia, myelodysplasia, aplastic anemia, etc, unless abnormalities were already present before ICU admission

524. What percentage of Multiple myeloma patients have vertebral involvement?

a) 22%

b) 44%

c) 66%

d) 88%

Correct Answer - C
Answer- C. 66%
Bone lesions are most common in the vertebral column. The following distribution was seen in a large series of cases:

- Vertebral column → 66%
- Ribs- 44%
- Skull → 4%
- Pelvis → 28%
- Femur → 28%
- Clavicle → 10%

525. Multiagent chemotherapy induces remission in of the patients of acute myelogenous leukemia

a) 65 - 70

b) 75 - 80

c) 85 - 90

d) 95 - 100

Correct Answer - C
Answer- C.�85 - 90
Aggressive multiagent chemotherapy is successful in inducing remission in approximately 85-90% of patients.
Prognostic features [t(8;21); t(15;17); inv(16); APL] and improved outcome with chemotherapy, matched sibling stem cell transplantation is recommended only after a relapse
Matched-sibling bone marrow or stem cell transplantation after remission achieves long-term disease-free survival in about two thirds of patients.

526. HbA1C criteria for a patient to be diagnosed with diabetes mellitus is

a) >4.5%

b) >5.5%

c) >6.5%

d) >7.5%

Correct Answer - C
Answer- C. >6.5%
Fasting plasma glucose > (126 mg/dl)
Two hour plasma glucose > (200mg/d1) during an oral GTT
A/C > 6.5%

527. Which of the following is not true about the development of thyroid tumors in nodular goiter?

a) Prevalence of thyroid carcinoma ranges between 5-15% in the patients with multinodular goiter

b) Papillary carcinoma is the most common carcinoma developed in patients with nodular goiter

c) Both benign and malignant neoplasms can be seen in patients with nodular goiter

d) The risk of development of carcinoma is not correlated with the level of TSH

Correct Answer - D

Answer- D. The risk of development of carcinoma is not correlated with the level of TSH

Thyroid tumors both benign and malignant can be seen in colloid goiter with both solitary and multiple nodules.

The prevalence of thyroid carcinoma ranges from 5 – 15% in multinodular goiter and 8 – 17% in solitary colloid nodules.

The prevalence in higher in men compared to women and usually occurs in older age group.

The most common malignant tumor arising in mutinodular goiter is papillary carcinoma. Other like follicular carcinoma, hurthle cell carcinoma and medullary carcinoma are also encountered

528. Indication for giving liothyronine as therapeutic management is

a) Resistant depression

b) Social phobia

c) Alzheimers disease

d) Cataplexy

Correct Answer - A
Answer- A. Resistant depression
It is the synthetic levorotatory isomer of triiodothyronine (T3).
Liothyronine is the most broadly used thyroid hormone for treatment of depression.
Liothyronine is used to accelerate the response to tricyclic antidepressants particularly in women.
It is known to augment response to antidepressants in patients with mood disorders, in those who failed to respond to a tricyclic antidepressant trialie. In patients with resistant depression.

529. Medical management of hyperparathyroidism includes which of the following?

a) Bisphosphonates

b) Calcitonin

c) Plicamycin

d) All the above

Correct Answer - D
Answer- D. All the above
Expansion of intravascular volume, administration of loop diuretics, pharmacotherapy which reduces osteoclastic bone resorption (like Bisphosphonates, Calcitonin, and Plicamycin) are useful in the medical management of hyperparathyroidism.

530. Which of the following causes of hypercalcemia is not associated with high bone turnover?

a) Hyperthyroidism

b) Vitamin A intoxication

c) Vitamin D intoxication

d) Thiazides

Correct Answer - C

Answer- C. Vitamin D intoxication

Vitamin D related

- Vitamin D intoxication
- Increased 1, 25 (OH)2D eg. Sarcoidosis
- Idiopathic hypercalcemia of infancy

Associated high bone turnover

- Hyperthyroidism
- Immobilization
- Thiazides
- Vitamin A intoxication

531. Fasting hypoglycemia is caused by the following except

a) Alcohol intake

b) Pentamidine therapy

c) Renal insufficiency

d) Chronic pancreatitis

Correct Answer - D

Answer- D. Chronic pancreatitis

Inappropriate (High) Insulin Level

- Insulin reaction in patients with diabetes - This is the most common cause of hypoglycemia, due to an imbalance between insulin supply and insulin requirements.
- Insulin secretagogue overdose in type 2 diabetes patients - Insulin secretagogues are oral hypoglycemic agents that work by stimulating insulin release from beta islet cells and, herefore, have the potential to cause hypoglycemia. Sulfonylureas
- (the most commonly prescribed type of these medications) are cleared by the kidney, so elderly patients with compromised renal function are at risk for developing hypoglycemia while on these agents.
- Factitious hypoglycemia (self induced or inadvertent)
- Autoimmune hypoglycemia
- Pentamidine - Pentamidine used for treatment/prophylaxis of PCP in patients with AIDS can cause hypoglycemia by direct injury to the beta islet cells causing hyperinsulinemia.
- Excess Insulin Secretion (Insulinoma)

532. Diabetes insipidus is said to be present when

a) > 30ml/hr urine output in 24 hrs and < 260 mosml/L osmolarity

b) > 40ml/hr urine output in 24 hrs and < 280 mosml/L osmolarity

c) > 50ml/hr urine output in 24 hrs and < 300 mosml/L osmolarity

d) > 60ml/hr urine output in 24 hrs and < 320 mosml/L osmolarity

Correct Answer - C

Answer- C. > 50ml/hr urine output in 24 hrs and < 300 mosml/L osmolarity

- Decreased secretion or action of arginine vasopressin usually manifests as diabetes insipidus, a syndrome characterized by the production of abnormally large volumes of dilute urine.
- DI must be differentiated from other etiology of polyuria.
- The test should be started in the morning with careful supervision to avoid dehydration.
- Bodyweight, plasma osmolality, serum sodium, and urine volume and osmolality should be measured hourly.
- The test should be stopped when body weight decreases by 5% or plasma osmolality/sodium exceed the upper limit of normal.
- The 24-hour urine volume is >50 ml/kg body weight or urine osmolality
- Measurement of AVP levels before and after fluid deprivation may be helpful to distinguish central and nephrogenic DI.
- Occasionally, hypertonic saline infusion may be required if fluid deprivation does not achieve the requisite level of hypertonic dehydration, but this should be administered with caution.

533. Chronic adrenal insufficiency is caused by the following organisms except

a) Mycobacterium tubercle

b) Histoplasma capsulatum

c) Coccidioides immitis

d) Mycobacterium bovis

Correct Answer - D
Answer- D. Mycobacterium bovis
Infections, particularly tuberculosis and those produced by fungi, cause primary chronic adrenocortical insufficiency.
When present, tuberculous adrenalitis is usually associated with active infection in other sites, particularly in the lungs and genitourinary
AIDS sufferers are at risk for developing adrenal insufficiency from several infectious (cytomegalovirus, Mycobacterium aviumintracellulare) and noninfectious (Kaposi sarcoma) complications.

534. Which of the following is not a feature of myxedema coma?

a) Reduced level of consciousness and seizures with other features of hypothyroidism is seen

b) Hypoventilation leading to hypoxia and hypercapnia

c) Levothyroxine can be given via intravenous and nasogastric route

d) Levothyroxine should not be used in the management

Correct Answer - D

Answer- D. Levothyroxine should not be used in the management

- Myxedema coma is defined as severe hypothyroidism leading to decreased mental status, hypothermia, and other symptoms of hypothyroidism.
- Reduced level of consciousness, sometimes associated with seizures may also be seen.
- Factors that predispose to myxedema coma include cold exposure, trauma, infection, and administration of narcotics.
- Therapy for myxedema coma should include levothyroxine (500 µg) as a single IV bolus followed by daily treatment with levothyroxine (50–100 µg/d), along with hydrocortisone (50 mg every 6 h) for impaired adrenal reserve, ventilatory support, space blankets, and treatment of precipitating factors.

535. Acute adrenal insufficiency can present as

a) Acute abdomen with abdominal tenderness, nausea,vomiting and fever

b) Neurologic disease with decreased responsiveness progressing to stupor and coma

c) Hypovolemic shock

d) All of the above

Correct Answer - D
Answer- D. All of the above
Postural hypotension may progress to hypovolemic shock.
Adrenal insufficiency may mimic features of acute abdomen with abdominal tenderness, nausea, vomiting, and fever.
In some cases, the primary presentation may resemble neurologic disease, with decreased responsiveness, progressing to stupor and coma.
An adrenal crisis can be triggered by an intercurrent illness, surgical or other stress, or increased glucocorticoid inactivation (e.g., hyperthyroidism).

536. Hypotonic solution given to correct

a) Dehydration secondary to diuretic therapy

b) Diabetic ketoacidosis

c) Hyperosmolar, hyperglycemic nonketotic syndrome

d) All the above

Correct Answer - D

Answer- D. All the above

- Hypotonic solution has osmolarity lower than seum osmolarity.
- When a patient receives hypotonic solution, fluid shifts out of the blood vessels and into the cells and interstitial spaces, where osmolarity is higher.
- Hypotonic solution hydrates cells while reducing fluid in the circulatory system.

Indications

- Dehydration secondary to diuretic therapy.
- Diabetic ketoacidosis
- Hyperosmolar, hyperglycemic nonketotic syndrome
- Examples of hypotonic solutions: half normal saline, 0.33% sodium chloride, dextrose 2.5% in water, dextrose 2.5%.

537. All of the following are causes of acute hyponatremia except

a) Glycine irrigation in TURP

b) Recent institution of thiazide therapy

c) MDMA ingestion

d) Liquorice ingestion

Correct Answer - D
Answer- D. Liquorice ingestion
causes of hyponatremia
Iatrogenic
Postoperative: premenopausal women
Hypotonic fluids with causes of 1' vasopressin
Glycine irrigation: TURP, uterine surgery
Colonoscopy preparation
Recent institution of thiazides
Polydipsia MDMA ingestion
Exercise-induced
Multifactorial, e.g., thiazide and polydipsia

538. Respiratory acidosis is recognized primarily by increase in

a) Pa02

b) PaCO2

c) HCO3

d) None of the above

Correct Answer - B
Answer- B. PaCO2
Respiratory acidosis occurs when there is accumulation of CO2 due to type II respiratory failure.it can also occur due to severe pulmonary disease, respiratory muscle fatigue, or abnormalities in ventilatory control and is recognized by an increase in Paco2 and decrease in pH
This results in a rise in the PCO2, with a compensatory increase in plasma bicarbonate concentration, particularly when the disorder is of long duration and the kidney has fully developed its capacity for increased acid excretion

539. Which of the following drug administration is not associated with hypomagnesemia?

a) Cisplatin

b) Valproate

c) Foscarnet

d) Cetuximab

Correct Answer - B
Answer- B. Valproate
Drugs causing hypomagnesemia

- Ethanol
- Diuretics (loop, thiazide, osmotic)
- Cisplatin
- Pentamidine, foscarnetCyclosporine
- Amino glycosides, amphotericin B
- Cetuximab

540. Dose of benzathaine penicillin G to be given in patients of latent syphilis in patients without penicillin allergy and normal CSF findings is

a) 0.6mU IM / week for 3 weeks

b) 1.2mU IM / week for 3 weeks

c) 2.4mU IM / week for 3 weeks

d) 4.8mU IM / week for 3 weeks

Correct Answer - C
Answer- C. 2.4mU IM / week for 3 weeks
Primary, secondary, or early latent- CSF normal or not examined: Penicillin G benzathine (single dose of 2.4 mU IM)
CSF abnormal -Treat as neurosyphilis
Late latent (or latent of uncertain duration), cardiovascular, or benign tertairy- CSF normal or not examined: Penicillin G benzathine (2.4 mU IM weekly for 3 weeks).
CSF abnormal : Treat as neurosyphilis

541. SARS infection case fatality rate of >50% is observed in patients of which age group?

a) < 20 yrs

b) 20 - 40 years

c) 40 - 60 years

d) > 65 years

Correct Answer - D
Answer- D. > 65 years
The case fatality rate from SARS-CoV infection during the 2003 outbreak was 10-17%. No pediatric deaths were reported. The estimated case fatality rate according to age varied from <1% for those younger than 20 year of age to >50% for those older than 65 yr of age.

542. Which of the following corroborates to the presence of clostridium difficle infection in patients taking antibiotics for another cause?

a) Diarrhoea unformed stools per 12 h for 2 days with no other recognized cause

b) Diarrhoea unformed stools per 24 h for 2 days with no other recognized cause

c) Diarrhoea unformed stools per 24 h for 3 days with no other recognized cause

d) Diarrhoea unformed stools per 24 h for 4 days with no other recognized cause

Correct Answer - B

Answer- B. Diarrhoea unformed stools per 24 h for 2 days with no other recognized cause

Diarrhoea unformed stools per 24 h for 2 days with no other recognized cause.

Toxin A or B detected in the stool by PCR or culture.

Pseudomembranes seen in colon by endoscopy.

543. Following are the features of neuropathy associated with varicella-zoster infection except

a) Persistent infection in neurons of sensory ganglia

b) With reactivation virus transported along nerves to skin

c) Shingles are distributed along motor dermatomes

d) Intranuclear inclusions are not found in peripheral nervous system

Correct Answer - C

Answer- C. Shingles are distributed along motor dermatomes

Varicella-zoster is one of the most common viral infections of the peripheral nervous system.

Following chickenpox, a latent infection persists within neurons of sensory ganglia.

If the virus is reactivated, sometimes many years later, it may be transported along the sensory nerves to the skin.

Here it infects keratinocytes, leading to a painful, vesicular skin eruption (shingles) in a distribution that follows sensory dermatomes

Most common is the involvement of thoracic or trigeminal nerve dermatomes.

544. Which of the following is not true about the epididymo¬orchitis of mumps?

a) It is the most common manifestation of mumps infection

b) Testicular enlargement usually resolves in 1 week

c) Bilateral testicular involvement seen in 10 - 30% of cases

d) Sterility rarely develops in these patients

Correct Answer - A

Answer- A. It is the most common manifestation of mumps infection

- Epididymo-orchitis is the second most common manifestation of mumps, developing in 15–30% of cases in postpubertal males.
– Orchitis, characterized by a painful, tender, fever and enlarged testis, is bilateral in 10–30% of cases and resolves within 1 week.
– Oophoritis (manifested by lower abdominal pain and vomiting) occurs in ~5% of women with mumps.
– Sterility in mumps is rare.

545. Most common nerve affected in leprosy

a) Posterior tibial

b) Ulnar

c) Median

d) Facial

Correct Answer - A
Answer- A. Posterior tibial
Leprosy affects peripheral mixed nerves and cutaneous nerves. The most common peripheral nerves affected in the order of frequency are the posterior tibial>ulnar> median> lateral popliteal> facial > radial

546. Austrian syndrome is caused by which infection

a) Staphylococcus aureus

b) Streptococcus pneumoniae

c) Staphylococcus epidermidis

d) Streptococcus viridans

Correct Answer - B
Answer- B. Streptococcus pneumoniae
Austrian syndrome is a medical condition first described by Robert Austrian in 1957.
The classical triad consists of pneumonia, endocarditis, and meningitis, all caused by Streptococcus pneumoniae.
It is associated with alcoholism, due to the presence of hyposplenia (reduced splenic functioning), and can be seen in males between 40 and 60 years old.

547. Factors contributing to the development of complications in measles are the following except-

a) Age group 5-20 years

b) Higher case fatality with overcrowding

c) Severe malnutrition

d) Lower serum retinol levels

Correct Answer - A

Answer- A. Age group 5-20 years

Complications of measles are largely attributable to the pathogenic effects of the virus on the respiratory tract and immune system. Morbidity and mortality from measles are greatest in patients younger than 5 yr of age (especially <1 yr of age) and older than 20 yr of age.

548. True about VHL syndrome is

a) It is an autosomal recessive condition

b) Central nervous system is not involved

c) Regular screening for clear cell carcinoma of kidneys is essential

d) VHL is a growth promoter gene

Correct Answer - C

Answer- C. Regular screening for clear cell carcinoma of kidneys is essential

Von Hippel-Lindau disease (VHL) is a rare autosomal dominant disease characterized by abnormal angiogenesis with benign and malignant tumors that affect multiple tissues.

The disease is inherited as a mutation in one allele of the VHL tumor-suppressor gene.

Somatic mutation of the normal allele leads to retinal angiomas, central nervous system (CNS) hemangioblastomas, pheochromocytomas and multicentric clear cell cysts, hemangiomas, and adenomas of the kidney.

The hi h risk of renal cell carcinoma mandates i eriodic surveillance usuall earl in adults b CT or MRI. Routine screening and awareness of the natural history of lesions has enabled renal-sparing approaches to disease management.

549. Tuberous sclerosis is caused by mutations in the following proteins

a) Hamartin

b) Tuberin

c) Merlin

d) Ankyrin

Correct Answer - A:B
Answer- A. Hamartin & B. Tuberin
It is caused by mutations in either the TSC1 gene, which maps to chromosome 9q34, and encodes a protein termed hamartin, or mutations in the TSC2 gene, which maps to chromosome 16p13.3 and encodes the tuberin protein.
Hamartin forms a complex with tuberin, which inhibits cellular signaling through the mammalian target of rapamycin (mTOR), and acts as a negative regulator of the cell cycle.
Patients with tuberous sclerosis have seizures, mental retardation, adenoma sebaceum (facial angiofibromas), shagreen patch, hypomelanotic macules, periungual fibromas, renal angiomyolipomas, and cardiac rhabdomyomas.

550. What characteristic finding of tuberous sclerosis is present at birth but not later in life?

a) Cardiac rhabdomyosarcoma

b) Facial angiofibroma

c) Periungal fibroma

d) Renal angiomyolipoma

Correct Answer - A

Answer- A. Cardiac rhabdomyosarcoma

Patients with tuberous sclerosis have seizures, mental retardation, adenoma sebaceum (facial angiofibromas), shagreen patch, hypomelanotic macules, periungual fibromas, renal angiomyolipomas, and cardiac rhabdomyomas.

Cardiac rhabdomyosarcomas can be present at birth in upto 80% of the infants with tuberous sclerosis. These involute in the first three years of life and completely disappear by adulthood

551. Following is not true about epinephrine

a) Has potent alpha and beta stimulating properties

b) It improves coronary perfusion pressure and myocardial blood flow

c) Increases cerebral blood flow during CPR

d) Routine use of high dose epinephrine during resuscitation is indicated

Correct Answer - D

Answer- D. Routine use of high dose epinephrine during resuscitation is indicated

Epinephrine (adrenaline) is an endogenous catecholamine with potent a- and 11-adrenergic stimulating properties.

The adrenergic action (vasoconstriction) increases systemic and pulmonary vascular resistance. The resultant higher aortic diastolic blood pressure improves coronary perfusion pressure and myocardial blood flow even though it reduces global cardiac output during CPR.

epinephrine also increases cerebral blood flow durin ood u uali CPR because peripheral vasoconstriction directs a greater proportion of flow to the cerebral circulation.However, epinephrine can decrease local cerebral microcirculatory blood flow at a time when global cerebral flow is increased.

552. Z track technique must be used for administration of

a) Injection Iron Dextran deep IM

b) Injection Hydroxyzine hydrochloride deep IM

c) Injection Depomedroxyprogesterone iv

d) Injection erythromycin

Correct Answer - A:B

Answer- A. Injection Iron Dextran deep IM & B. Injection Hydroxyzine hydrochloride deep IM

With intramuscular injections medications can leak upward into the subcutaneous tissues causing staining, bruising and significant pain for several weeks or longer with some medications.

Nurses are encouraged to use the Z track technique (causing a needle track or pathway in the shape of Z) any time an intramuscular injection is given, to prevent leakage and associated pain.

The Z track technique must be used whenever a deep intramuscular injection of iron dextran, and other irritating solutions such as hydroxyzine hydrochloride and several antipsychotic agents are given.

553. In man what quantity of ethyl alcohol consumed daily for > 10 years increases the relative risk of development of alcoholic liver disease

a) 20g/d

b) 40g/d

c) 60g/d

d) 80g/d

Correct Answer - D
Answer- D. 80g/d
80g/day x 10+ yr.

554. Which of the following antineoplastic agents is used in the management of Hodgkins lymphoma, non Hodgkins lymphoma and small cell carcinoma of lung?

a) Cisplatin

b) Bleomycin

c) Paclitaxel

d) Doxorubicin

Correct Answer - A
Answer- A. Cisplatin
Cisplatin is used in the management of Hodgkins lymphoma, non Hodgkins lymphoma and small cell carcinoma of lung.

555. Pierre robin syndrome following is true except

a) Consists of micrognathia and cleft palate

b) Tongue is of normal size

c) Airway obstruction particularly during expiration

d) 30 - 50% patients have Stickler syndrome

Correct Answer - C

Answer C. Airway obstruction particularly during expiration

Pierre Robin syndrome consists of micrognathia usually accompanied by a high arched or cleft palate.

The tongue is usually of normal size, but the floor of the mouth is foreshortened.

The air passages can become obstructed, particularly on inspiration, usually requiring treatment to prevent suffocation.

The infant should be maintained in a prone or partially prone position so that the tongue falls forward to relieve respiratory obstruction.

Some patients require tra- cheostomy.

Mandibular distraction procedures in the neonate can improve mandibular size, enhance respiration, and facilitate oral feedings.

Sufficient spontaneous mandibular growth can take place within a few months to relieve the potential airway obstruction.

Often the growth of the mandible achieves a normal profile in 4-6 year.

556. Mantle field radiation was used for management of -

a) Hodgkins lymphoma

b) Mantle cell lymphoma

c) Multiple myeloma

d) Cervical carcinoma

Correct Answer - A
Answer- A. Hodgkins lymphoma
Mantle field radiation is a type of radiation treatment used for Hodgkin's lymphoma
The term 'mantle' is derived from the name of a garment, much like a cloak, used many years back. The shape of the exposed area the radiation field has contours that resemble the shielding cloak.
This type of large radiation field is not commonly used today.

557. Alien limb syndrome seen in

a) Post neurosurgical cases

b) Alzheimers disease

c) Creutzfeldt-Jakob disease

d) All the above

Correct Answer - D
Answer- D. All the above
Alien hand syndrome (AHS) is a condition in which a person experiences their limbs acting seemingly on their own, without control over the actions.
The term is used for a variety of clinical conditions and most commonly affects the left hand.
Alien hand syndrome is best documented in cases where a person has had the two hemispheres of their brain surgically separated, a procedure sometimes used to relieve the symptoms of extreme cases of epilepsy.
It also occurs in some cases after brain surgery,stroke,infection, tumor, aneurysm and specific degenerative brain conditions such as Alzheimer's disease and Creutzfeldt-Jakob disease.

558. Osmolarity of Milk F-100 is

a) 399 mOsm/L

b) 409 mOsm/L

c) 419 mOsm/L

d) 429 mOsm/L

Correct Answer - C
Answer- C. 419 mOsm/L
UNICEF and WHO prepared two formula diets by modification of the cows milk - Milk F-75 (starter 75 kcal/100 ml) and F-100 (followup 100 kcal/ 100 ml).

559. Which of the following drugs can cause seizures except?

a) Lithium

b) Phencyclindine

c) INH

d) Ketorolac

Correct Answer - D
Answer- D. Ketorolac
Psychotropics
Antidepressants
Antipsychotics
Lithium
Drugs of abuse Amphetamine Cocaine
Phencyclidine Methylphenidate Flumazenil

560. Riboflavin deficiency causes

a) Corneal vascularization

b) Anemia

c) Personality changes

d) All the above

Correct Answer - D
Answer- D. All the above
Riboflavin deficiency is manifested principally by lesions of the mucocutaneous surfaces of the mouth and skin. In addition to the mucocutaneous lesions, corneal vascularization, anemia, and personality changes have been described with riboflavin deficiency.

561. Soret band in which porphyrins absorb light lie at what wavelength of the spectrum of light?

a) 200nm

b) 300nm

c) 400nm

d) 500nm

Correct Answer - C
Answer- C. 400nm
Due to this structure porphyrins avidly absorb light in a region near 400 nm of the light spectrum. This part of the light spectrum is called the Soret band.

562. Which of the following is not seen after nerve transection?

a) Morphologic pattern of wallerian degeneration

b) Myelin ovoids

c) Painful neuroma

d) Neuroma in continuity

Correct Answer - D

Answer- D. Neuroma in continuity

The morphologic hallmarks of axonal neuropathies produced by cutting a peripheral nerve, results in a prototypical pattern of injury described as Wallerian degeneration

Within a day of injury, the distal axons begin to fragment and the associated myelin sheaths unravel and disintegrate into spherical structures (myelin ovoids).

A failure of the outgrowing axons to find their distal target can produce a "pseudotumor" termed traumatic neuroma— a nonneoplastic haphazard whorled proliferation of axonal processes and associated Schwann cells that results in a painful nodule.

563. Reactive nitrogen species for killing of microbes are mainly derived from

a) Elemental nitrogen [N3]

b) Nitric Oxide [NO]

c) Nitrogen Dioxide [NO2]

d) Nitrous Oxide [N20]

Correct Answer - B
Answer- B. Nitric Oxide [NO]
Killing of microbes is accomplished by reactive oxygen species (ROS, also called reactive oxygen intermediates) and reactive nitrogen species, mainly derived from nitric oxide (NO), and these as well as lysosomal enzymes destroy phagocytosed debris.
This is the final step in the elimination of infectious agents and necrotic cells.

564. During state of arousal in men relaxation of smooth muscle in corpus cavernosum is mainly caused by

a) Acethycholine

b) Nitric oxide

c) Bicarbonate ions

d) Calcium

Correct Answer - B

Answer- B. Nitric oxide

Erectile dysfunction (ED) refers to the inability of men to attain and maintain an erect penis with sufficient rigidity to allow sexual intercourse.

Nitric oxide (NO) released parasympathetic nonadrenergic noncholinergic (NANC) nerves andvascular endothelium is the major transmitter causing relaxation of smooth muscle in corpus cavernosum and blood vessels supplying it; ACh and PGs also play a role.

565. Which of the following genes if affected will sporadically cause Juvenile myeloid leukemia?

a) NF1

b) PTEN

c) APC

d) SMAD2

Correct Answer - A
Answer- A. NF1
NF1 - Neurobiastoma, juvenile myeloid leukemia

566. Chronic manifestations of Aspergillosis are not evident in which of the following organs?

a) Skin

b) Brain

c) Lung

d) Eye

Correct Answer - D
Answer- D. Eye
Lung, sinus, brain, skin, heart,

567. Oculogyric crisis is known to be produced by all of the following drugs except

a) Trifluoperazine

b) Atropine

c) Perchlorperazine

d) Perphenazine

Correct Answer - B
Answer- B. Atropine
Oculogyric crisis is one of the manifestations seen in acute dystonic reaction (acute muscular dystonia).
Other manifestations are facial grimacing, torticollis, locked jaw, abnormal contraction of spinal muscles (opisthotonus).
It occurs within 1 to 5 days of antipsychotic therapy.
Trifluperazine, perchlorperazine and perphenazine are antipsychotic

568. Which metabolic derangement is seen in pregnancy?

a) Metabolic acidosis

b) Metabolic alkalosis

c) Respiratory acidosis

d) Respiratory alkalosis

Correct Answer - D
Answer- D. Respiratory alkalosis
Hyperventilation in pregnancy will lead to respiratory alkalosis.
The hyperventilation that occur during pregnancy is probably due in part to progesterone stimulating the centre.
Lung volume changes and altered compliance may also contribute.
The effect is a chronic respiratory alkalosis which is compensated by renal excretion of bicarbonate.

569. Which of the following is not used for investigation of fat malabsorption

a) 13C Trioctanoin

b) 13C Triolein

c) 13C Tripalmitin

d) 13C Triclosan

Correct Answer - D
Answer- D. 13C Triclosan
Tests used for fat malabsorption
.. "C Triolene breath test
2. '3C Tripalmitin breath test
3. '3C Mixed-Triglyceride breath test
4. "C-Trioctanoin breath test

570. Vitamin E deficiency causes

a) Hemorrhagic stroke

b) Cardiac failure

c) Ataxia

d) Megalablastic anemia

Correct Answer - C
Answer- C. Ataxia
Clinical Manifestations
Axonal degeneration
Hemolytic anaemia
Peripheral neuropathy
Spinocerebellar ataxia
Dry skin
Thrombocytosis
Ataxia

571. 1 year old male child is having a Heart Rate 40/min, BP 90/60. His serum Potassium = 6.5 what is the next best management?

a) Ipratropium

b) Adrenaline

c) Sodium bicarbonate

d) Calcium chloride

Correct Answer - C

Answer- C. Sodium bicarbonate

For severe elevation 7 meq/L

You need to shift potassium into the cells together with elimination of potassium from the body

1. Stabilize the heart
2. Shift potassium into cells
3. Promotes potassium excretion

Shift potassium into the cells

- Calcium Chloride : reduce the effect of potassium at the myocardial cell membrane
- Sodium bicarbonate
- Glucose plus insulin
- Nebulized albuterol

Promotes potassium excretion

- Diuretics (Furosemide)
- Kayexalate
- Dialysis

[Ref Harrison's 18`51e chapter 45]

572. Most common presentation of extra-pulmonary TB

a) Tubercular lymphadenitis

b) Peritoneal TB

c) Pericardial TB

d) Tubercular meningitis

Correct Answer - A
Answer- A. Tubercular lymphadenitis
The most common presentation of extra-pulmonary TB in both HIV sero-negative and HIV-infected patients to about 35% in general, lymph node disease is particularly frequent among HIV infected patients and in children.

573. Incorrect about takayasu arteritis

a) Spares pulmonary artery

b) Renovascular hypertension

c) Blood pressure difference between left and right limbs

d) Strongly positive mantoux

Correct Answer - A

Answer- A. Spares pulmonary artery

Takayasu arteritis is granulomatous vasculitis of large and medium arteries. It is characterized principally by ocular disturbance and marked weakening of pulses in the upper extremities -> Pulseless disease.

It is also characterized by a strong predilection for aortic arch and its branches - Aortic arch syndrome.

Subclavian artery is involved most commonly

Other vessels involved are common carotid, abdominal aorta, coeliac, superior mesenteric, renal, vertebral, iliac, pulmonary and coronary arteries.

574. Which of the following is associated with highest risk of Anaphylaxis

a) Iron dextran

b) Iron sucrose

c) Ferumoxytol

d) Iron Gluconate

Correct Answer - A
Answer- A. Iron dextran
The risk of anaphylaxis is maximally associated with high molecular weight dextran (not so with low molecular weight dextran).

575. Herpes simplex infection can lead to?

a) Frontal lobe infarction

b) Parietal lobe infarction

c) Temporal lobe infarction

d) Occipital neuralgia

Correct Answer - C
Answer- C. Temporal lobe infarction
Herpes simplex infection has a predilection for the involvement of Temporal lobe.
The lesions in HSV encephalitis are intense hemorrhagic necrosis of the inferior and medial temporal lobe and the mediorbital part of frontal lobes.

576. C V junction abnormalities are seen in all of the following except

a) Rheumatoid arthritis

b) Ankylosing spondylitis

c) Odontoid dysgenesis

d) Basilar invagination

Correct Answer - B

Answer- B. Ankylosing spondylitis

Developmental and acquired abnormalities

Atlanto axial instability

1. Errors of metabolism (e.g. Morquio's syndrome)
2. Infections (e.g. Grisel's syndrome)
3. Inflammatory (e.g. rheumatioid arthritis, Psoriasis, Ankylosing Spondylitis)
4. Traumatic atlanto-axial dislocation, Atlantal-dislocation, Down syndrome
5. Malignancy (e.g. Chordoma, Plasmacytoma, Osteoblastoma, Neurofibromatosis)
6. Degenerative (e.g. fetal warfarin syndrome, Conradi's Syndrome, Goldenhar syndrome

577. Most common mechanism of arrhythmia ?

a) Re-entry

b) Early after depolarization

c) Late after depolarization

d) Automaticity

Correct Answer - A
Answer- A. Re-entry
Re-entry appears to be basis for most abnormal sustained Supra Ventricular Tachycardias (SVTs) and VTs.
Examples of re-entry are :-

- VF due to acute myocardial ischemia and

578. Which of the following is the common cause of respiratory failure type 2 ?

a) Chronic bronchitis exacerbation

b) Acute attack asthma

c) ARDS

d) Pneumonia

Correct Answer - A
Answer- A. Chronic bronchitis exacerbation
Type II respiratory failure occurs due to alveolar hypoventilation

579. Which of the following is seen in sarcoidosis

a) Hypercalcemia

b) Hypocalcemia

c) Hyperphosphatemia

d) Hypophosphatemia

Correct Answer - A
Answer- A. Hypercalcemia
Granuloma of sarcoidosis can secret 1-25 (OH)2 vitamin D. Therefore, patients of sarcoidosis may develop hypercalcemia.

580. In a patient with COPD, best management option is

a) Quit smoking

b) Bronchodilators

c) Low flow oxygen

d) Mucolytics

Correct Answer - C
Answer- C. Low flow oxygen
Therapy is started with short-acting bronchodilator (beta-agonist or anticholinergic).
Long-term oxygen therapy is used in all patients with COPD who have chronic hypoxemia

581. In a patient there is dyspnea in upright position which is relieved in supine position, Diagnosis ?

a) Tachypnea

b) Orthopnea

c) Paroxysmal nocturnal dyspnea

d) Platypnea

Correct Answer - D

Answer- D. Platypnea

Platyapnea (Orthodeoxia)

- Dyspnoea when a patient moves to sitting or standing position from a recumbent position.

582. After Road traffic accident a patient presented to casualty with vitals showing BP of 90/60 mm Hg with heart of 56 bpm. Which kind of shock occurs ?

a) Cardiogenic

b) Neurogenic

c) Distributive

d) Hypovolemia shock

Correct Answer - B
Answer- B. Neurogenic
Neurogenic shock is a distributive type of shock resulting in low blood pressure, occasionally with a slowed heart rate, that is attributed to the disruption of the autonomic pathways within the spinal cord.
It can occur after damage to the central nervous system such as spinal cord injury.

583. Most common cause of idiopathic interstitial pneumonia is

a) Sarcoidosis

b) Organizing pneumonia

c) Idiopathic pulmonary fibrosis

d) Lipoid pneumonia

Correct Answer - C
Answer- C. Idiopathic pulmonary fibrosis
Idiopatic pulmonary fibrosis
Idiopathic nonspecific interstitial pneumonia

584. Man working in hot environment & drinking lots of water without intake of salts is liable to develop -

a) Heat hyperpyrexia

b) Heat cramps

c) Heat stroke

d) Heat encephalopathy

Correct Answer - B
Answer- B. Heat cramps
Heat cramps/Miner's cramps/Stoker's cramp/Firemen's cramp
These are painful spasm of voluntary muscles which follow sternous work in a hot atmosphere.
These are caused by loss of water and salt in profuse prespiration (sweating).

585. Clicking noise in Pneumomediastinum is known as

a) Hamman sign

b) Trail sign

c) Kussmaul sign

d) None

Correct Answer - A
Answer- A. Hamman sign
Crunching or clicking noise heard synchronously with the heart beat on auscultation and best heard in the left lateral decubitus position. It is associated with "Pneumomediastinum".

586. True abour drug induced SLE is except ?

a) Female: Male ratio=9:1

b) Anti-histone Antibodies

c) CNS involvement not common

d) Renal involvement not common

Correct Answer - A
Answer- A. Female: Male ratio=9:1
It is predominant in caucasians
It has less female preddiction than SLE
It rarely involves kidneys or brain
It is rarely associated with anti Ds DNA
It is commonly associated with antibodies to histones
It usually resolves over several weeks after discontinuation of the offending medication.

587. Emphysema presents with all except

a) Cyanosis

b) Barrel shaped chest

c) Associated with smoking

d) Type I respiratory failure

Correct Answer - A

Answer- A. Cyanosis

- Dyspnoea
  Cough or wheezing (some patient)
- Weight loss
  Barrel-Chest
- FEVC and FEV1 are reduced. TLC, RC, and FRC are increased due to hyperinflation.
- Cyanosis is rare (in contrast to chronic bronchitis)
- Emphysema (COPD) causes type-1 respiratory failure

588. All are seen in emphysema except

a) Decreased vital capacity

b) Hyperinflation

c) Rhonchi

d) Reduced Dlco

Correct Answer - C
Answer- C. Rhonchi
Cough or wheezing (some patient)

- Weight loss

Barrel-Chest

- FEVC and FEV1 are reduced. TLC, RC and FRC are increased due to hyperinfcation.
- Cyanosis is rare (in contrast to chronic bronchitis)
- Emphysema (COPD) causes type-1 respiratory failure

589. Flushing with niacin in reduced by -

a) Laropiprant

b) Premedication with aspirin

c) Tachyphylaxis

d) All of the above

Correct Answer - D
Answer- D. All of the above
Laropiprant (selective prostaglandin D2 receptor antagonid)
Premedication with aspirin
Flushing as subject to tachyphylaxis and often improves with time.

590. Most common cause of lung abscess is comatose patient

a) Staph aureus

b) Oral anaerobes

c) Klebsiella

d) Tuberculosis

Correct Answer - B

Answer- B. Oral anaerobes

- Most lung abscesses in moribund intubated patients are due to anaerobic bacteria, like peptostreptococcus, Bacteroides etc. Lung abscess
- The term pulmonary abscess describes a local suppurative process within the lung, characterized by necrosis of lung tissues

Etiology

- As aspiration of oropharyngeal secretions is the most common cause, organisms most commonly causing lung abscess are those normally found in oral cavity, i.e., Anaerobic bacteria (Bacteroides, Fusobacterium, peptococcus species). Other organisms are S. aureus, Klebsiella, Nocardia and gram negative bacteria.

591. Which can be give in hemorrhagic stroke ?

a) Normal saline

b) Colloids

c) Blood transfusion

d) Hypertonic fluids

Correct Answer - A
Answer- A. Normal saline
Normal saline initially should be used for maintenance and replacement fluids :
Hypotonic fluids are contraindicated as they may exacerbate cerebral edema and intracranial pressure.
Hypervolemia should be avoided as it may worsen cerebral edema.

592. If a person is having ventriular tachycardia, extra systoles appears to

a) P wave

b) QRS complex

c) T wave

d) R wave

Correct Answer - B
Answer- B. QRS complex
Extra systole in ventricular tachycardia appears in QRS complex when an irritable focus in any part of the ventricular myocardium activates the ventricles before the arrival of the next normal wave of depolarisation from the atria a ventricular extrasystole is produced.

593. Most common arrhythmia in ICU patients -

a) Atrial flutter

b) Atrial fibrillation

c) PSVT

d) NPAT

Correct Answer - B
Answer- B. Atrial fibrillation
Most common arrhythmia in I.C.U. patient → Atrial fibrillation
Most common arrhythmia in a patient with Cardiac arrest → Ventricular fibrillation

594. In a patient who was brought to casualty after RTA with pulse rate 108, SBP 80. Which fluid is to be given ideally?

a) Plasma

b) Normal Saline

c) Blood

d) 5% dextrose

Correct Answer - B
Answer- B. Normal Saline
Initial resuscitation requires rapid reexpansion of the circulating intravascular blood volume along with interventions to control ongoing losses.
Volume resuscitation is initiated with the rapid infusion of either isotonic saline or a balanced salt solution such as Ringer's lactate

595. Patient of 1st degree heart block complains of dizziness. Best treatment for this patient is

a) Atropine

b) Isoprenaline

c) Adrenaline

d) Pacemaker

Correct Answer - D
Answer- D. Pacemaker
The most definitive or reliable treatment for patient with symptomatic A. V. conduction system is temporary or permanent pacing.

596. Which of the following condition does not cause multiple painful ulcers on tongue?

a) TB

b) Sacroidosis

c) Herpes

d) Behcet disease

Correct Answer - B
Answer- B. Sacroidosis
Painful ulcers in mouth

- Apthous ulcers
- Behcet disease
- Denture stomatitis
- Thermal burns
- Tuberculosis
- Herpes
- Carcinoma tongue
- Arsenic poisoning

597. All are used for secondary prevention of MI except

a) Aspirin

b) Statins

c) Beta blockers

d) Warfarin

Correct Answer - D
Answer- D. Warfarin
Medicines used in the secondary prevention of M.I.

- Long term dual antiplatelet therapy with aspirin and P2Y12 receptor blocker.
- Statins (high intensity).
- Angiotensin converting enzyme inhibitors in patient with diabetes heart failure, left ventricular ejection fraction.
- f3 blockers.

598. Which of the following substances is primarily found in tendons?

a) Collagen

b) Fibrin

c) Fibrillin

d) Protedglycans

Correct Answer - A
Answer- A. Collagen
Tendon is primarily made up of collagen.

599. Not recommended in coronary artery disease patients

a) Daily exercise

b) Potassium

c) Vitamin-E

d) Statins

Correct Answer - C
Answer- C. Vitamin-E
Intervention studies using vitamin E to prevent cardiovascular disease or cancer have not shown efficacy

600. Number of barr bodies in klinfellter's syndrome is -

a) 0

b) 1

c) 2

d) 3

Correct Answer - B
Answer- B. 1
Found in female But -

- Kleinefelter syndrome is male with one Barr body.
- Turner syndrome is female without Barr body.

601. Digitalis is used in mitral stenosis when patient develops

a) Atrial fibrillation

b) Right ventricular failure

c) Acute pulmonary edema

d) Myocarditis

Correct Answer - A

Answer- A. Atrial fibrillation

Drugs useful in slowing the ventricular rate of patients with AF

- Beta blockers,
- Nondihydropyridine calcium channel blockers (e.g., verapamil or diltiazem), and
- Digitalis glycosides

602. Incorrect about LAMB syndrome -

a) Lentigines

b) Atrial Myxoma

c) Myaesthenic syndrome

d) Blue Nevi

Correct Answer - C
Answer- C. Myaesthenic syndrome
LAMB syndrome is characterized by presence of :-

- Lentigines
- Atrial Myxoma
- Blue nevi.

603. Which one of the following is not an early complication of acute myocardial infarction ?

a) Papillary muscle dysfunction

b) Ventricular septal defect

c) Paricarditis

d) Dressler's syndrome

Correct Answer - D

Answer- D. Dressler's syndrome

Dressler's syndrome is a late complication of myocardial infarction. It usually occurs 1-8 weeks after myocardial infarctions

604. Most common malignant tumor of heart in adults

a) Sarcoma

b) Rhabdomyoma

c) Lipoma

d) Paraganglioma

Correct Answer - A
Answer- A. Sarcoma
Almost all primary cardiac malignancies are sarcomas.

605. In which of causes of oral ulcer, Auto-antibodies are not seen?

a) Behcet disease

b) SLE

c) Pemphigus

d) Celiac disease

Correct Answer - A
Answer- A. Behcet disease
Behcet's disease is classified among the vasculitides laboratory diagnostic does not include regularly autoantibodies associated with vascular manifestations of systemic autoimmune disease.

606. Which is the best way to differentiate between stable angina and NSTEMI?

a) ECG

b) Cardiac-biomarker

c) Trans thoracic Echocardiography

d) Multi uptake gated Acquisition scan

Correct Answer - B
Answer- B. Cardiac-biomarker
The differentiating feature between Angina and MI is the elevation of cardiac markers°.(no elevation is seen in Angina)

607. Aetiology of Dressler Syndrome is

a) Viral

b) Autoimmune

c) Idiopathic

d) Toxin mediated

Correct Answer - B
Answer- B. Autoimmune
Immunological factors are thoughts to be of primary importance. The immune complexes hat are generated are deposited into the pericardium, pleura and lungs.

608. Murmur heard in aortic stenosis

a) Right 2nd intercistal, low pitch murmur

b) Apex, low pitch murmur

c) Left Sternal area, low pitch murmur

d) Pen-systolic murmur, high pitch murmur

Correct Answer - A
Answer- A. Right 2nd intercistal, low pitch murmur
Typically heard at the base of the heart in Aortic area (second intercostal space).
Harsh quality.
Generally begins after Si and end S before S2.

609. All are true about cross-matching of blood except -

a) Mandatory in all cases except emergency

b) Recipient serum is tested against donor packed cells

c) Donor serum is tested against recipient packed cells

d) Involves visible agglutination

Correct Answer - C

Answer- C. Donor serum is tested against recipient packed cells

Cross matching involves testing the patients serum with donor cells to determine whether the patient has an antibody which may cause a hemolytic transfusion reaction

610. Becks triad is seen in

a) Constrictive pericarditis

b) Restrictive cardiomyopathy

c) Cardiac tamponade

d) None of the above

Correct Answer - C
Answer- C. Cardiac tamponade
Beck's triad is characteristic of cardiac Tamponade, it includes :

- Increased venous pressure
- Decreased arterial pressure
- Muffled heart sounds, silent heart (due to presence of fluid in pericardium).

611. All are seen in Nephrotic syndrome except

a) Atherosclerosis

b) Thrombo-embolism

c) Increased protein C levels

d) Lipiduria

Correct Answer - C
Answer- C. Increased protein C levels
Nephrotic syndrome is a clinical complex characterized by a number of renal and extrarenal features, most prominent of which are
Proteinuria (in practice > 3.0 to 3.5gm/24hrs),
Hypoalbuminemia, Edema
Hypertension
Hyperlipidemia, Lipiduria
Hypercoagulabilty(result of Loss of Antithrombin III)

612. All are seen in carney's triad except -

a) Atrial myxoma

b) GIST

c) Chondroma

d) Paraganglioma

Correct Answer - A
Answer- A. Atrial myxoma
Extra-adrenal paraganglioma (e.g. extra adrenal phaeo-chromocytoma)
Gastrontestinal stromal tumors previously known as gastric epithelioid leiomyosarcoma
Pulmonary chondroma hamartoma only 2 of the 3 tumors are present at the time of diagnosis typically affects young people.

613. Basket weave appearance of glomerular basement membrane on electron microscopy is seen in

a) Alport syndrome

b) Acute post stretptococcal GN

c) Polyarteritis nodosa

d) Giant cell arteritis

Correct Answer - A
Answer- A. Alport syndrome
Basketweave appearance of glomerular basement membrane on Electron Microscopy is seen in Alport's syndrome.
In Alport's Syndrome, the glomerular basement membrane shows irregular thinning and thickening with a lamellated basket-weave appearance in the thickened area due to extensive remodeling and injury of the basement membrane.

614. All of the following causes acute renal failure except

a) Pyelonephritis

b) Snakebite

c) Rhabdomyolysis

d) Analgesic nephropathy

Correct Answer - D
Answer- D. Analgesic nephropathy
Analgesic nephropathy causes chronic interstitial nephritis and presents with chronic kidney disease.
AKI is a serious complication of snakebites by the viperidae family

615. Martel sign is seen in -

a) Gout

b) Ankylosing spondylitis

c) Osteoarthritis

d) Rheumatoid arthritis

Correct Answer - A
Answer- A. Gout
Martel's sign is not present in all cases of gouty arthritis.
Martel's sign, which is a radiological sign (straight arrow) to describe the overhanging margin of the new bone alone the edge of erosion.

616. All are true about GFR except

a) 30-40% decrease after 70 years of age

b) Best estimated by creatinine clearance

c) C.K.D is defied as GFR < 30 ml/min/1.732 for 4 weeks

d) GFR is dependent on height in children

Correct Answer - C

Answer- C. C.K.D is defied as GFR < 30 ml/min/1.732 for 4 weeks

International Ascitic Club Criteria for HRS	
• Serum **creatinine** > **1.5** mg/dL[Q] • **Absence of shock**, **bacterial infection**, **nephrotoxic drugs**, **diarrhea** or **renal fluid losses**[Q] • **Absence** of significant **proteinuria** (< **500** mg/day)[Q] • **No evidence** of **obstructive uropathy**[Q]	• **Low urine volume** (< **500** ml/day) and **low urine sodium** (< **10** mEq/L)[Q] • **No sustained improvement** in renal function **after diuretic withdrawal** and expansion of plasma volume with **1.5 L** of **isotonic saline**[Q]

617. Manifestations of vitamin E.deficiency are all except -

a) Hemolytic anemia

b) Posterior column abnormalities

c) Cerebellar ataxia

d) Autonomic dysfunction

Correct Answer - D
Answer- D. Autonomic dysfunction
The clinical manifestations are edema, hemolytic anemia (due to fragile red cell's membrane as a result of lipid peroxidation) and thrombocytosis. Nerve and muscle membrane damage may occur. Vitamin E deficiency causes axonal degeneration of the large myelinated axons and results in posterior column and spinocerebellar symptoms.

618. Dialysis indications

a) Hypertension

b) Hypokalemia

c) Pericarditis

d) Metabolic alkalosis

Correct Answer - C
Answer- C. Pericarditis
Indications of dialysis in chronic renal failure
Pericarditis or pleuritis (urgent indication).
Progressive uremic encephalopathy or neuropathy, with signs such as confusion, asterixis, myoclonus, wrist or foot drop, or,in severe cases, seizures (urgent indication).
A clinically significant bleeding diathesis attributable to uremia (urgent indication).
Persistent metabolic disturbances that are refractory to medical therapy;these include hyperkalemia, metabolic acidosis, hypercalcemia, hypocalcemia, and hyperphosphatemia.
Fluid overload refractory to diuretics.
Hypertension poorly responsive to antihypertensive medications.
Persistent nausea and vomiting.
Evidence of malnutrition.

619. Which of the following microorganism is incriminated in infection after hemodialysis

a) Chlamydia

b) Gram positive organisms

c) Gram negative

d) Anaerobes

Correct Answer - B
Answer- B. Gram positive organisms
Hemo-dialysis catheter-related bloodstream infections (CRBSIs) are a major complication of long-term catheter us in HD. Gram positive organism are seen followed by gram negative organisms.

620. Dietary deficiency of which vitamin usually does not exist -

a) Vitamin-B6

b) Thiamine

c) Vitamin-E

d) Vitamin-D

Correct Answer - C
Answer- C. Vitamin-E
Dietary deficiency of vitamin E does not exist.

621. Low serum copper due to ATP 7A gene is due to?

a) Dubin-johnson's syndrome

b) Wilson disease

c) Menke disease

d) Gilbert's disease

Correct Answer - C
Answer- C. Menke disease
Menke's disease, also known as kinky hair disease, is an X-linked neurodegenerative disease of impaired copper transport, due to ATP 7A gene located on Xp12-13.

622. I.R.I.S. is -

a) Immune reconstitution idiopathic syndrome

b) Immune reconstitution immunological syndrome

c) Immune reconstitution inflammatory syndroma

d) Inflammatory reconstitution immune syndrome

Correct Answer - C
Answer- C. Immune reconstitution inflammatory syndroma
The term "immune reconstitution inflammatory syndrome" (IRIS) describes a collection of inflammatory disorders associated with paradoxical worsening of preexisting infectious processes following the initiation of highly active antiretroviral therapy.

623. Blood transfusion associated acute lung injury occurs due to -

a) Nosocomial infections

b) HLA mediated

c) Auto-immune disorder

d) Genetic susceptibility

Correct Answer - B
Answer- B. HLA mediated
TRALI usually results from the transfusion of donor plasma that contains high titre anti HLA class II antibodies that bind recipient leucocytes.
The leucocytes aggregate in the pulmonary vasculature and release mediators that increase capillary permeability.
Testing the donor's plasma for Anti HLA antibodies can support this diagnosis.

624. Rockall score is used for prognosis of patients of

a) Upper GI bleeding

b) Lower GI bleeding

c) Hepatic encephalopathy

d) IBD

Correct Answer - A

Answer- A. Upper GI bleeding

ROCKALL SCORE

- For Risk of Rebleeding and Death After Admission to the Hospital for Acute GI Bleeding

Variable	Score 0	1	2	3
Age (yrs)	< 60	60-79	≥ 80	
Comorbidity	No or mild coexisting	Moderate coexisting (e.g., hypertension)	Severe coexisting (e.g., CHF)	Life threatening (e.g., RF)
Hemodynamic status	No shock P < 100 Syst BP ≥ 100	P ≥ 100 plus Sys BP ≥ 100	Hypotension	
Diagnosis	MW tear, normal endoscopy with no blood seen	All other diagnosis	Malignancy of UGI tract	
Major stigmata of recent hemorrhage	None or dark spot		Blood in UGI tract Adherent clot, visible or spurting vessel	

625. Which of the following is given to decrease Serum Triglycerides?

a) Fibrates

b) Statine

c) Ezetimibe

d) Niacin

Correct Answer - A
Answer- A. Fibrates
Fibrates are drugs of choice for hypertriglyceridemia (type IV) and chylomicronemia (type I).

626. Streptococcus bovis infection is associated with -

a) CLL

b) Hairy cell leukemia

c) Colorectal cancer

d) Multiple myeloma

Correct Answer - C
Answer- C. Colorectal cancer
Colon and rectal tumors Streptococcus bovis (bacteremia)

627. Which is a hormone dependent liver tumor ?

a) Adenoma

b) Hemangioma

c) Hepatocellular carcinoma

d) Hemangiopericytoma

Correct Answer - A
Answer- A. Adenoma
Adenomas are associated with contraceptive hormone use.

628. Polyarticular onset JRA involves more than how many joints -

a) 3

b) 4

c) 5

d) 6

Correct Answer - C
Answer- C. 5
Polyarticular JRA

- It is characterized by involvement of 5 or more joints.

There are two subtypes :-
i) Polyarticular RA positive

- It is characterized bysymmetrical joint involvement along with Uveitis, and rheumatoid nodules.
- RA factor and ANA are positive.

ii) Polyarticular RA negative

- RA factor and rheumatoid nodules are not seen.

629. Poikilocytosis and anisocytosis is seen in

a) Megaloblastic anaemia

b) Iron deficiency anaemia

c) Nutritional deficiency anaemia

d) Thalassemia

Correct Answer - B
Answer- B. Iron deficiency anaemia
Anisocytosis means that RBC's are unequal in size indicating that some of the RBC's are either too big or too small.
Poikilocytosis means that some of the RBC's are abnormally shaped.

630. Alzehiemer type II astrocyte are seen in -

a) Hepatic encephalopathy

b) Alzehiemer's

c) Parkinsonism

d) Biswanger disease

Correct Answer - A
Answer- A. Hepatic encephalopathy
Swollen astrocytes in hepatic encephalopathy are called Alzheimer type II astrocytes. Their nuclei are large and appear clear in H & E stains. They are also seen in Wilson disease.

631. Which of the following antibodies is highly specific for systemic lupus erythematosus -

a) Anti-Sm

b) Anti-RO-1

c) Anti-UIRNP

d) Anti-Centromere

Correct Answer - A
Answer- A. Anti-Sm
Sensitive test for SLE → Antinuclear antibodies (ANA)
Specific test for SLE → Anti dsDNA, Anti Sm

632. All of the following are characteristic features of treatment of iron deficiency anemia with oral iron supplements, except

a) Bioavailability is enhanced with vitamin C

b) The proportion of iron absorbed reduces as hemoglobin improves

c) The reticulocyte count should begin to increase in two weeks and peak in 4 weeks this suggests good response to treatment

d) The treatment should be discontinued immediately once hemoglobin normalizes to prevent side effects of iron

Correct Answer - D

Answer- D. The treatment should be discontinued immediately once hemoglobin normalizes to prevent side effects of iron

The reticulocyte count begin to increase within 4-7 days after initiation of therapy and peak at 1.5 weeks.

Typically for iron replacement therapy, up to 200mg of elemental iron per day is given, usually as three or four iron tablets (each containing 50-65mg elemental iron) given over the course of the day.

A dose of 200 mg of elemental iron per day should result in absorption of iron upto 50 mg/day. This supports a red cell production level of 2-3 times normal in an individual with a normally functioning marrow and appropriate erythropoietin stimulus.

As the hemoglobin level rise, erythropoietin stimulation decreases, and the amount of iron absorbed is reduced.

The goal of therapy in individuals with iron-deficiency anemia is not

only to repair the anemia, but also to provide stores of at least 0-5-1 g of iron.
This sustained treatment for a period of 6-12 months after correction of the anemia will be necessary.

633. Which of the following is not expected in a case of Microcytic Hypochromic anemia

a) Reduced serum Iron

b) Reduced total RBC distribution width

c) Normal Ferritin levels

d) Increased TIBC

Correct Answer - B
Answer- B. Reduced total RBC distribution width
The first change in iron deficiency anemia is decreased in iron store, which is manifested as decreased serum ferritin level.
Bone marrow iron decreases earlier than serum iron.
There is microcytic hypochromic anemia (microcytosis precedes hypochromia).

634. A 23-year old woman has experienced episodes of myalgias, pleural effusion, pericarditis and arthralgias without joint deformity over course of several years. The best laboratory screening test to diagnose her disease would be -

a) CD, lymphocyte count

b) Erythrocyte sedimentation rate

c) Antinuclear antibody

d) Assay for thyroid hormones

Correct Answer - C
Answer- C. Antinuclear antibody
Sensitive test for SLE → Antinuclear antibodies (ANA)
Specific test for SLE → Anti dsDNA, Anti Sm

635. Zieve syndrome is characterized by all except

a) Alcohol abuse

b) Hemolysis

c) Hypertriglyceridemia

d) Pancreatic lipase deficiency

Correct Answer - D
Answer- D. Pancreatic lipase deficiency
Zieve's syndrome is an acute metabolic condition that can occur during withdrawal from prolonged alcohol abuse
Zieve syndrome is a rare condition characterized by hemolytic anemia in conjunction with secondary hyperlipidemia in patients suffering from alcohol-related toxic liver damage.

636. Which is the most common tumor leading to death in adults?

a) Lung cancer

b) Prostate cancer

c) Colorectal cancer

d) Leukemia

Correct Answer - A
Answer- A. Lung cancer
Lung cancer constitutes upto29% of all cancer related deaths in males and 26% of all cancer related death in woman.

637. Hemoglobin with zeta 2 and gamma 2 chains are seen in which of the following

a) Gower I

b) Gower II

c) Portland

d) Fetal Gb

Correct Answer - C

Answer- C. Portland

- Hb Gower I → Zeta 2 / epsilon 2
- Hb Portland → Zeta 2 /gamma 2
- Hb Gower H Alpha 2 / epsilon 2

638. In long standing rheumatoid arthritis which will be seen -

a) Milk alkali syndrome

b) Nephrolithiasis

c) Paradoxical aciduria

d) Secondary amylodosis

Correct Answer - D
Answer- D. Secondary amylodosis
Reactive amyloid A (AA) amyloidosis, one of the most severe complications of RA, is serious, potentially life threatening disorder caused by deposition of AA amyloid fibrils in multiple organs

639. All are true about CNS leukemia except

a) CNS irradiation is given

b) Intrathecal methotrexate is given

c) Seen with acute myeloid leukemia

d) Single blast in CSF is sufficient for diagnosis

Correct Answer - C

Answer- C. Seen with acute myeloid leukemia

Most children with leukemia have subclinical CNS involvement at the time of diagnosis.

Few children show central nervous system involvement at the time of diagnosis, most are asymptomatic but some have features of raised intracranial tension.

CNS involvement is mostly due to ALL. CNS involvement is more common in ALL than AML.

640. Thrombocythemia is characterized by

a) Platelets elevation

b) Low platelets

c) Neutrophilia

d) Monocytosis

Correct Answer - A
Answer- A. Platelets elevation
Thrombocythemia or thrombocytosis is the elevation of platelets.

641. Hyperuricemia can be caused by all except -

a) Ethanol

b) Thiazide

c) Furosemide

d) None

Correct Answer - D
Ans. is. D. None
Causes of drug or diet induced hyperuricemia
Diuretics (thiazides and loop diuretics)

- Cyclosporine and tacrolimus
- Low dose salicylates.
- Ethambutol
- Pyrazinamide
- Ethanol
- Levodopa
- Methoxyflurane
- Laxative abuse (alkalosis)
- Salt restriction

642. Glucose fever is related with -

a) Glucagon

b) Parathyroid

c) GH

d) Aldosterone

Correct Answer - D
Answer- D. Aldosterone
Hypoglycemia in Addison disease is managed with hydrocortisone/dexamethasone.
Administration of I.V. glucose in Addison leads to development of fever and is called as "glucose fever".
In patients with adrenal insufficiency, who have not received glucocorticoids glucose infusion may cause high fever (glucose fever) followed by collapse and death.

643. Patient on insulin in CKD stage 4. What is the dose adjustment of insulin required ?

a) Increased insulin

b) Decreased insulin

c) Normal insulin

d) Add DPP-4 inhibitors

Correct Answer - B

Answer- B. Decreased insulin

Insulin requirements show a biphasic course in diabetic patients with renal disease. It is not uncommon for glucose control to deteriorate as renal function deteriorates, as increasing insulin resistance can affect both type I and type 2 diabetics.

644. Most common cause of death in cancer is -

a) Bleeding

b) Infection

c) Respiratory failure

d) Renal failure

Correct Answer - B
Answer- B. Infection
The most common causes of death in patients with cancer are infection (leading to circulatory failure), respiratory failure, hepatic, and renal failure. Intestinal blockage may lead to inanition and starvation.

645. Which is the best indicator for short term control (2-3 weeks] of blood glucose ?

a) Serum fructosamine

b) HbA lc

c) Blood sugar

d) Urine sugar

Correct Answer - A
Answer- A. Serum fructosamine
Serum fructosamine → Tells sugar fluctuations in 2-3 weeks
Glycosylated hemoglobin → Tells sugar fluctuations in previous 6-8 weeks.

646. Post Prandial capillary glucose should be mg/dl for adequate diabetes control

a) < 100mg / dl

b) < 140 mg / dl

c) < 180 mg/dl

d) < 200 mg/dl

Correct Answer - C
Answer- C. < 180 mg/dl
HbA IC- two
Preprandial capillary plasma glucose- 70-130 mg/d1 <
Peak post prandial capillary plasma glucose -180 mg/d1 <
Blood pressure- 130/80

647. Mosaic pattern of coment line is characteristically seen in -

a) Hyperthyroidism

b) Paget's disease of bone

c) Renal osteodystrophy

d) Osteomalacia

Correct Answer - B
Answer- B. Paget's disease of bone
Mosaic pattern of cement line is characteristically associated with paget's disease of the bone

648. Hyperpigmentation is seen with which hormone?

a) FSH

b) LH

c) TSH

d) ACTH

Correct Answer - D

Answer- D. ACTH

- Hyperpigmentation of the skin and mucous membranes often precedes all other symptoms by months to years.
- It is caused by the stimulant effect of excess adrenocorticotrophic hormone (ACTH) on the melanocytes to produce melanin.
- The hyperpigmentation is caused by high levels of circulating ACTH that bind to the melanocortin 1 receptor on the surface of dermal melanocytes.
- Other melanocyte-stimulating hormones produced by the pituitary and other tissues include alpha-MSH (contained within the ACTH molecule), beta-MSH, and gamma-MSH. When stimulated, the melanocyte changes the color of the pigment to a dark brown or black.
- The increased MSH in Addison's causes melanocytes to disperse melanin in the epidermis thus increasing pigmentation.

649. Female with blood sugar of 600 mg% and sodium of 110 mEq. Insulin was given, what will happen to serum sodium levels ?

a) Sodium increase

b) Sodium decrease

c) Sodium unaffected

d) Relative sodium deficiency

Correct Answer - A
Answer- A. Sodium increase
As the glucose level decreases, there is decrease in the osmolarity of extracellular fluid. This causes movement of intracellular fluid back into the cellular compartment producing increase in serum sodium.

650. Which of the following presents with hypokalemia and metabolic acidosis ?

a) Diarrhea

b) Vomiting

c) Nasogastic suction

d) Nasogastic suction

Correct Answer - A
Ans- A. Diarrhea
Diarrhea causes hypokalemia with metabolic acidosis.
Vomiting nosogastric suction and conn's syndrome cause metabolic alkalosis.

651. Lafora's disease presents with -

a) G.T.C.S

b) Myoclonic epilepsy

c) Petit mal epilepsy

d) Partial seizures

Correct Answer - B
Answer- B. Myoclonic epilepsy
Lofora disease is an autosomal recessive poliencephalopathy of late childhood or early adult life.
It is characterized by progressive dementia, dysarthria, visual loss, pyramidal & cerebellar signs, and myoclonic & other seizures.
The diagnostic pathological finding is lofora bodies.

652. In cobalamin deficiency which is not seen

a) Microcytic anemia

b) Long tract signs

c) Loss of proprioception

d) Rhomberg sign

Correct Answer - A
Answer- A. Microcytic anemia
Cobalmine deficiency causes megaloblastic (macrocytic) anemia (not microcytic).
Cobalamine deficiency also causes subacute combined degeneration of spinal cord due to involvement of posterior column, affecting vibration, fine touch, and imbolance (Romberg sign).

653. Hypernatremia causes all EXCEPT

a) Seizure

b) Thrombus

c) Brain hemorrhage

d) Central pontine myelinosis

Correct Answer - D

Answer- D. Central pontine myelinosis

- Complication of hypernatremia are brain hemorrhage, seizures, coma, thrombotic complications and raised ICT.
- Central pontine myelinosis is classically associated with overlay rapid correction of hyponatremia.

Clinical features-

- Patients are irritable, restless weak and lethargic
- Some have high pitched cry and hyperpnea.
- Alert patient are very thirsty.
- Hypernatremia causes fever although many patients have underlying process that contributes to the fever.

654. All of the following are associated with hyponatremia except

a) anorexia

b) Convulsions

c) Drowsiness

d) Myalgia

Correct Answer - D
Answer- D. Myalgia
Anorexia, nausea & vomiting
Coma
Convulsions
Drowsiness
Headache
Circulatory failure and hypotension
Hyponatremia can also cause muscle cramps and weakness.

655. Most common type of multiple sclerosis?

a) Relapsing remitting type

b) Secondry progressive multiple sclerosis

c) Progresive relapsing multiple scelrosis

d) Primary progresive multiple sclerosis

Correct Answer - A
Answer- A. Relapsing remitting type
Repapsing-remitting multiple sclerosis (RRMS)
This is the most common form of multiple sclerosis.
About 85% of people with M.S. are initially diagnosed with relapsing-remitting multiple sclerosis.

656. Aspirin decreases the risk of development of which of the following -

a) Colorectal cancer

b) Stomach cancer

c) Carcinoid

d) MALToma

Correct Answer - A
Ans. A. Colorectal cancer
Regular aspirin use reduces the risk of colon adenomas and carcinomas as well as death from large-bowel cancer

657. Dermatitis may be a clinical manifestation of deficiency states of all of following nutrients except -

a) Biotin

b) Niacin

c) Pyridoxine

d) Thiamine

Correct Answer - D
Answer- D. Thiamine
Vitamin B3 (Niacin) deficiency causes dermatitis. Biotin and Vitamin B6 (pyridoxin) deficiency causes seborrheic dermatitis.

658. In EEG which type of waves are seen in metabolic encephalopathy

a) Alpha

b) Beta

c) Gamma

d) Delta

Correct Answer - D

Answer- D. Delta

E.E.G. has been widely used to evaluate metabolic encephalopathy. The E.E.G. findings are abnormal in acute encephalopathy stages

Metabolic encephalopathy	**'vthm**
Grade I (almost normal)	Dominant activity is rhythm with minima, theta activity
Grade II (mildly abnormal)	Dominant theta background with some alpha and delta activities
Grade II (morderately abnormal)	Continuous delta activety predominates, little activity of faster frequencies
Grade IV (severely abnormal)	Low-amplitude delta activity or suppression-burst pattern
Grade V (extremely abnormal)	Nearly "flat" tracing or electrocerebral inactivity

659. Which vitamin toxicity is associated with excessive sweating -

a) Choline

b) Biotin

c) Folic cid

d) Vitamin B

Correct Answer - A
Answer- A. Choline
Toxicity from choline results in -

- Hypotension
- Cholinergic sweating
- Diarrhea
- Salivation
- Fishy body odor

660. Isaac syndroma is characterised by -

a) Peripheral nerve excitability

b) Opsoclonus

c) Encephalomyelitis

d) Limbic encephalitis

Correct Answer - A
Answer- A. Peripheral nerve excitability
Isacc syndrome (neuromyotonia)

- Peripheral nerve hyperexcitability
- Spontaneous and continuous muscle fiber activity of peripheral nerve origin.
- Clinical features include cramps, muscle twitching (fasciculations or myokymia)
- Stiffness
- Delayed
- Muscle relaxation (pseudomyotonia)
- Spontaneous or evoked carpal or pedal spasms.

661. Glasgow coma scale motor 4 represents?

a) Withdrawal or flexion

b) Decorticate posturing

c) Decorticate posturing

d) Localise pain

Correct Answer - A

Answer- A. Withdrawal or flexion

Behaviour	Response
 Eye Opening Response	4. Spontaneously 3. To speech 2. To pain 1. No response
 Verbal Response	5. Oriented to time, person and place 4. Confused 3. Inappropriate words 2. Incomprehensible sounds 1. No response
 Motor Response	6. Obeys command 5. Moves to localised pain 4. Flex to withdraw from pain 3. Abnormal flexion 2. Abnormal extension 1. No response

662. A patient after an accident was unconscious. On physical examination there was unilateral pupillary dilatation Possible reason for the same is

a) Uncal herniation

b) Tonsillar herniation

c) Cingulate herniation

d) Transcalvarial herniation

Correct Answer - A
Answer- A. Uncal herniation
Transtentorial herniation is the displacement of medial temporal lobe into the tentorial opening it is usually seen after extradural hemorrhage.

663. First Symptoms of parkinsons disease is -

a) Postural instability

b) Rigidity

c) Tremors

d) Bradykinesia

Correct Answer - C
Answer- C. Tremors
Parkinsonism is a progressive degenerative, extrapyramidal disorder of muscle movement, due to dysfunction in basal ganglia, comprising four cardinal features
Bradykinesia or hypokinesia
Muscle rigidity
Resting tremor

664. Increased ICT is shown by

a) Miosis

b) Systemic hypotension

c) Tachycardia

d) Reduction in GCS

Correct Answer - D
Answer- D. Reduction in GCS
Increased ICT leads to bradycardia with Hypertension. Uncal herniation of brain leads to ipsilateral pupillary dilatation. Reduction in GCS due to damage to reticular activating system leads to development of coma.

665. Plaques jaunes are seen in

a) Syphilis

b) Head injury

c) Endocarditis

d) Atherosclerosis

Correct Answer - B
Answer- B. Head injury
Plaque Jaunes is a term used to describe the characteristic gross appearance of old traumatic contusions on the surface of brain from previous head injuries.

666. Commonest cause of cerebro vascular accident

a) Infarction

b) Infarction

c) Embolism

d) Aortic dissection

Correct Answer - A
Answer- A. Infarction
1. Ischemic (85%) (infarction) : Causes are embolism (75% of ischemic stroke) and thrombosis (25% of ischemic stroke).
2. Hemorrhagic (15%) : Intraparenchymal, subdural, epidural, subarachnoid.

667. This patient came to the casualty with palpitations. His ECG has been shown below. What is your diagnosis?

a) Ventricular tachycardia

b) A-V dissociation

c) Supraventricular tachycardia

d) Sinus tachycardia

Correct Answer - C

Answer- C. Supraventricular tachycardia

The overall rhythm is rapid and rgular. The R-R interval is almost exactly 1.5 large boxes in duration - establishing the rate at 180-190 beats per min this is an ECG showing narrow complex tachycardia most probably due to AVNRT (Av Nodal Reentrant Tachycardia) aka supraventricular tachycardia.

[Ref Harrison's 18th/e p.1888]

668. What is Reifenstein syndrome?

a) Associated with gonadal dysgenesis

b) Partial androgen insensitivity syndrome due to receptor mutation

c) Associated with mental retardation

d) 5-alpha reductase deficiendy associated with perineo¬scrotal hypospadias

Correct Answer - B

Answer- B. Partial androgen insensitivity syndrome due to receptor mutation

It is partial androgen insensitivity syndrome because of less severe androgen receptor mutation.

Patients often present in infancy with :

1. Perineoscrotal hypospadias and small undescended testes.
2. Gynecomastia at the time of puberty.
3. Those individuals raised as males require hypospadias repair in childhood and breast reduction in adolescence.
4. Supplemental testosterone rarely enhances androgenization significantly, as endogenous testosterone is already increased.

669. Following are absolute indication for hemo-dialysis except

a) GI bleeding

b) Convulsions

c) Pericarditis

d) Hyperkalemia of 6.5 mEq/L

Correct Answer - D
Answer- D. Hyperkalemia of 6.5 mEq/L
Important indications for hemodialysis are:
1. Severe metabolic acidosis wher sodium bicarbonate cannot be used (due to risk of fluid overload).
2. Severe hyperkalemia
3. Drug poisoning like lithium & aspirin
4. Uremia (Uremic pericarditis, encephalopathy or GI bleeding).

670. In scleroderma features are all except:

a) Decrease in tone of LES

b) Restrictive cardiomyopathy

c) Syndactyly

d) Halitosis

Correct Answer - C
Answer- C. Syndactyly
Syndactyly is not associated with scleroderma.
Lower esophageal sphincter tone is decreased in scleroderma.
Scleroderma can cause restrictive cardiomyopathy.
Halitosis (bad smell in breath) can occur in scleroderma.

671. Best for management of respiratory alkalosis?

a) Rebreathing in paper bag

b) IPPV

c) Normal saline

d) Acetazolamide

Correct Answer - A
Answer- A. Rebreathing in paper bag
Changing ventilator setting may be used to prevent or treat respiratory alkalosis in persons who are being mechanically ventilated. Persons with hyperventilation syndrome may benefit from reassurance, rebreathing from a paper bag during symptomatic attacks, and attention to the psychological stress.

672. Adrenal reserve is best tested by means of infusion with

a) Glucocorticoids

b) ACTH

c) GnRH

d) Metyrapone

Correct Answer - B
Answer- B. ACTH
Glucocorticosteroid reserve can be evaluated by the ACTH stimulation test
A more sensitive test of adrenal reserve is the standardised 24-hour ACTH infusion test. Under maximal ACTH stimulation the cortisol secretion increases tenfold. If gtucocorucoid coverage is required during the ACTH stimulation test, dexamethasone can be used because it does not interfere with the laboratory values of endogenous glucocorucoids.

673. Graham steel murmur is seen in

a) PS

b) PR

c) TR

d) TS

Correct Answer - B
Answer- B. PR
Graham steel's murmur

- A diastolic murmur audible along the left sternal border due to pulmonaryregurgitation in patients with pulmonary hypertension.
- Graham steel murmur is a high pitched decressendo murmur loudest during inspiration
- Grahm steel's- Early DM- PR

674. CVP is monitored in A/E

a) Anterior jugular vein

b) Internal jugular vein

c) External jugular vein

d) Inferior venacava

Correct Answer - D

Answer- D. Inferior venacava

Commonly used vein cannulation sites for central venous access include:

- Jugular vein
- External jugular vein
- Internal jugular vein (central, posterior, anterior approaches)
- Subclavian vein (supraclavicular, infraclavicular, axillary approaches)
- Femoral vein
- Basilic vein

675. Central venous monitoring is done for all except

a) Regulating the speed and amount of fluid infusion

b) Administering thrombolytics

c) Deciding the need for plasma infusion

d) Deciding the requirement for blood transfusion

Correct Answer - B
Answer- B. Administering thrombolytics
1) Administration of noxious medications
2) Hemodynamic monitoring-
- Blood transfusion or plasma transfusion

3) Plasmapheresis, apheresis, hemodialysis, or continuous renal replacement therapy
4) Poor peripheral venous access

676. Thrombosis is most commonly associated with what site in CVP

a) Internal jugular vein

b) Subclavian vein

c) Femoral vein

d) External jugular vein

Correct Answer - C

Answer- C. Femoral vein

Advantages-

- Rapid access with high success rate
- Does not interfere with CPR
- Does not interfere with intubation
- No risk of pneumothorax
- Trendelenburg position not necessary during insertion

Disadvantages-

- Delayed circulation of drugs during CPR Prevents patient mobilization
- Difficult to keep site sterile
- Difficult for PA catheter insertion
- Increased risk of iliofemoral thrombosis

677. Serum ascitic fluid gradient of 1.5 (SAAG) with ascitic fluid protein of 2.8gm/d1. the most likely cause is

a) Nephritic syndrome

b) Cardiac failure

c) TB

d) Portal hypertension

Correct Answer - B
Answer- B. Cardiac failure
Serum to ascites albumin gradient >1.5 suggests either cirrhosis or cardiac failure.
The total protein concentration >2.5 suggests ascites due to cardiac cause
The total protein concentration helps to differentiate uncomplicated ascites from cirrhosis from cardiac ascites both of which have a SAAG 1.1 g/dL.

678. Coronary steal phenomenon caused due to

a) Arterial dilation

b) Coronary microvessel dilation

c) Epicardial vessel dilation

d) Capacitance vessel dilation

Correct Answer - B
Answer- B. Coronary microvessel dilation
Coronary steal is the term given to blood being stolen from one region of the coronary tree by another.
It is also called coronary steal syndrome.
It is commonly seen with powerful coronary dilator drugs like dipyridamole or hydralazine.
These drugs are potent arteriolar dilators and dilates resistance vessels too.
The obstructed branch has significant arteriolar dilation even when oxygen demand is low because of the accumulation of metabolites in the ischemic tissue.

679. Decreased CVP is seen in

a) Pneumothorax

b) PEEP

c) Bacterial sepsis

d) Heart failure

Correct Answer - C
Answer- C. Bacterial sepsis
Decreased

- Hypovolemia
- Septic shock
- Deep inhalation (transient)
- Increased venous compliance

680. Lemierre's syndrome is

a) Carotid sinus aneurysm

b) Thromobophlebitis of IJV

c) Traumatic occlusion of IJV

d) Any of the above

Correct Answer - B
Answer- B. Thromobophlebitis of IJV
Rare thrombophlebitis of the jugular veins with distant metastatic sepsis in the setting of initial oropharyngeal infections (pharyngitis, t/-peritonsillar abscess).

681. Wide QRS duration is -

a) > 0.8sec

b) > 0.9 sec

c) > .12 sec

d) None

Correct Answer - C
Answer- C. > .12 sec
QRS duration → 0.08 - 0.12 sec.
QT interval
0.40 sec.
PR interval
0.12 - 20 sec.
QRS Axis range → + 90 to -30°

682. Torsades de pointes is seen in all except

a) Hyponatremia

b) Hypocalcemia

c) Hypomagnesemia

d) Hypokalemia

Correct Answer - A
Answer- A. Hyponatremia
HypokalemiaQ
HypocalcemiaQ
Hypomagnesemia

683. Sinus bradycardia with MI treatment

a) Atropine

b) Digoxin

c) Calcium channel blocker

d) Propranolol

Correct Answer - A
Answer- A. Atropine
The SA node rate generally increases after the administration of a vagolytic drug, such as "atropine".

684. In COPD which is true

a) FEV 1 /FVC < 0.7

b) FEV1/FVC

c) RV4

d) TLV1

Correct Answer - A
Answer- A. FEV 1 /FVC < 0.7
Spirometry findings in COPD includes reduced FEV1 and a reduced FEV1 / FVC ratio. Diffusion capacity for carbon monoxide reflects the ability of lung to transfer gas across alveolar/capillary interface. Diffusion capacity is low in patients with emphysema and infiltrative lung diseases. It is increased in patients with pulmonary hemorrhage, congestive heart failure and asthma.

685. Which of the following is markedly decreased in restrictive lung disease

a) FVC

b) FEV I

c) FEV I /FVC

d) RV

Correct Answer - A
Answer- A. FVC
Forced vital capacity (FVC)- Decreased (more than obstruction)
Forced expiratory volume in 1 second (FEV,)- Decreased in proportion to FVC
FEVi/FVC- Near normal or increased
Forced mid expiratory flow rate- Reduced
Total lung capacity- Decreased
Residual volume- Generally decreased
Functional residual capacity- Decreased

686. Cepacia syndrome fulminant illness seen in

a) Sarcoidosis

b) Cystic fibrosis

c) Tuberculosis

d) Immotile cilia sydrome

Correct Answer - B
Answer- B. Cystic fibrosis
Capacea syndrome is a rapid clinical deterioration in patients with cystic fibrosis due to new acquisition of or chronic colonization with Burkholderia cepacia complex and carries a very high mortality.
In chronically colonized patients the deterioration is often triggered by an intercurrent illness.

687. Empyema thoracis is most commonly caused by which organism

a) Streptococcus pneumoniae

b) Pseudomonas

c) Mycoplasma

d) Stapylococcus aureus

Correct Answer - A
Answer- A. Streptococcus pneumoniae
Empyema thoracic is commonly caused by those bacterias that cause pneumonias such as streptococcus pneumoniae and staphlococcus aureus. E.coli, FLinfluenzas, Klebsiella pneumoniae.

688. Most common cause of lobar consolidation

a) Mycoplasma

b) Chlamydia

c) Streptococcus

d) Legionela

Correct Answer - C
Answer- C. Streptococcus
Lobar pneumonias typically occurs with primary pneumonias caused by virulent agents, most commonly pneumococci.

689. Clinical feature of Bronchiestasis are all except

a) Hemoptysis

b) Night sweats

c) Chest pain

d) Productive cough

Correct Answer - B
Answer- B. Night sweats
The classic clinical manifestations of bronchiectasis are cough and the daily production of mucopurulent and tenacious sputum lasting months to years.
complaints include dyspnea, wheezing hemoptysis, and pleuritic chest pain.

690. All of the following are features of interstitial lung disease except

a) Exertional dyspnea

b) Early productive cough

c) Digital clubbing

d) Coarse crepitation during clubbing

Correct Answer - B

Answer- B. Early productive cough

Cough is usually nonproductive, a productive cough is unusual

- Hemoptysis
- Wheezing
- Chest pain
- Clubbing can occur with interstitial lung disease.

691. Chest X-ray shows B/L lung infiltrates next investigation is

a) Sputum examination

b) CT

c) Bronchoscopy

d) Antibiotics

Correct Answer - B
Answer- B. CT
Presence of B/L lung infiltrates suggests interstitial lung disease. High resolution computed tomography (HRCT) is obtained in almost all patients with diffuse pulmonary parenchymal disease.

692. Drug of choice in interstitial lung disease is

a) Antibiotics

b) Steroid

c) Bronchodilators

d) Aspirin

Correct Answer - B
Answer- B. Steroid
The usual initial treatment is "oral prednisolone".
For severe disease, - "Pulse methylprednisolone" is used.

693. Last stage of acute asthma is

a) Hypocapnia

b) Hypercapnia

c) Hyperoxia

d) Alkalosis

Correct Answer - B
Answer- B. Hypercapnia
Late stages of Asthma are characterized by "hypercapnia".
In asthma patients with impending respiratory failure the CO, level exceeds 45 mmHg.

694. AGN (acute glomerulonephritis) is diagnosed by

a) Hyaline cast

b) WBC cast

c) RBC cast

d) Granular cast

Correct Answer - C
Answer- C. RBC cast
Presence of RBC casts in urine is characteristic of nephritic syndrome due to glomerulonephritis.

695. Cystatin C levels are used in urology for

a) Detecting UTI

b) Estimating GFR

c) Estimating difference betwen CRF and ARF

d) Screening of Rena Ca

Correct Answer - B
Answer- B. Estimating GFR
GFR estimations determined by creatinine based equations are not precise, so other substances such as "cystatin C" are being explored to estimate GFR.

696. Which is not seen in distal RTA

a) Urine pH < 5.5

b) Hypokalemia

c) Hypercalciuria

d) Nephrolithiasis

Correct Answer - A
Answer- A. Urine pH < 5.5
Normal anion gap metabolic acidosis/acidemia
Hypokalemia
Urinary stone formation (related to alkaline urine, hypercalciuria, and low urinary citrate).
Nephrocalcinosis (deposition of calcium in the substance of the kidney)
Bone demineralisation (causing rickets in children and osteomalacia in adults)

697. Which of the following is not a feature of distal renal tubular acidosis

a) Normal anion gap

b) Renal hypercalciuria

c) Alkaline urine

d) Hyperkalemia

Correct Answer - A
Answer- A. Normal anion gap
Normal anion gap metabolic acidosis/acidemia
Hypokalemia
Urinary stone formation (related to alkaline urine, hypercalciuria, and low urinary citrate).
Nephrocalcinosis (deposition of calcium in the substance of the kidney)
Bone demineralisation (causing rickets in children and osteomalacia in adults)

698. Hyperkalemia aciduria is seen in

a) Type I RTA

b) Type II RTA

c) Type IV RTA

d) Sigmoidocolostomy

Correct Answer - C
Answer- C. Type IV RTA
Type 4 RTA is due either to a deficiency of Aldosterone or to a resistance to its effects.
It was included in the classification of renal tubular acidoses as it is associated with a mild (normal anion gap) metabolic acidosis (hyperchloremic acidosis) due to a physiological reduction in proximal tubular ammonium excretion (impaired ammoniagenesis), which is secondary to hypoaldosteronism, and results in a decrease in urine buffering capacity.

699. A patient with diabetes, hyperkalemia, urinary pH < 5.5 Cause is

a) Uremia

b) Pseudohyperaldosteronism

c) Type I Renal tubular acidosis

d) Type IV RTA

Correct Answer - D
Answer- D. Type IV RTA
Hyperkalemia with urinary pH < 5.5 along with diabetes suggests type IV renal tubular acidosis.

700. Calciphylaxis is a severe life threatening condition which occurs is

a) Parathyroidectomy

b) Medullary carcinoma thyroid

c) Hyperthyroidism

d) End stage Renal disease

Correct Answer - D
Answer- D. End stage Renal disease
Calciphylaxis is a rare and serious disorder characterized by systemic medial calcification of the arterioles that leads to ischemia and subcutaneous necrosis.
Calciphylaxis is one of several types of extra-osseous calcification (which also includes intimal, medial, and valvular calcification) that may occur in patients with end-stage renal disease (ESRD).
Calciphylaxis most common occurs in patients with ESRD who are on hemodialysis.

701. The hallmark of henoch schonlein purpura is

a) Palpable purpura

b) Abdominal pain

c) Arthritis

d) Renal dysfunction

Correct Answer - A
Answer- A. Palpable purpura
Palpable purpura is essential for diagnosis.

- Diagnosis is confirmed by presence of palpable purpura with normal platelet count along with one or more of the following : abdominal pain, arthralgia/arthritisand mesangial deposition of IgA.

702. A:G maintained in

a) Nephritic syndrome

b) Cirrhosis

c) Protein losing enteropathy

d) Multiple myeloma

Correct Answer - A

Answer- A. Nephritic syndrome

Decreased albumin/Globulin ratio is seen :

- Multiple myeloma or metastatics disease
- AIDS
- Renal disease
- Liver disease (cirrhosis)
- Intestinal disease (Protein losing enteropathy)
- Cachexic patient
- CHF
- A/G ratio is decreased in nephrotic syndrome.

703. Which is not a stroke

a) TIA

b) Hemiplegia

c) SAH

d) Intracerebral hemorrhage

Correct Answer - A
Answer- A. TIA
Stroke occurs when poor blood flow to brain results in death of brain cells.
Stroke is of two types :-
1. Ischemic stroke: It is the most common type and occurs due to thrombosis of cerebral blood vessels.
2. Hemorrhagic stroke: It occurs due to hemorrhage either in brain tissue (Intracerebral hemorrhage) or in subarachnoid space (subarachnoid hemorrhage).

Symptoms of stroke are :-
1. Sudden onset of hemiparesis / hemiplagia

704. The features of Cushing triad are all except

a) Bradycardia

b) Hypotension

c) Irregular breathing

d) Hypertension

Correct Answer - D
Answer- D. Hypertension
Cushing's triad is a sign of increased intracranial pressure.
It is the triad of : - Hypertension, Bradycardia and Irregular breathing

705. Alice in wonderland syndrome occurs in

a) SSPE

b) Epilepsy

c) Cerebral hemorrhage

d) Multiple sclerosis

Correct Answer - B:C
Answer- (B) Epilepsy & (C) Cerebral hemorrhage
Infectious : CMV, EBV (IMN), Influenza A encephalitis, coxsackie B1 encephalitis, scarlet fever, typhoid encephalopathy, VZV encephalitis.
CNS lesions :- Acute disseminated encephalomyelitis, cavernous angioma, cerebral arteriosclerosis, brain tumor, cerebral hemorrhage.
Paroxysmal neurological disorders : Epilepsy (temporal lobe epilepsy), migraine1

706. Water shed infarct in brain

a) Occurs in the proximal portion of main arteries

b) Occurs in the central portion of main arteries

c) Occurs in the terminal portion of main arteries

d) Any of the above

Correct Answer - C
Answer- C. Occurs in the terminal portion of main arteries
Border zone or watershed infarcts are ischemic lesion that occurs in characteristic location at the junction between two main arterial territories.
Watershed strokes are named that way because they affect the watershed areas of the brain.
These areas are thin strips of brain which are sandwiched in between the farthest end branches of two adjacent vascular territories.

707. In Wilsons disease copper deposition occurs in

a) Pons

b) Medulla

c) Cerebellum

d) Basal ganglia

Correct Answer - D
Answer- D. Basal ganglia
In brain, the toxic injury primarily affects the basal ganglia particularly the putamen which demonstrates atrophy and cavitation.

708. Abdominojugular reflex appears after compressing abdomen for

a) 5 sec

b) 10 sec

c) 15 sec

d) 30 sec

Correct Answer - C
Answer- C. 15 sec
This is done by applying firm pressure with the palm of the hand to the right upper quadrant of the abdomen for 10-15 seconds with the patients breathing quietly while the jugular vein is observed.
A positive abdominojugular reflux sign is defined by an increase in the jugular venous pressure of greater than 3 cm, sustained for greater than 15 seconds.

709. Genitourinary complication of ulcerative colitis

a) Cystitis

b) Pyelonephritis

c) Urinary calculi

d) Urethritis

Correct Answer - C
Answer- C. Urinary calculi
Urinary calculi (oxalate stones in ileal disease), local extension of Crohn disease involving ureter or bladder, amyloidosis, drug-related nephrotoxicity.

710. Liver biopsy indication is all except

a) Amoebic hepatitis

b) Wilson's disease

c) Chronic hepatitis B and C

d) Autoimmune hepatitis

Correct Answer - A

Answer- A. Amoebic hepatitis

Grading and staging of chronic hepatitis B and C

Diagnosis of :

- Hemochromatosis (quantitative estimation of hepatic iron)
- Wilson's disease (quantitative hepatic copper)
- Focal liver lesions

Evaluation of :

- Cholestatic liver disease : Primary biliary cirrhosis, primary sclerosing cholangitis
- Abnormal liver biochemical tests in a patient with a negative or inconclusive serologic work-up
- Treatment efficacy
- Side effects of treatment regimens (such as methotrexate for rheumatoid arthritis)
- Post liver transplant by protocol or for evaluation of abnormal liver biochemical tests
- Donor liver
- Fever of unknown origin

711. Use of spironolactone in liver cirrhosis is

a) Decrease edema

b) Improves liver function

c) Decrease afterload

d) Decrease intravascular volume

Correct Answer - A
Answer- A. Decrease edema
Treatment of ascites in patient with cirrhosis is aimed at the underlying cause of the hepatic disease and at the sodium water retention
Diuretic therapy typically consists of treatment with spironolactone and furosemide in a ratio of 100: 40 mg/day with doses titrated upward as needed (upto 400 mg spironolactone and furosemide in a ratio of 100 : 40 mg/day).

712. Pea soup diarrhea is seen in -

a) Cholera

b) Typhoid

c) Yersinosis

d) Hepatitis

Correct Answer - B
Answer- B. Typhoid
Pea Soup diarrhoea is characteristic of salmonella infection.
About 2 weeks after infection with salmonella typhi most people suffering from typhoid develop a yellow green foul liquid stool that resembles pea soup in appearance i.e., pea soup stool.

713. Most significant risk factor for development for gastric carcinoma is

a) Paneth cell metplasia

b) Pyloric metaplasia

c) Intestinal metaplasia

d) Ciliated metaplasia

Correct Answer - C
Answer- C. Intestinal metaplasia
A) Environmental factors
B) Host factors : Chronic gastritis (causing hypochlorhydria or intestinal metaplasia), partial gastrectomy, gastric adenoma, Barrett's esophagus, and Menetrier disease.

- Intestinal metaplasia is the most significant precursor lesion for Gastric cancer

C) Genetic factors

714. Adult male with chronic atrophic gastritis, growth on skirrows medium & rapid urease test positive. Diagnosis is

a) H pylori

b) H. influnzae

c) K pneumonia

d) V. Cholarae

Correct Answer - A
Answer- A. H pylori
All favor the diagnosis of H pylori infection.

715. Seen in SIADH

a) Generalized edema

b) Ascites

c) Normal BP

d) Dry mucous membrane

Correct Answer - C
Answer- C. Normal BP
Hyponatremia (dilutional hyponatremia with Net' < 135 mmol/L)
Decreased plasma osmolality (<280 m osm/kg) with inappropriately increased urine osmolality > 150 m osm).
High urine sodium (over 20 meq/1)
Low blood urea nitrogen <10 mg/L
Hypouricemia (<4 mg/dL)
Clinical euvolemia

716. A diabetic patient having sensory involvement, tingling, numbness, ankle swelling, no pain. Diagnosis is

a) Charcots joint

b) Gout

c) Rheumatoid arthritis

d) Ankylosing spondylitis

Correct Answer - A

Answer- A. Charcots joint

It is a progressive destructive arthritis associated with loss of pain sensation°, proprioception° or both, in addition normal muscular reflexes that modulate joint movements are decreased.

It is most commonly caused by diabetes mellitus.

[Ref Harrison 18`5/e p. 2855, 2856; 17th/e p. 2180-2181]

717. Patient having Cushing syndrome due to adrenal tumor. Drug to be given

a) Cortisol

b) Betamethasone

c) Ketoconazole

d) Fludrocortisones

Correct Answer - C
Answer- C. Ketoconazole
TREATMENT-

- Treatment of choice- removal of pituritary corticotrope tumour (transphenoidal approach)
- Pituitary irradiation
- Metyrapone and ketoconazole
- Adrenocortical carcinoma- mitotane

718. Metabolic change in severe vomiting is

a) Metabolic alkalosis

b) Respiratory alkalosis

c) Metabolic acidosis

d) Hyperkalemia

Correct Answer - A
Answer- A. Metabolic alkalosis
Persistent gastric vomiting leads to

- Hyponatremia
- Hypokalemia
- Hypochloremia
- Alkalosis

719. Treatment of hypercalcemia includes all except

a) Steroids

b) Bisphosphonates

c) Phosphate

d) Strontium

Correct Answer - D
Answer- D. Strontium
Treatment of acute hypercalcemia

- Hydration with saline
- Forced diuresis: Saline plus loop diuretics (furosemide)
- Bisphosphonates (pamidronate, zoledronate)
- Calcitonin
- Special therapies: Phosphate (oral), glucocorticoids, dialysis

720. Myelodysplastic syndrome is common in which age group

a) 2-10yrs

b) 15-20yrs

c) 25-40 yrs

d) > 50yrs

Correct Answer - D
Answer- D. > 50yrs
Myelodysplastic syndrome occurs most commonly in older adults with median age at diagnosis in most cases of 65 years and a male preponderance. Onset of the disease earlier than age 50 is unusual.

721. The best drug to lower prolactin level in a female with infertility is

a) Bromocriptine

b) GnRH

c) Testosterone

d) Corticosteroid

Correct Answer - A
Answer- A. Bromocriptine
The treatment of choice for prolactinoma is "bromocriptine". Bromocriptine is a dopamine agonist which inhibits the secretion and synthesis of prolactin.

722. Which of the following is not commonly seen in Polycythemia Vera

a) Thrombosis

b) Hyperuricemia

c) Prone for acute leukemia

d) Spontaneous severe infection

Correct Answer - D
Answer- D. Spontaneous severe infection
Clinical features-

- Hyperviscosity, hypovolaemia, hypermetabolism, erythocytosis, thrombosis.
- Headache, vertigo, tinnitus, syncope or even coma, transient visual loss
- Splenomegaly, haemtemesis and melena, bleeding.
- Pruritis & peptic ulceration (basophilia with histamine release)
- Hyperuricaemia- urate stones and gout

723. Evans syndrome is

a) Anemia and thrombocytopenia

b) Pancytopenia

c) Lymphopenia and anemia

d) Thrombocytosis and lymphocytosis

Correct Answer - A
Answer- A. Anemia and thrombocytopenia
Evans syndrome (ES) refers to the combination of Coombs-positive warm autoimmune hemolytic anemia (AIHA) and immune thrombocytopenia (ITP), although, less commonly, some patients will also have autoimmune neutropenia (15 percent in one series).

724. All are major complications of massive transfusion except

a) Hypokalemia

b) Hypothermia

c) Hypomagnesemia

d) Hypocalcemia

Correct Answer - A
Answer- A. Hypokalemia
Complications of Massive transfusion : -

- Coagulopathy
- Citrate toxicity
- Hypothermia
- Metabolic alkaptosis
- Hyperkalemia
- Acute respiratory distress syndrome
- Coagulation factor depletion

725. Regarding MSUD which is not true

a) Deficiency of branched chain amino acid enzymes

b) Hyperaminoaciduria

c) Asymptomatic

d) FeC13 turns navyblue

Correct Answer - C

Answer- C. Asymptomatic

It is an inherited (autosomal recessive) disorder of branched chain amino acid i.e. - Valine, Leucine and Isoleucine.

Maple syrup urine disease (MSUD) is d/t defect in enzyme - a-keto acid dehydrogenase.

Diagnosis

- The keto acids may be detected by adding a few drops 2-4 din itrophenylhydrazine (DNPH) reagent which produces a yellow precipitate in positive test.
- Ferric chloride gives navy blue colour with the patients urine.

726. Result of liquorice ingestion

a) Hyperkalemic alkalosis

b) Hypokalemic alkalosis

c) Hypokalemic acidosis

d) Hypermalemic acidosis

Correct Answer - B
Answer- B. Hypokalemic alkalosis
Liquorice (Licorice) ingestion causes apparent mineralocorticoid excess (pseudohyperaldosteronism) due to inhibition of enzyme 11-13-HSD.
This causes metabolic alkalosis, hypokalemia and volume overload.

727. Most common carcinoma associated with RA

a) Diffuse large B cell lymphoma

b) Large granular lymphocytic leukemia

c) Chronic lymphocytic leukemia

d) None of the above

Correct Answer - B
Answer- B. Large granular lymphocytic leukemia
Lymphogranular proliferation may be present in patients with Rheumatoid arthritis and in minority it will proceed to "large granular lymphocytic leukemia" in Rheumatoid arthritis

728. Systemic sclerosis shows all except

a) Acroosteolysis

b) Tufting

c) Calcinosis cutis

d) Digital ulcers

Correct Answer - B
Answer- B. Tufting
Skin involvement in systemic sclerosis

- Pruritus in the early stages
- Edema in the early stages
- Sclerodactyly
- Digital ulcers
- Pitting at the fingertips
- Telangiectasia
- Calcinosis cutis

729. Tetany is seen in

a) Hypocalcemia

b) Hypercalcemia

c) Hypoparathyroidism

d) Hyperparathyroidism

Correct Answer - A
Answe- A. Hypocalcemia
Acute hypocalcemia directly increases peripheral neuromuscular irritability.
Tetany consists of repetitive high frequency discharges after a single stimulus.
Hyperexcitability ofperipheralneurons is probably the most important pathophysiologic effect of hypocalcemia.

730. In inflammatory myopathy, which group of muscles is not affected

a) Ocular

b) Facial

c) Proximal muscles of limb

d) Distal muscles of limb

Correct Answer - C

Answer- C. Proximal muscles of limb

Inflammatory myopathies represent the largest group of acquired and potentially treatable cause of skeletal muscle weakness.

They are classified into three major groups :

1. Polymyositis
2. Dermatomyositis
3. Inclusion body myositis

- These disorders present as progressive often symmetric muscle weakness.
- The proximal muscles are involved predominantly, first of the lower limb or girdle followed by proximal muscles of upper limb.
- Occular muscles are spared.
- Distal muscles of the limb are involved rarely.

731. Signs of Bartter's syndrome -

a) Hypokalemia

b) Hypernatremia

c) Hyperkalemia

d) Acidosis

Correct Answer - A
Answer- A. Hypokalemia
Inherited forms of hypochloremic metabolic alkalosis and hypokalemia without hypertension are due to genetic mutations of various ion transporters and channels of the thick ascending limb of Henle's loop (TAL) and distal convoluted tubule (DCT).
[Ref: Harrisons Principles of Internal Medicine, 18th Edition, Pages 2360, 61]

732. Description of Waterhouse Friedrich syndrome

a) Adrenal hemorrhage post malignancy

b) Congenital adrenals deficiency

c) Adrenal hemorrhage after meningococcal infection

d) Adrenal hemorrhage after corticosteroid withdrawal

Correct Answer - C
Answer- C. Adrenal hemorrhage after meningococcal infection
Waterhouse Friderichsen syndrome or massive adrenal hemorrhage is an uncommon usually fatal consequence of overwhelling sepsis. It is most frequently seen as a result of "meningococcal infection".

733. In total parenteral nutrition, no need to measure daily

a) Electrolyte

b) Fluid intake and output

c) LFT albumin

d) Magnesium

Correct Answer - C

Answer- C. LFT albumin

Monitoring of parenteral nutrition daily :-

- Measurement of fluid intake and output
- Serum electrolyte
- Glucose
- Calcium
- Magnesium
- Phosphate

Monitor the following parameters weekly :-

- Aminotransferase
- Bilirubin
- Triglycerides

734. Drug of choice for kala-azar is

a) Antimonials

b) Amphotericin B

c) Quinine

d) Parmomycin

Correct Answer - A
Answer- A. Antimonials
First line : Pentavalent antimony (Sodium stibogluconateis the drug of choice), and amphotericin-B.
Alternatives : Paromomycin, pentamidine, miltefosine, sitamoquine

735. DMD not seen is

a) Muscle pseudo hypertrophy

b) Weakness

c) Tenderness

d) Cardiomyopathy

Correct Answer - C
Answer- C. Tenderness
DMD, also called peudohypertrophic mucular dystrophy, is the most common hereditary neuromuscular dystrophy. It is an X-linked recessivedisorder.
It is caused by a mutation in gene responsible for producing dystrophin (a sarcolemmal protein).
There is progressive muscle weakness affecting proximal muscles of limbs.
Child walks clumsily, has difficulty in climbing stairs and the gait is waddling (Trendelenburg).
Scoliosis, epilepsy and mild mental retardation

736. Most sensitive test for myaesthenia gravis

a) Edrophonium test

b) Single fibre EMG

c) Multiple fibre EMG

d) Repetitive nerve stimulation

Correct Answer - B
Answer- B. Single fibre EMG
Diagnosis-

- Anti- AchR radioimmunoassay
- Electrophysiological testing
- Single- fibre electromyography (most sensitive)

737. Dyslipidemia associated with alcohol consumption

a) Decreased HDL

b) Increased HDL

c) Decreased triglycerase

d) Decreased lipoprotein

Correct Answer - B
Answer- B. Increased HDL
Serem HDL cholesterol increases by 4.0 mg/dl (.1mmol/L)
Serum apolipoprotein A.1 increase by 8.8 mg/dl
Serum Triglyceride increases by 5-4 mg mg/dl

738. Migraine is due to

a) Dilatation of cranial arteries

b) Constriction of cranial arteries

c) Cortical spreading depression

d) Meningial inflammation

Correct Answer - C
Answer- C. Cortical spreading depression
Cortical spreading depression is a self propagating wave of neuronal and glial depolarization that spreads across the cerebral cortex. The activation of trigeminal afferents by cortical spreading depression in turn causes inflammatory changes in the pain-sensitive meninges that generate the headache of migraine through central and peripheral reflex mechanisms.

739. -30° to -60° left axis deviation is seen in

a) Left ventricular hypertrophy

b) Right ventricular hypertrophy

c) Aortic stenosis

d) Left atrial enlargement

Correct Answer - A

Answer- A. Left ventricular hypertrophy

Normally, QRS axis ranges from -30° to 90°C

An axis more negative than -30° is referred to as left axis deviation and an axis more positive than +100° is called right axis deviation

Left axis deviation

- Axis more negative than -30°
- Associated with
- Left ventricular hypertrophy
- Left anterior fascicular block
- Inferior M.I.

740. Which is increased in plasma of chronic heart disease pts

a) BNP

b) Endothelin 1

c) Cortisol

d) None

Correct Answer - A
Answer- A. BNP
The plasma concentrations of both hormones are increased in patients with asymptomatic and symptomatic left ventricular dysfunction, permitting their use in diagnosis.
BNP levels are simple and objective measures of cardiac function. These measures can be used to diagnoose heart failure including diastolic function.

741. In asthma diagnosis is by

a) FEVi

b) Measurement of tidal volume

c) End expiratory flow rate

d) Total lung capacity

Correct Answer - A
Answer- A. FEVi
Asthma is classified according to the frequency of symptoms, forced expiratory volume in one second (FEV1), and peak expiratory flow rate.
Spirometry is recommended to aid in diagnosis and management. It is the single best test for asthma. If the FEV1 measured by this technique improves more than 12% and increases by at least 200 milliliters following administration of a bronchodilator such as salbutamol, this is supportive of the diagnosis.

742. A person has asthma attacks more than once during day and once during night

a) Mild intermittent asthma

b) Mild persistent asthma

c) Moderate asthma

d) Severe asthma

Correct Answer - D
Answer- D. Severe asthma
Severe asthma
Symptoms- Throughout day
Night awakenings- Daily
Short-acting B2-agonist use for symptom control-Several times per day
Interference with normal activity- Extreme limitation
FEV1- < 60%
FEV1 /FVC= > 5% reduced

743. A child presents with recurrent pulmonary infections for hemoptysis due to associated bronchiectasia and on imaging characterized by unilateral loss of lung volume with hyperlucency on chest radiograph, reduction in vascularity on CT scan of the chest. The abdominal organs are normally place (d) most lilkely cause is

a) Kartagener's syndrome

b) Swyer-James-MacLeod syndrome

c) Mendelson's syndrome

d) Immotile cilia syndrome

Correct Answer - B
Answer- B. Swyer-James-MacLeod syndrome
Swyer-James-MacLeod syndrome or unilateral h erlucent lun ndrome is a rare entity associated with postinfectious bronchiolitis obliterans occurring in childhood.
It is characterized by hypoplasia and/or agenesis of the pulmonary arteries resulting in pulmonary parenchyma hypoperfusion, showing a characteristic radiological pattern, such as translucent or hyperlucent unilateral lung.

744. Fibrosis of upper lobe is due to

a) Pneumonia

b) ABPA

c) Bronchiectasis in COPD

d) Rheumatoid arthritis

Correct Answer - B
Answer- B. ABPA
Silicosis (Progressive massive fibrosis
Sarcoidosis
Coal worker pneumoconiosis
Ankylosing spondylitis
Radiation
Allergic bronchopulmonary aspergillosis
Tuberculosis
Extrinsic allergic alveolitis

745. What is not seen in CRF

a) Hypercalcemia

b) Hyperkalemia

c) Hyperphosphatemia

d) Hypocalcemia

Correct Answer - A
Answer- A. Hypercalcemia
Abnormalities seen in CRF

- Acidosis
- Hyperkalemia
- Anemia
- Hypernatremia
- Hyperphosphatemia
- Hyperlipidemia
- Hyponatremia
- Hypocalcemia
- Uremia

746. Maximum urinary catheter induced infection

a) E.coli

b) Pseudomonas

c) Staphylococcus epidermidis

d) Proteus

Correct Answer - A
Answer- A. E.coli
Catheter associated urinary tract infections represent the most common type of nosocomial infection.
Most common organism causing catheter associated urinary tract infections are E.coli.

747. Most common symptom of genitourinary TB

a) Renal colic

b) Increased frequency

c) Hematuria

d) Painful micturition

Correct Answer - B
Answer- B. Increased frequency
The clinical manifestations are variable.
The onset of clinically evident genitourinary tuberculosis is usually insidious.
The most common symptoms are :-
Dysuria, increased frequency of urination and gross hematuria

748. Anominal aphasia is due to defect in

a) Left inferior frontal

b) Parietal

c) Temporal occipital

d) Cerebellum

Correct Answer - C
Answer- C. Temporal occipital
Anomia can be genetic or caused by damage to various parts of the parietal lobe or the temporal lobe of the brain by an accident or stroke, or a brain tumor.

749. Unable to consolidate long term memory. Which lobe of the brain is involved

a) Frontal

b) Parietal

c) Temporal

d) Occipital

Correct Answer - C
Answer- C. Parietal
Medial temporal lobe is the area of brain responsible for consolidation, i.e. processing of short term memory into long term memory.

750. Gerstmanns syndrome all except

a) Acalculia

b) Agraphia

c) Aphasia

d) Agnosia

Correct Answer - C
Answer- C. Aphasia
Gerstmann syndrome consists of :
1. Agraphia
2. Acalculia
3. Finger agnosia
4. Left right disorientation

751. Pontine hemorrhage most common cause is

a) Hypertension

b) Diabetes

c) Trauma

d) Aneurysmal rupture

Correct Answer - A
Answer- A. Hypertension
Most common cause of pontine hemorrhage is hypertension.

752. Daily temperature variation in remmitent fever is

a) < 0.5 C

b) > 1°C

c) < 1.0 C

d) > 2 C

Correct Answer - B
Answer- B. > 1°C
Continuous fever

- Temperature remains above normal throughout the day and does not fluctuate more than 1°C in 24 hours. Intermittent fever
- The temperature elevation is present only for a certain period, later back to normal e.g. malaria, kala azar septicaemia.

753. Hyperthermia

a) Temperature > 41.5

b) > 40 with autonomic dysfunctuion

c) No change in hypothalamic thermostat

d) Failure of thermoregulation

Correct Answer - D
ANswer- D. Failure of thermoregulation
Hyperthermia is defined as elevation of core body temperature above the normal diurnal range of 36 to 37.5°C due to failure of thermoregulation at the level of hypothalamus.
Hyperthermia is not synonymous with the more common sign offever, which is induced by cytokine activation during inflammation, and regulated at the level of the hypothalamus.

754. Myasthenia gravis is associated with

a) Antibodies against Ach receptors

b) Decreased myosin

c) Absent troponin C

d) Increased myoneural junction transmission

Correct Answer - A
Answer- A. Antibodies against Ach receptors
The characteristic pathological feature of myasthenia gravis is presence of antibodies against acetyl choline receptors.
These autoantibodies against the acetylcholine receptors lead to loss of functional acetylcholine receptors at the neuro muscular junction.

755. Eaton Lambert syndrome is seen with -

a) Ca breast

b) Ca liver

c) Ca lung

d) CNS tumors

Correct Answer - C
Answer- C. Ca lung
Paraneoplastic syndrome
Associated with
Small cell carcinoma lung
Certain autoimmune diseases

756. Lesion of globus pallidus causes

a) Chorea

b) Athetosis

c) Hemibalismus

d) Flexion dystonia

Correct Answer - B

Answer- B. Athetosis

- Athetosis- Globus pallidus (mainly) and Subthalamic nucleus.
- **Lesion at the globus pallidus and striatum** cause **athetosis,** which is characterized by continuous, **slow** writhing movements.
- Chorea: **rapid**, involuntary dancing movements → Most commonly, the lesion is in the striatum.
- Ballism: involuntary flailing, intense and violent movements. The movements are of large amplitude and predominantly involves proximal muscles.
- The lesion in the subthalamic nucleus.
- Athetosis: continuous, **slow** writhing movements → Lesion at globus pallidus and striatum.

757. Most common tumor associated with NF 1

a) Optic glioma

b) 2nd nerve schwannoma

c) Astrocytoma

d) Bilateral acoustic neuroma

Correct Answer - A
Answer- A. Optic glioma
"Optic pathway gliomas" are the predominant type of neoplasm associated with neurofibromatosis type I but other central nervous system and non CNS tumours can occur.

758. CSF picture in viral meningitis

a) Lymphocytic pleocytosis

b) WBC count > 1500/mL

c) Sugar is reduced

d) Protein is decreased

Correct Answer - A

Answer- A. Lymphocytic pleocytosis

	Normal	Bacterial	Viral
Opening Pressure	**7-18**	>30	Normal or Mildly Incre
Appearance	Clear, Colorless	Turbid	Clear
Protein (mg/dl)	23-38	Increased	Normal to Decreased
Glucose (mmol/L)	2/3rds Serum Glucose	Decreased	Normal
Gram Stain	Negative	Positive 160-90% of Cases)	Negative
Glucose CSF: Serum Ratio	0.6	<0.4	>0.6
White Cell Count	**cells**	Predominately Neutrophils	Predominately Lymph

759. In herpes encephalitis A/E

a) Focal symptoms common

b) Temporal lobe involved

c) MRI is diagnostic

d) EEG not diagnostic

Correct Answer - D
Answer- D. EEG not diagnostic
Diagnosis

- Most sensitive and specific investigation for HSV-1 encephalitic is MRI
- In contrast, cranial CT scans have only 50% sensitivity and that too early in the disease. EEG findings in HSV-1 encephalitis

760. Which of the following provide protection against malaria all except

a) Duffy blood group

b) Sickle cell anemia

c) Thalassemia

d) PNH

Correct Answer - D

Answer- D. PNH

Red cell surface antigen that offer protection against malaria

- Duffy blood group system
- ABO (H) blood group system
- Glycophorins
- Gerbich antigen
- Complement receptor type I
- Knops blood group

Abnormalities of the red cell cytoskeleton which may offer protection include

- South-east asia ovalocytosis Hereditary elliptocytosis
- Hereditary spherocytosis Sickle cell HbA/S

761. Richner-Hanhart syndrome is

a) Autosomal dominant

b) Occular and cutaneous features

c) Associated with abnormality in lipid metabolism

d) Normal mental function

Correct Answer - B
Answer- B. Occular and cutaneous features
Rare autosomal recessive disorder of tyrosine metabolism due to deficiency of the cytosolic fraction of hepatic tyrosine amino transferase.
Occurs due to deficiency of "Tyrosine amino transferase".
Mental retardation.
The patient has high urinary tyrosine levels along with high plasma tyrosine levels.
These patients responds dramatically to dietary restriction of the amino acids phenylalanine and tyrosine

762. Fabry's disease affects

a) ER

b) Lysosome

c) Mitochondria

d) Cell membrane

Correct Answer - B
Answer- B. Lysosome
Fabry disease, also called Anderson-Fabry disease, is the second most prevalent lysosomal storage disorder after Gaucher disease. It is an X-linked inborn error of the glycosphingolipid metabolic pathway. This results in accumulation of globotriaosylceramide (Gb3) within lysosomes in a wide variety of cells, thereby leading to the protean manifestations of the disease.

763. Calcium homeostasis disturbance is seen in

a) Malignant hyperthermia

b) DMD

c) Tibial muscular dystrophy

d) Limb girdle muscle dystrophy

Correct Answer - A
Answer- A. Malignant hyperthermia
Malignant hyperthermia is a pharmacogenetic condition caused due to mutation of the "Ryanodine receptor gene".
Ryanodine receptor gene controls the level of "cytosolic calcium" and therefore skeletal muscle contraction.

764. Tetany is seen in

a) Respiratory alkalosis

b) Respiratory acidosis

c) Metabolic acidosis

d) Hyperkalemia

Correct Answer - A
Answer- A. Respiratory alkalosis
In alkalosis tetany occurs because of the decreased concentration of free ionized calcium.
It is the free ionized calcium that is physiologically more important.
[Ref Harrison 18th/e p. 362, 360; Guyton 10thie p. 342]

765. Hypomagnesemia is not seen in

a) Barters syndrome

b) Diabetes mellitus

c) Diarrhea

d) Gitelman syndrome

Correct Answer - A
Answer- A. Barters syndrome
Hypomagnesemia may occur in Barter's syndrome but usually the serum magnesium level is normal in Barters syndrome.

766. Primary Sjogrens syndrome true is

a) Can be seen in children

b) Increased complement C4 leads to thymoma

c) Associated with rheumatoid arthritis

d) Salivary gland enlargement

Correct Answer - D

Answer- D. Salivary gland enlargement

Sjogren syndrome is a chronic disease characterized by dry eyes (keratoconjuctivitis sicca) and dry mouth (xerostomia) resulting from immunological mediated destruction of the lacrimal and salivary glands.

It occurs in two forms

1. Primary form (SICCA SYNDROME) → Occurs as an isolated disorder.
2. Secondry form → When it occurs in association with other autoimmune disorder. It is more common.

- Autoimmune diseases associated with sjogren syndrome
- Symptoms result from inflammatory destruction of the exocrine glands.

1. Keratoconjunctivitis
2. Xerostomia
3. Parotid gland enlargement

767. Prophylaxis for HIV is optimally effective if started upto ..... hrs of exposure

a) 1

b) 2

c) 4

d) 12

Correct Answer - A
Answer- A. 1
goal is to start within one to two hours or earlier after exposure often using a starter pack with appropriate drugs as immediately available. The median time to initiation of postexposure prophylaxis is 1.8 hrs. The centre for disease control and prevention (CDC) recommendations are to offer prophylaxis upto 24-36 hrs after exposure, for longer time lapses, the recommendations is to seek advice from an expert

768. Odd pair

a) Erythema marginatum-rheumatic fever

b) Erythema gyrens ripens-malignancy

c) Necrotic acral erythema-HCV

d) Erythema chronicum migrans malignancy

Correct Answer - D
Answer- D. Erythema chronicum migrans malignancy
"Erythema gyratum repens" is a rare and characteristic rash strongly associated with malignancy .
Erythema chromicum nigrans
Ergthema marginatum
It is a characteristic cutaneous manifestation of rheumatic fever.

769. Yellow-nail syndrome consists of

a) Knee joint effusion and lymphedema, associated with discolored nails

b) Pericardial and lymphedema, associated with discolored nails

c) Peritoneal effusion and lymphedema, associated with discolored nails

d) Pleural effusion and lymphedema, associated with discolored nails

Correct Answer - D

Answer- D. Pleural effusion and lymphedema, associated with discolored nails

Yellow nail syndrome is a rare disorder of the nail, which is usually accompanied by

Lymphoedema

It may also be associated with :

- Recurrent pleural effusions
- Bronchiectasis

770. Not to be given in malignant malaria is -

a) Quinolone

b) Quinine

c) Doxycycline

d) Artesunate

Correct Answer - A
Answer- A. Quinolone
Artemisinin derivative : Artesunate
Quinine or Quinidine
Plus one of the following : Doxycycline, Tetracycline and Clindamycin

771. Muir–Torre syndrome shows

a) Sebaceous keratomas

b) Lisch nodules

c) Intestinal polyp

d) Hyperelastic joints

Correct Answer - A

Answer- A. Sebaceous keratomas

Muir - Torre syndrome is an autosomal skin condition of genetic origin characterized by tumors of the sebaceous gland or keratoacanthoma that are associated with visceral malignant disease

Cutaneous characteristic

- Adenoma
- Epithelioma
- Carcinoma
- Multiple keratoacanthomas

772. First symptom of leprosy

a) Decreased vibration & position sense

b) Decreased pain

c) Decreased temperature

d) Decreased light touch

Correct Answer - B
Answer- B. Decreased pain
In 90% of patients the first sign of the disease is a feeling of numbers which may preceedes skin lesions by a number of years . Temperature is the first sensation lost followed by light tourch pain and then deep pressure.
[Ref Harrison 18thie p. 1363-1364]

773. Migraine is due to

a) Dilatation of cranial arteries

b) Constriction of cranial arteries

c) Cortical spreading depression

d) Meningial inflammation

Correct Answer - C
Answer- C. Cortical spreading depression
Cortical spreading depression is a self propagating wave of neuronal and glial depolarization that spreads across the cerebral cortex. The activation of trigeminal afferents by cortical spreading depression in turn causes inflammatory changes in the pain-sensitive meninges that generate the headache of migraine through central and peripheral reflex mechanisms.

774. Which of the following is endogenous pyrogen

a) PG E2

b) PG D2

c) PGF2 alpha

d) PG I2

Correct Answer - A
Answer: -A. PG E2
Pyrogen

- Pyrogens are substances that cause fever.
- Pyrogens may be exogenous or endogenous
- Exogenous → Bacterial toxins
- Endogenous → IL-1, TNF-a, IL-6, Interferons, Ciliary neurotrophic factor
- These pyrogens increase the level of PGE, in the hypothalamus that elevates the thermoregulatory set point and causes fever.

775. In Bartter syndrome defect is seen in:

a) Defect in PCT

b) Defect in DCT

c) Defect in thick ascending limb of loop of henle

d) None

Correct Answer - C
Answer: C - Defect in thick ascending limb of loop of henle
Autosomal recessive disorder.
Genetic defect in the thick ascending limb of the loop of henle
Defects in Na-K-2C/ co^{L}transporter, K or Cl
channels result in lack of concentrating ability

776. Not seen in allergic pulmonary aspergillosis is

a) High IgE level

b) Recurrent pneumonia

c) Occurrence in patients with old cavitary lesions

d) Pleural effusion

Correct Answer - B

Answer: B-Recurrent pneumonia

Allergic bronchopulmonary aspergillosis is a pulmonary hypersensitivity disorder caused by allergy to fungal antigens that colonize the tracheobronchial tree.

It most commonly occurs in atopic asthmatic individuals in response to antigen of aspergillus species.

Main diagnostic criteria

- Clinical history of Asthma Q
- Pulmonary infiltrates (transient /fleeting or fixed)Q
- Peripheral eosinophilia (> 1000 /,uL)Q
- Immediate skin reactivity to Aspergillus antigen (wheal and flare response)
- Serum precipitins to A. fumigatus
- Elevated serum IgE levels(>100Ong/ml)
- Central /proximal bronchiectasis

Secondary diagnostic criteria

- History of brownish plugs in sputum
- Identification / culture of A., fumigatus from sputum
- Late skin reactivity to aspergillus antigen - CMDT
- Elevated IgE (and IgG) class antibodies specific for A. fumigatus - Harrisons

Note

Elevated IgE (and IgG) class antibodies specific for A. fumigatus has been mentioned as a secondary diagnostic criteria in Harrison's textbook while Fishman's textbook includes this as a main/major diagnostic criteria.

777. Pseudo P Pulmonale

a) Hypokalemia

b) Hyponatremia

c) Hypocalcemia

d) Hypercalcemia

Correct Answer - A
Answer: **A. Hypokalemia**
In some cases there can be a notched (or bifid) p-wave known as “p mitrale”, indicative of left atrial hypertrophy which may be caused by mitral stenosis. There may be tall peaked p-waves. This is called “p-pulmonale” and is indicative of right atrial hypertrophy often secondary to tricuspid stenosis or pulmonary hypertension.
A similar picture can be seen in hypokalemia (known as “pseudo p-pulmonale”).

778. Automatic Implantable Cardioverter Defibrillator, (AICD) implantation is done for which of following conditions:

a) Brugada syndrome

b) Ventricular fibrillation

c) Acute coronary syndrome with low EF

d) All of the above

Correct Answer - D

Answer: D. All of the above

An Automatic Implantable Cardioverter Defibrillator, (AICD), is a small electronic device that is implanted into your chest to monitor and correct an abnormal heart rhythm, or arrhythmia. These devices are used to treat serious and life-threatening arrhythmias and are the most effective way of doing so.

Brugadasyndrome is a condition that causes a disruption of the heart's normal rhythm.

Ventricular fibrillation is a heart rhythm problem that occurs when the heart beats with rapid, erratic electrical impulse.

Acute coronary syndrome is a term used to describe a range of conditions associated with sudden, reduced blood flow to the heart.

779. What is the line of treatment for intractable Sydenham chorea?

a) Haloperidol

b) Valproate

c) Warfarin

d) Risperidone

Correct Answer - B

Answer: B. Valproate

Sydenham's chorea (SC) / Chorea minor / Rheumatic chorea (RC) / St. Vitus' s Dance

- Major diagnostic criteria for rheumatic disease
- Most common acquired chorea during childhood
- Characterized by rapid, uncoordinated jerking movements primarily affecting the face, hands and feet
- Benzodiazepines facilitate the action of GABA and valproate enhances the action on GABA, hence these agents are used to treat chorea

780. Neurofibromatosis 1 criteria except

a) Brain tumor

b) Acoustic neuromas

c) Pseudoarthrosis

d) Cafe-au-lait spots

Correct Answer - B

Answer: B - Acoustic neuromas

Clinical diagnosis requires presence of at least 2 of 7 criteria to confirm presence of neurofibromatosis, type 1.

Despite suspicion, most signs do not appear until late childhood / adolescent

The 7 clinical criteria used to diagnose NF1 are as follows:

- Six or more café-au-lait spots / hyperpigmented macules greater than or equal to 5 mm in diameter in prepubertal children & 15 mm postpubertal
- Axillary or inguinal freckles (>2)
- Two or more typical neurofibromas or one plexiform neurofibroma
- Optic nerve glioma
- Two or more iris hamartomas (Lisch nodules) (often identified only through slit-lamp examination)
- Sphenoid dysplasia or typical long-bone abnormalities such as pseudarthrosis
- Strong family history (1st degree relative with NF1)

781. Most common site of chronic gastric ulcer

a) Pyloric antrum

b) Upper part of lesser curvature

c) Lower part of lesser curvature

d) Segment of large intestine

Correct Answer - A
Answer: **A - Pyloric antrum**
A major causative factor (60% of **gastric**& up to 50–75% of duodenal **ulcers**) is chronic inflammation due to **Helicobacter pylori** that colonizes the **antral mucosa**.

782. Approximate time interval between HIV infection & manifestation of AIDS is?

a) 7.5 yr

b) 10 yr

c) 12 yr

d) 11 yr

Correct Answer - B
Answer: B - 10 years
The approximate time frame required for incubation is usually **10 years.**
median time from infection to the development of AIDS in adults is about 9 years. A small proportion of untreated HIV-infected people are long-term non-progressors, with CD4 counts in the reference range for 10 years or more. Some long-term non-progressors have undetectable viral loads and are known as ‘elite controllers’.

783. Heller's myotomy is done for

a) Zenker's diverticulum

b) Achalasia cardia

c) Bunions

d) Knee arthroscopy

Correct Answer - B
Answer: B - Achalasia cardia
Achalasia, a disorder of esophagus characterized by progressive inability to swallow solids & liquids.
Causes include weakened esophageal muscles & issues with lower esophageal sphincter relaxation
Heller Myotomy, surgical procedure offers long term symptomatic relief to these patients.
It involves weakening of muscles at gastroesophageal junction, allowing the valve between oesophagus & stomach to remain open.

784. Myocardial stunning pattern not matching the ECG. What is the diagnosis.

a) Takotsubo cardiomyopathy

b) Restrictive cardiomyopathy

c) Brigade's cardiomyopathy

d) Pericardial something

Correct Answer - A
Answer: A -Takotsubo cardiomyopathy
"Myocardial Stunning" is a state where **certain segments of myocardium** (corresponding to area of major coronary occlusion) **shows forms of contractile abnormality.**
A segmental dysfunction persisting for a variable period of time, about two weeks, even after ischemia has been relieved (by for instance angioplasty or coronary artery bypass surgery).
Takotsubo cardiomyopathy / Takotsubo syndrome, a temporary condition where your heart muscle becomes suddenly weakened or 'stunned'.

785. Alternative drug for cardiac arrest in place of epinephrine is?

a) Amiodarone infusion

b) Atropine

c) High dose vasopressin

d) Adenosine

Correct Answer - C
Answer: C - High dose vasopressin
Vasopressin is an alternative vasopressor at high doses, causes vasoconstriction by directly stimulating smooth muscle V1 receptors.
American Heart Association (AHA) guidelines states “Vasopressin is a reasonable first-line vasopressor in patients with ventricular fibrillation or pulseless ventricular tachycardia. Additionally, the guidelines comment that one dose of vasopressin 40 U may replace the first or second dose of epinephrine in all pulseless sudden cardiac arrest scenarios, including asystole and pulseless electrical activity.

786. Patient presenting with cutaneous vasculitis, glomerulonephritis, peripheral neuropathy, Which investigation is to be performed next that will help you diagnose the condition?

a) ANCA

b) RA factor

c) Hbsag

d) MIF

Correct Answer - A

Answer: A - ANCA

Anti-neutrophil cytoplasmic antibodies (**ANCAs**):

- Group of autoantibodies
- IgG type mainly,
- Produced against antigens in cytoplasm of neutrophil granulocytes & monocytes.
- Particularly associated with systemic vasculitis, so called “ANCA-associated vasculitis”.

787. Cryoglobulinemia

a) Hepatitis c

b) Ovarian cancer

c) Diabetes

d) Leukemia

Correct Answer - A
Answer: A. Hepatitis C
Cryoglobulinemia / Cryoglobulinemic disease with large amounts of cryoglobulins in blood
Cryoglobulins are proteins (mostly immunoglobulins themselves) Become insoluble at reduced temperatures.
Mixtures of monoclonal or polyclonal IgM, IgG, and/or IgA & blood complement proteins like C4 are associated with cases of infectious diseases, particularly Hepatitis C infection,

788. Causes of hypokalemic metabolic alkalosis with hypertension

a) Liddle syndrome

b) Bartter syndrome

c) Gitelman syndrome

d) Renal tubular acidosis

Correct Answer - A
Answer: A. Liddle syndrome
Liddle syndrome - Rare hereditary disorder
Increased activity of the epithelial sodium channel (E-Na Ch)
Activating kidneys to excrete potassium retaining excessive sodium & water, leading to hypertension.

789. Gold criteria for very severe COPD

a) Fev1/Fvc <70 and Fev1 < 30

b) Fev1/Fvc <70 and Fev1 < 70

c) Fev1/Fvc <70 and Fev1 < 50

d) Both A and C

Correct Answer - A
Answer: A. Fev1/Fvc <70 and Fev1 < 30
COPD should be considered in any patient who has dyspnea, chronic cough or sputum production, and/or a history of exposure to risk factors for the disease.
Spirometry is required to make the diagnosis.
Presence of post-bronchodilator FEV1/FVC < 0.70 confirms the presence of persistent airflow limitation.
Stage IV / Very Severe COPD
Severe airflow limitation (FEV1/FVC < 70%; FEV1 <. 30% predicted) or FEV1 < 50% predicted plus chronic respiratory failure.
Patients may have Very Severe (Stage IV)COPD even if FEV1 is > 30% predicted.

790. ABPI increases artificially in

a) Arteriosclerosis calcified arteries

b) Ischemic ulcers

c) Intermittent claudication

d) DVT

Correct Answer - A

Answer: A. Arteriosclerosis calcified arteries

The ankle-brachial pressure index (ABPI) / Ankle-Brachial index (ABI):

- Ratio of blood pressure at ankle to blood pressure in upper arm (brachium).
- Compared to arm, lower blood pressure in leg suggests blocked arteries due to peripheral artery disease (PAD).
- Ankle brachial pressure index (ABPI) is a method for the quantification of peripheral vascular disease that results from advanced atherosclerosis.

791. Minimal dysfunction syndrome seen in

a) Dyslexia

b) ADHD

c) Mental subnormality

d) Down’s syndrome

Correct Answer - A
Answer: A. Dyslexia
Clinical feature of Minimal dysfunction syndrome includes dyslexia.
Minimal brain dysfunction:

- Neurodevelopmental disorder.
- Characterized by evidences of immaturity involving control of activity, emotions, & behavior
- Specific learning disabilities involving the communicating skills needed in reading, writing, and mathematics.
- Inability to maintain attention & concentration
- Inability to skillfully blend the auditory & visual functions essential in language performance

792. The earliest feature of 3rd cranial nerve involvement in diabetes mellitus patient is -

a) Normal light reflex

b) Abnormal light reflex

c) Normal light and accommodation reflex

d) Abnormal light and accommodation reflex

Correct Answer - A

Answer: A. Normal light reflex

The **oculomotor nerve** is the third cranial nerve. It enters the orbit via the superior orbital fissure and innervates muscles that enable most movements of the eye and that raise the eyelid. The nerve also contains fibers that innervate the muscles that enable pupillary constriction and accommodation (ability to focus on near objects as in reading). The oculomotor nerve is derived from the basal plate of the embryonic midbrain.In people with diabetes and older than 50 years of age, an oculomotor nerve palsy occurs.

793. Mobitz type 2 second degree AV block is seen in all except:

a) Hypothyroidism

b) Coronary Artery Disease

c) Sarcoidosis

d) Cushing syndrome

Correct Answer - D

Ans: D. Cushing syndrome

Delay or lack of conduction through the atrioventricular (AV) node and below has multiple causes. Degenerative changes (eg, fibrosis, calcification, or infiltration) are the most common cause of non-ischeamic AV block. Idiopathic fibrosis or calcification of the AV conduction system, commonly seen in the elderly, can cause complete AV block.

Causes of Mobitz type 2 second degree AV block are -

- Damage of the conduction system from coronary artery disease, valve surgery, myocardial infarction, myocarditis, infiltrative cardiomyopathies (sarcoidosis, hemochromatosis), myxedema, Lyme disease, neuromuscular disease, and AV junction ablation [6]

794. Which drug regimen is given in a pregnant woman with HIV infection?

a) Tenofovir disoproxil fumarate with emtricitabine

b) Tenofovir disoproxil fumarate with lamivudine

c) Abacavir with lamivudine

d) All

Correct Answer - D

Ans. D. All

Preferred Regimens for HIV Antiretroviral Therapy (ART) in Pregnancy

Two-NRTI backbone

Regimens include the following:

- Tenofovir disoproxil fumarate with emtricitabine (TDF/FTC co-formulated) or tenofovir disoproxil fumarate with lamivudine (3TC) once daily (use with caution in renal insufficiency) or
- Abacavir with lamivudine (ABC/3TC) once daily (only if HLA-B5701–negative); avoid combination with ritonavir-boosted atazanavir if the pretreatment HIV viral load exceeds 100,000 copies/mL.
- For women who have never taken HIV medicines, the preferred HIV regimen should include two **nucleoside reverse transcriptase inhibitors (NRTIs)** plus an i**ntegrase strand transfer inhibitor (INSTI), a non-nucleoside reverse transcriptase inhibitor (NNRTI)**, or a **protease inhibitor (PI)** with low-dose **ritonavir** (brand name: Norvir).

The regimen generally should include at least one of the following NRTIs that pass easily across the placenta:

- **abacavi**r (brand name: Ziagen)
- **emtricitabine** (brand name: Emtriva)

- **lamivudine (**brand name: Epivir)
- **tenofovir disoproxil fumarate**(brand name: Viread)
- **zidovudine** (brand name: Retrovir)

795. Nutcracker esophagus, the correct statement is

a) There is extremely forceful peristaltic activity leading to episodes of chest pain and dysphagia

b) There is no medical t/t available

c) Type of oesophageal Malignancy

d) None

Correct Answer - A

Ans: A. There is extremely forceful peristaltic activity leading to episodes of chest pain and dysphagia

NutCracker Oesophagus is a hypermotility disorder with high amplitude peristalsis. It is a condition in which extremely forceful peristaltic activity leads to episodic chest pain and dysphagia. Treatment is with nitrates or nifedipine.

Ref. davidsons principles and practice 23rd edition page no.795

796. Which of the following criteria is used to assess the prognosis of the liver condition as represented in the picture below?

a) Child pugh score

b) Milan score

c) Meld score

d) Alvarado score

Correct Answer - A

Ans: A. Child pugh score

the liver condition as represented in the picture above demonstrates liver cirrhosis.

Child-Pugh score (or the Child–Turcotte–Pugh score or Child Criteria) is used to assess the prognosis of chronic liver disease, mainly cirrhosis.

It is now used to determine the prognosis, as well as the required strength of treatment and the necessity of liver transplantation.

Factor	1 point	2 points	3 points
Total bilirubin (µmol/L)	<34	34-50	>50
Serum albumin (g/L)	>35	28-35	<28
PT INR	<1.7	1.71-2.30	>2.30
Ascites	None	Mild	Moderate to Severe

Hepatic encephalopathy	None	Grade I-II (or suppressed with medication)	Grade III-IV (or refractory)

Interpretation:

Points	Class	One year survival	Two-year survival
5–6	A	100%	85%
7–9	B	81%	57%
10–15	C	45%	35%

797. Sudden onset headache with neck rigidity?

a) Intraparenchymal hemorrhage

b) Sah

c) Meningitis

d) None of the above

Correct Answer - B
Ans: b. Sah
sudden onset of a severe headache (often described as "the worst headache of my life")
nausea and vomiting
stiff neck
sensitivity to light (photophobia)
blurred or double vision
loss of consciousness
seizures

798. Vegetation in mitral valve seen in which condition

a) Libman sacks

b) Infective endocarditis

c) NBTE

d) Rheumatic fever

Correct Answer - B

Ans: B. Infective endocarditis

Infective endocarditis is characterized by lesions, known as vegetations, which is a mass of platelets, fibrin, microcolonies of microorganisms, and scant inflammatory cells. In the subacute form of infective endocarditis, the vegetation may also include a center of granulomatous tissue, which may be fibrosed or calcified.

799. Water hammer pulse is seen in

a) Aortic regurgitation

b) Mitral stenosis

c) Aortic stenosis

d) Left ventricular failure

Correct Answer - A

Ans: A. Aortic regurgitation

Water hammer pulse

- It is a large bounding pulse, associated with an increased stroke volume of the left ventricle and a decrease in the peripheral resistance, leading to wide pulse pressure.
- The pulse strikes the palpating finger with a rapid, forced jerk and quickly disappears.
- It is best felt in the radial artery with the patient's arm elevated.
- It is seen in aortic regurgitation.

800. What will you do when 3 yrs old child parents come to phc with fever, cough since 5 days with chest indrawing present under mnci classification

a) Give antipyretics only

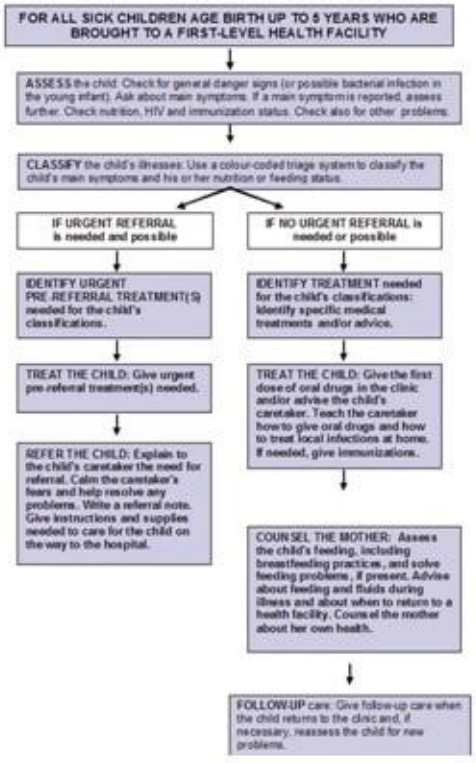
b) Give antibiotics and follow up

c) Refer urgently to tertiary care

d) Give antibiotics and refer to tertiary care

Correct Answer - D

Ans: D. Give antibiotics and refer to tertiary care



801. What poison will you detect in skeleton even after emaciation

a) Lead

b) Arsenic

c) Mercury

d) Cadmium

Correct Answer - B
Ans: B. Arsenic
Arsenic can be detected even in conflagrated human bones. Hence, it is possible to detect poisoning by arsenic even when the body has been burnt for a long time.
FMT 2nd edition Page no. 184

802. Ph7.2, HCO_3 - (10 or 12), pco_2-35 , metabolic acidosis due to

a) K^+ excretion by the kidney

b) Co_2 expiration by lungs

c) H^+excretion by the kidney

d) Hco_3 loss by kidney

Correct Answer - D

Ans: D. Hco_3 loss by kidney

In the question, pH is decreased (acidosis) & pCO_2 is decreased (Normal= 40-45 mm Hg).

A decreased pCO_2 will try to increase pH, hence it must be a secondary compensating mechanism.

So, the primary mechanism causing the acid-base imbalance must be a decrease in serum bicarbonate concentration i.e. metabolic acidosis.

803. Impaired function of Aquaporin results in

a) Liddel syndrome

b) Nephrogenic DI

c) Cystic fibrosis

d) Barter syndrome

Correct Answer - B
Ans: B. Nephrogenic DI
Aquaporins, also called **water channels**, are integral membrane proteins from a larger family of major intrinsic proteins that form pores in the membrane of biological cells, mainly facilitating the transport of water between cells.
Genetic defects involving aquaporin genes have been associated with several human diseases including nephrogenic diabetes insipidus and neuromyelitis optica.

804. The most common cause of death in SLE in children

a) Lupus nephritis

b) Lupus cerebritis

c) Libman sacks endocarditis

d) Anemia and infections

Correct Answer - A
Ans: A. Lupus nephritis
Major causes of death in pediatric SLE include :
1. Renal disease (lupus nephritis)
2. Severe disease flare
3. Infections

805. A patient having multiple Gall stones and shows 8 mm dilation and 4 stones in CBD, best treatment modalities are –

a) Cholecystectomy with choledocholithotomy at the same setting

b) ESWL

c) Cholecystectomy and wait for ERCP

d) All

Correct Answer - A

Ans: A. Cholecystectomy with choledocholithotomy done at the same sitting

Management of suspected or proven CBD stones associated with gall bladder stones

- For gallstones - *laparoscopic cholecystectomy is the procedure of choice.*
- For CBD stones two things can be done:

1) If the surgeon is experienced in laparoscopic techniques of CBD stone removal then both cholecystectomy and choledocholithotomy are done in the same sitting.

- CBD stones are first confirmed by an intraoperative cholangiogram
- then the stones are removed laparoscopically via the cystic duct or by choledochotomy.

2) If the surgeon is not experienced with laparoscopic methods of CBD stone removal, preoperative endoscopic sphincterotomy with stone removal and later laparoscopic cholecystectomy is done.

- Laparoscopic cholecystectomy with choledocholithotomy in the same sitting is the preferred technique (provided the surgeon is experienced)

- But one must keep in mind here that
"for elderly, poor-risk patients with gallstones and CBD stones, some have recommended ERCP and sphincterotomy as the sole treatment, leaving gallbladder and stones in situ". - Maingot's 10/e
Usually the gallstones in these patients remain asymptomatic and if the need arises can be managed by cholecystectomy

806. Pulmonary plethora is seen with all except:

a) TGS

b) Ebstein anomalies

c) Hypoplastic left heart syndrome

d) Double outlet right ventricle

Correct Answer - B

Ans: B. Ebstein anomalies

Pulmonary plethora is seen in

- TOF
- TA
- Ebstein's anomaly
- Pulmonary atresia

807. Hemodynamically unstable patient with SVT

a) IV IBUTILIDE

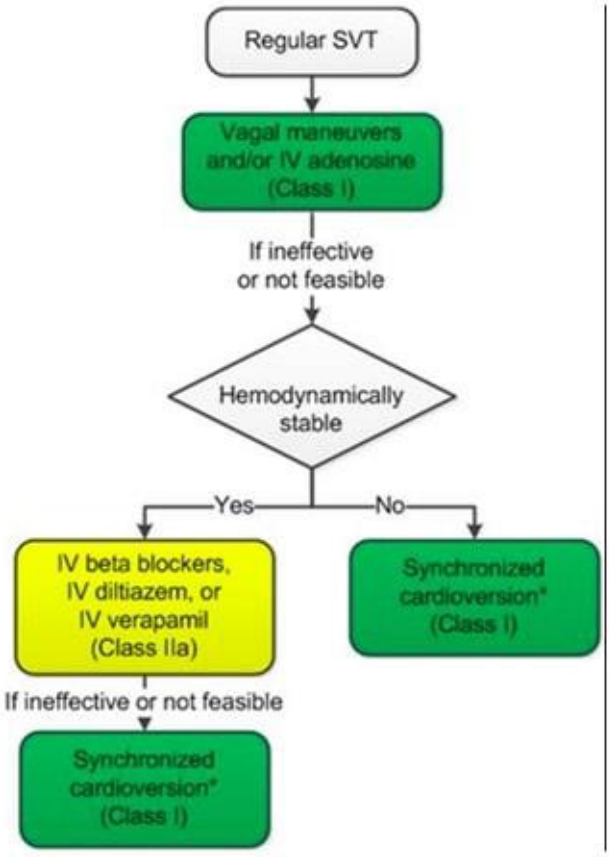
b) IV DILTIAZEM

c) CARDIOVERSION

d) Iv beta-blockers

Correct Answer - C

Ans: C. CARDIOVERSION



808. A Female patient was on lithium for bipolar disorder for 6 months.she fasted for some days due to religious condition and later presented with seizures,tremors, confusion and weakness. What investigations have to be done to diagnose her condition

a) serum electrolytes

b) serum lithium

c) ECG

d) MRI

Correct Answer - B
Ans: B. serum lithium
Because of its effects on multiple body systems, including but not limited to renal, hematologic, and thyroid systems, appropriate baseline studies must precede the start of lithium therapy.
The minimal tests to be done include serum creatinine, electrolytes, thyroid function tests, and a complete blood count with differential. Additionally, because of its cardiac effect, an ECG is indicated. Any woman thought to be pregnant should have a pregnancy test.
Ref: Nurcombe B. (2008). Chapter 12. Diagnostic Formulation, Treatment Planning, and Modes of Treatment in Children and Adolescents. In M.H. Ebert, P.T. Loosen, B. Nurcombe, J.F. Leckman (Eds), CURRENT Diagnosis & Treatment: Psychiatry, 2e.

809. Lithium causes:

a) Hypokalemia

b) Hyperkalemia

c) Hypocalcemia

d) Hypercalcemia

Correct Answer - A
Ans: A. Hypokalemia
Side effects of lithium
1. Neurological: - *Tremor is the commonest side effect of lithium.* Other CNS side effects are giddiness, ataxia, motor incoordination, hyperreflexia, mental confusion, nystagmus.
2. Renal: - Nephrogenic diabetes insipidus with polyuria & polydipsia. Amiloride is the DOC for Lithium induced nephrogenic DI.
3. Cardiovascular: - Effects are similar to hypokalemia. *The most common ECG change is T wave depression.*
4. Endocrine: - Goitre, *hypothyroidism*
5. GIT: - Nausea, vomiting, diarrhea, metallic test, abdominal pain.
6. Dermatological : - Acneiform eruptions, papular eruption, exacerbation of psoriasis.
7. Teratogenicity: - Ebstein's anomaly in the fetus.

810. A 50-year-old man presents with paresthesia. HB-6.8g/dl. Peripheral smear shows macrocytosis and neutrophils with hypersegmented nuclei.endoscopy reveals atrophic gastritis. a most probable diagnosis is

a) Folate deficiency

b) Vitamin B12 deficiency

c) Riboflavin deficiency

d) Iron deficiency

Correct Answer - B

Ans: B. Vitamin B12 deficiency

Macrocytosis and hyper segmented neutrophils on peripheral smear, poor absorption(Atrophic gastritis) suggest the diagnosis of B12 deficiency.

The presence of anemia (Hb= 6gm%) Macrocytosis (MCV=104) and decreased vitamin B12 levels (B12=60 pg/ml) suggests a diagnosis of megaloblastic anemia due to vitamin B12 deficiency.

The patient in question thus has macrocytic anemia due to vitamin B12 deficiency.

811. All trans retinoic acid is used in the treatment of tumour associated with

a) BCR-ABL

b) PML-RARA

c) CMYC

d) CEBPA

Correct Answer - B

Ans: B. PML-RARA

- All-trans retinoic acid (ATRA) is an active metabolite of vitamin A under the family retinoid.
- Retinoids, through their cognate nuclear receptors, exert potent effects on cell growth, differentiation and apoptosis, and have significant promise for cancer therapy and chemoprevention.
- Differentiation therapy with ATRA has marked a major advance and become the first choice drug in the treatment of acute promyelocytic leukemia (APL).
- All-trans retinoic Acid is used in the treatment for Acute Promyelocytic Leukemia (PML)

812. Renal tubular acidosis with ABG value pH = 7.24 $P0_2$=80; $PaCO_2$= 36 Na = 131; HCO_3 = 14 Cl= 90; BE = -13 Glucose = 135 above ABG picture suggest –

a) Respiratory acidosis

b) Respiratory alkalosis

c) Metabolic acidosis

d) Metabolic alkalosis

Correct Answer - C
Ans: C. Metabolic acidosis
The given values have low pH, and low HCo_3 Indicate metabolic acidosis
PCO_2 in lower normal range (normal value 35-45 mm/hg)

813. Patient with pulmonary fibrosis. Which antiarrhythmic drug should not be given

a) Amiodarone

b) Flecainide

c) Iv ibutilide

d) lidocaine

Correct Answer - A
Ans: A. Amiodarone
Amiodarone and its metabolites can produce lung damage directly by a cytotoxic effect and indirectly by an immunological reaction. The latter is supported by the finding of cytotoxic T cells in bronchoalveolar lavage (BAL) fluid from patients with diagnosed APT. Amiodarone may induce the production of toxic O2 radicals, which can directly damage cells

814. A 42-year-old patient with obstructive jaundice. Alp, Ggt, haptoglobin all increased. The most likely cause is:

a) Alcohol

b) Lead

c) Chronic rf

d) None of the above

Correct Answer - A

Ans: A. Alcohol

An indicator that should make the clinician highly suspicious of alcohol-related liver injury is AST: ALT ratio of 2:1 or more.

Gamma-glutamyl transferase (GGT) is another sensitive but non-specific marker for the hepatic injury which cannot be used solely to diagnose alcohol-related hepatic insult.

Levels of GGT greater than twice the normal values in addition to AST:ALT ratio >2 strongly indicate alcohol-induced liver injury as well.

815. The differentiating feature between IBS and organic GI disease is:

a) Diarrhea

b) Stool calprotectin

c) Pain abdomen

d) Mucus in stools

Correct Answer - B

Ans: B. Stool calprotectin

Both organic IBD and non-organic functional disorders like IBS exhibit very similar symptoms researchers have identified several stool-based biomarkers to differentiate between IBD and IBS. These become especially crucial when taking the next step towards deciding how to manage the disease (e.g. therapeutic intervention, etc.). Those biomarkers include the following:

- Calprotectin
- Alpha-1 Antitrypsin
- Lysozyme
- Secretory IgA
- Albumin

816. Atient has fatigue. But not gaining weight. Body was warm. Investigation will show:

a) Low TSH with more t3 or t4

b) High TSH with normal t3 or t4

c) High TSH with euthyroid

d) Increased uptake of t3, but decrease t4

Correct Answer - A
Ans: A. Low TSH with more t3 or t4

817. Warming in Frost frostbite should be done at what temperature:

a) 37 degree

b) 42 degree

c) 44 degree

d) 46 degree

Correct Answer - A
Ans: A. 37 degree
At temperature below freezing (dry-cold condition) frostbite occurs the tissue freeze & ice crystals form in between the cells
Affected part should be warmed using water at 44 °is under Criticism, Warming should last about 20 minutes at a time, Intake of hot fluids promotes general rewarming

818. Which of the following is not seen in Pituitary apoplexy

a) Headache

b) Hypertension

c) Hypotension

d) Vomiting

Correct Answer - C

Ans: C. Hypotension

Following are seen in Pituitary apoplexy

- Severe hypoglycemia
- Severe headache (usually retro-orbital)
- Impaired consciousness
- Fever
- Visual disturbances (visual field defect, visual acuity)
- Ophthalmoplegia (ocular paresis) → Causing diplopia
- Hypotension & shock
- Nausea/vomiting
- Meningeal sign

819. Loss of pain/temperature sensation on ipsilateral face & C/L body due to thrombosis in

a) PICA

b) Posterior cerebellar artery

c) Superior cerebellar artery

d) None of the above

Correct Answer - A

Ans: A. PICA

.Most cases result from ipsilateral vertebral artery occlusion; occlusion of the posterior inferior cerebellar artery is responsible for it.

Vessel occlusion that results in Lateral Medullary syndrome:

- Vertebral (most common)
- Posterior inferior cerebellar (2nd most common)
- Superior, middle or Inferior lateral medullary arteries

Lateral medullary syndrome (Wallenberg syndrome):

- Vertigo
- Numbness of ipsilateral face and contralateral limbs
- Diplopia
- Dysphagia
- Dysarthria
- Ataxia
- Hoarseness

820. All found in LVF except

a) Lung oligemia

b) Kerley b lines

c) Rales

d) Pedal edema

Correct Answer - A

Ans: A. Lung oligemia

Chest X-ray Features of Left ventricular failure:

- Cardiomegaly
- Kerley lines
- Prominent upper lobe veins
- Bat's wings shadow
- Pleural effusion

Kerley B line is due to interstitial edema.

Prominent right descending pulmonary artery is seen in acute pulmonary embolism.

821. A 25 years old lady with a history of fever for 1 month presents with headache and ataxia.Brain imaging shows dilated ventricles and significant basal exudates. Which of the following will be the most likely CSF finding:

a) Lymphocytosis, Low Glucose, High protein

b) Lymphocytosis, Normal Glucose, High protein

c) Lymphocytosis, Low Glucose, Normal protein

d) Neutrophilia, Low glucose, Low Protein

Correct Answer - A

Ans: A. (Lymphocytosis, Low Glucose, High protein)

Presence of significant basal exudates, together with dilated ventricles (hydrocephalus) in a young female with a prolonged history of fever and headache suggests a diagnosis of Tubercular Meningitis.

Tubercular Meningitis is characterized by Lymphocytic Pleocytosis, Low Glucose and High Protein within the CSF.

The pathological hallmark of Tubercular Meningitis is the predominant involvement of basal cisterns that are observed by the presence of basal inflammatory tissue exudate.