

FMGE

Platinum Solutions

A Comprehensive NEXT-Centric Approach

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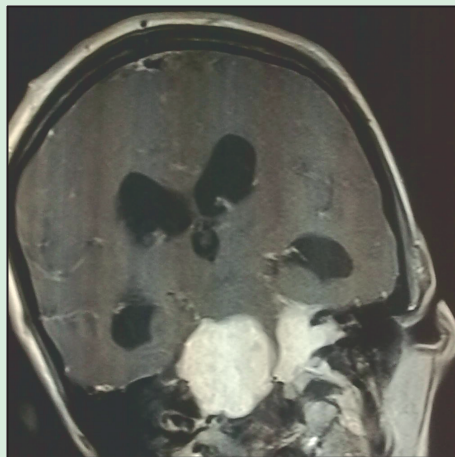
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EXAMPLE OF QUESTION

A young male has been having tinnitus, vertigo and hearing loss for a few months. He is normotensive, Hypothyroid. A physician attending him asked him for some investigations which are pending. CT scan report was done. CT Brain is shown below. Likely diagnosis is:



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- A. Acoustic Neuroma
- B. Meningioma
- C. Medulloblastoma
- D. Herniation Syndrome.

So How to Arrive at an Answer

Image Based questions related to disease, pathology, radiographs, USGs, CT scans, ECGs, Pointers, Figures, identification of structures are a part of the curriculum. Images from Embryology, histology, physiology and biochemistry and the clinical subjects like those of medicine, surgery and others are also top on examiners mind.

As a student you should be able to correlate images with the history of patient and arrive at the correct diagnosis.

- ◆ This is a young male has been having tinnitus, vertigo and hearing loss for few months.
- ◆ These are ENT Symptoms something related to Acoustic Pathway.
- ◆ Then the Examiner Expands the Question. Giving a bit of history to distract Patient is normotensive, Hypothyroid and the physician attending him asked him for some investigations which are pending.
- ◆ Now the Crux is on correlating CT scan report with question.

A well learned Student knows the importance of correlation. Tinnitus, vertigo and hearing loss for a few months with CT Showing mass. The mass is at CP Angle. Most masses at CP Angle which give such symptoms are Acoustic Neuroma. These neoplasm’s are derived from Schwann cells. Initially, they produce vertigo, tinnitus and a neural hearing loss. CT usually demonstrates a mass at Cerebello pontine Angle. Here two masses are seen. (Bilateral). No chance to get it wrong.

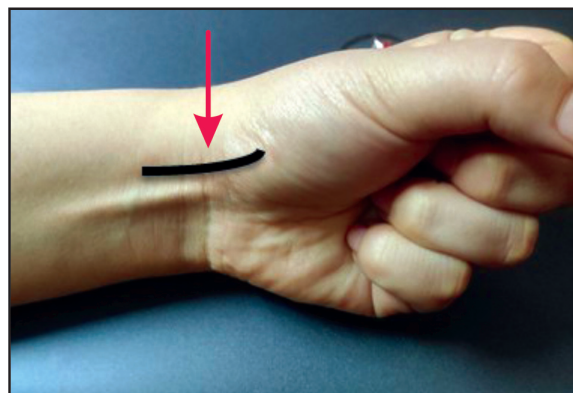
4. A newborn is having a congenital defect as shown in the figure below. What is the developmental defect responsible?



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- A. Failure in closure defect of anterior neuropore at 4 weeks intrauterine life
- B. Failure in closure defect of posterior neuropore at 6 weeks intrauterine life
- C. Failure in closure defect of posterior neuropore at 4 weeks intrauterine life
- D. Failure in closure defect of anterior neuropore at 6 weeks intrauterine life

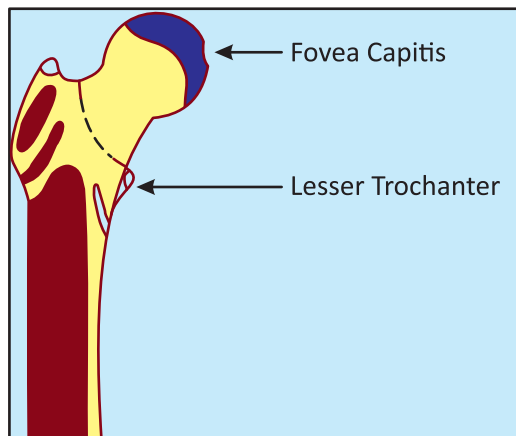
5. The section of the upper limb is shown. Identify the blue arrow marked tendon structure:



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- A. Flexor carpi ulnaris
- B. Flexor carpi radialis
- C. Palmaris longus
- D. Flexor carpi superficialis

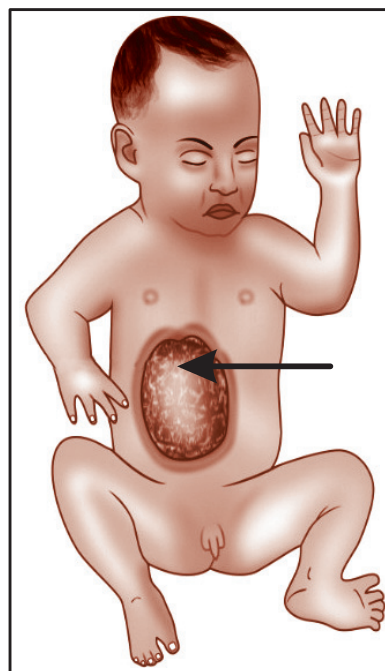
6. The section of lower limb bone (femur) is shown below. Which muscle is attached to the arrow marked area of the bone at lesser trochanter.



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- A. Sartorius
- B. Adductor longus
- C. Psoas Major
- D. Gluteus medius

7. A pediatric image is shown below. Identify the shown congenital anomaly in which intestinal loops are present outside the abdominal cavity covered by amniotic membrane?



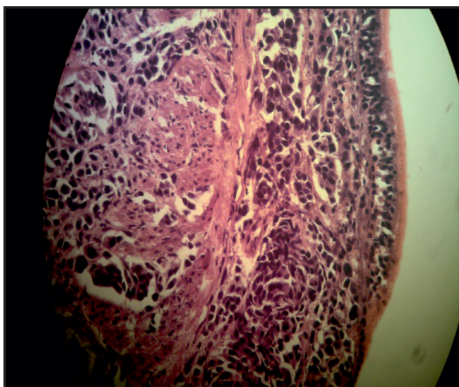
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- A. Gastroschisis
- B. Omphalocele
- C. Omphalocele with enteric cyst
- D. Umbilical hernia

55. Which of the following statement is correct about NF-1

- A. Having no other malignancy associated
- B. Autosomal Recessive disorder
- C. Associated with optic Gliomas
- D. Associated with AV malformations

56. A farmer presents with a lesion in his shoulder, the histopathology of the lesion shows the following appearance, what will be the diagnosis?



- A. Squamous Cell Carcinoma
- B. Basal Cell Carcinoma
- C. Moluscum contagiosum
- D. Verrucous carcinoma

57. A Young male Patient presented with infertility history of recurrent sinusitis and pulmonary infection, bronchiectasis and situs inversus. Identify the condition associated with these features

- A. Kartagener syndrome
- B. Kallaman syndrome
- C. Cystic fibrosis
- D. Klinefelter syndrome

58. A Hypertensive Female patient presented with skin hyperpigmentation, On evaluation High ACTH levels even after giving high dose of dexamethasone. Diagnosis is?

- A. Ectopic ACTH secreting tumor
- B. Iatrogenic Cushing syndrome
- C. Hyperaldosteronism
- D. Pituitary Adenoma

59. Reiter syndrome is associated with

- A. HLA-D2
- B. HLA-B27
- C. HLA-DR3
- D. HLA-DR4

60. Pathologically The correct Sequence of wound healing is:

- A. Vasoconstriction – inflammation – Hypercoagulability – proliferation – remodelling
- B. Inflammation – hemostasis – proliferation – remodelling
- C. proliferation – remodelling – vasoconstriction – inflammation – Hypercoagulability
- D. Remodelling – vasoconstriction – inflammation – Hypercoagulability – proliferation

61. A severely ill patient is diagnosed with IE. The Sample taken for diagnosis of infective endocarditis is

- A. 2 sample 1 aerobic and 1 anaerobic
- B. 3 sample 1 aerobic and 2 anaerobic
- C. Only 2 anaerobic
- D. 3 sample - 2 aerobic, 1 anaerobic

62. Which of the following is used as a better diagnostic test for CML?

- A. FISH
- B. BMB
- C. LAP score
- D. Karyotyping

63. NETs include all of the following except:

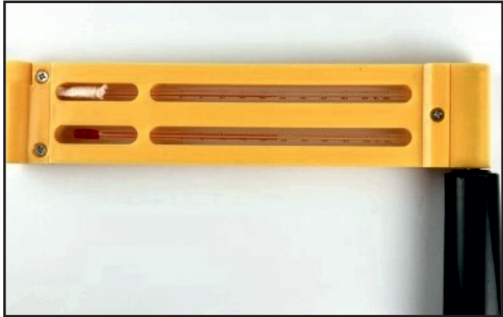
- A. Sepsis
- B. Phagocytosis
- C. Associated with SLE
- D. Arginine/citrulline involvement

64. A patient of Beta thalassemia is started with blood transfusion, after starting the transfusion the patient is complaining of fever, anxiety and features of hypotension, what is the next best step?

- A. Stop the transfusion
- B. Stop the transfusion and restart when patient becomes normal
- C. Administer IV hydrocortisone.
- D. Wait and watch

SPM (Social and Preventive Medicine)

8

- 106.** In immunization clinic, after giving Pentavalent vaccine in which category you will dispose of the syringe with fixed needle?
- A. Yellow B. Red
C. White D. Blue
- 107.** In population of 2,00,000 reported live births are 4000. Causes of maternal deaths are as follow: 2 deaths by ectopic pregnancy, 2 deaths by Puerperal sepsis, 2 deaths by abortion, 4 deaths by PPH, 2 deaths by electrocution with 5 still births Calculate the MMR?
- A. 250/1 lakhs B. 500/1 Lakhs
C. 20/1 Lakhs D. 25/1 Lakhs
- 108.** A 30 year lady coming to clinic on 5th day of unprotected coitus, the best emergency contraceptive will be:
- A. LNG B. IUCD
C. COCP D. Mifepristone
- 109.** Total number of children born to a woman in comparison of other woman of same reproductive age is:
- A. TFR B. GFR
C. GRR D. NRR
- 110.** Best index for measuring contraceptive efficacy is:
- A. Pearl index B. Life-table analysis
C. Chandler's index D. Quetelet index
- 111.** What is the Strain used for the Injectable polio vaccine based on NIS:
- A. P1 B. P2
C. P3 D. P1,2,3
- 112.** The Below given instrument is used to measure which of the following:
- 
- A. Air temperature
B. Air Humidity
C. Cooling power of air
D. Hot temperature
- 113.** Which of the following is Correct feature of Case control study:
- A. Used for rare disease
B. Effect to cause
C. Calculation of incidence
D. Calculation of prevalence
- 114.** An example of a two-way discussion is:
- A. A seminar B. Role playing
C. Symposium D. Group discussion

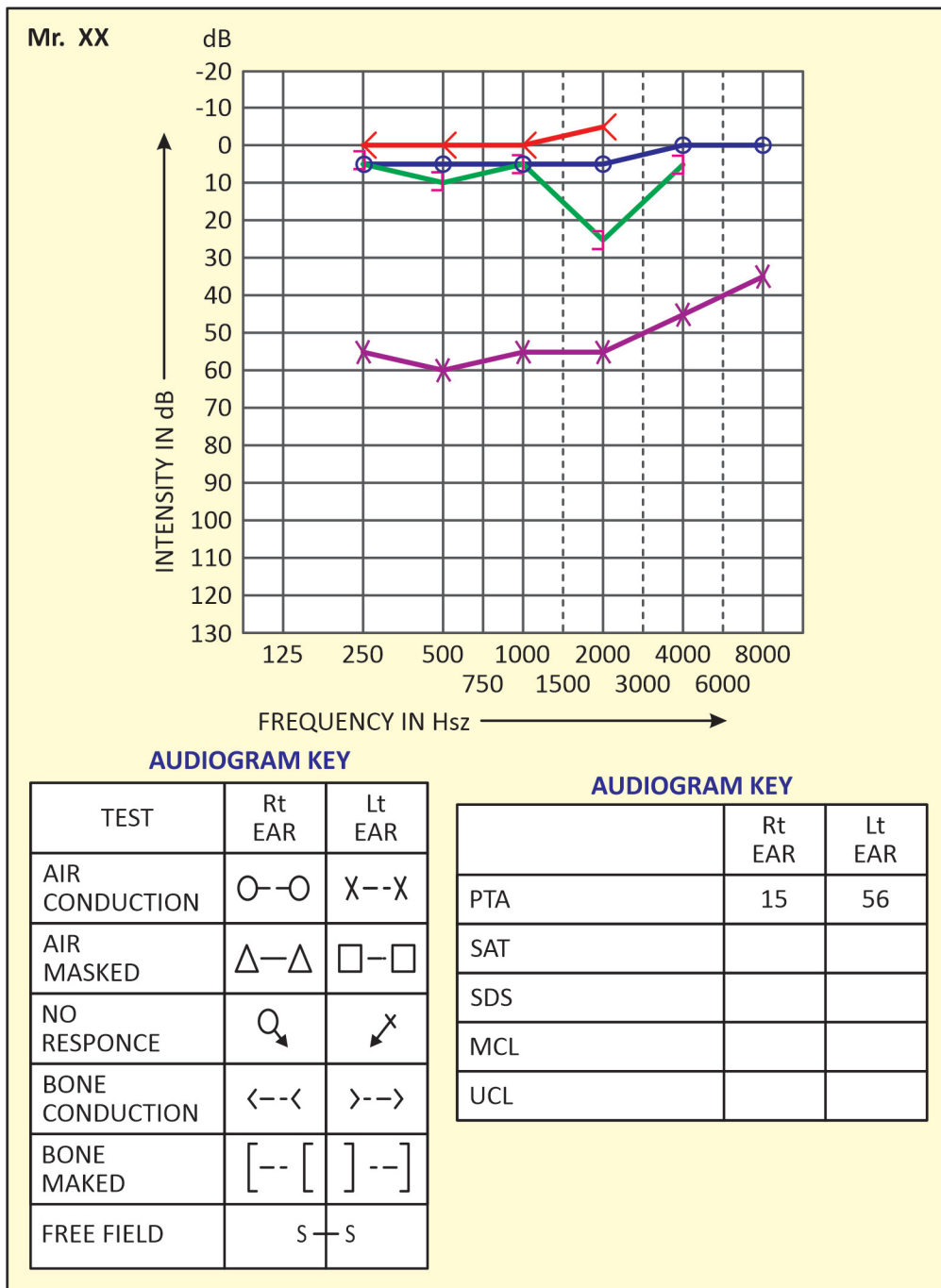


Figure 9.1.

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- A. BPPV
- B. Vestibular neuronitis
- C. Meniere’s disease
- D. Noise induced hearing loss

- A. Atrophic rhinitis
- B. Allergic rhinitis
- C. Rhinitis medicamentosa
- D. Rhinitis sicca

148. A patient presents with merciful anosmia with wide roomy nasal cavity and formation of crusts causing nasal obstruction. What is the most probable diagnosis?

149. A patient presented with pain and hearing loss following slap in his ear, his otoscopic findings reveals the presence of blood clots and irregular

182. Ans.: B. 6 months

Milestones in Children (Try to memorize as much as possible)

✓ Social Smile	◆ 2 months
✓ Recognises mother	◆ 3 months
✓ Holds object and takes it to mouth	◆ 4 months
✓ Sitting on slight support	◆ 5 months
✓ Enjoys mirror	◆ 6 months
✓ Sits alone momentarily	◆ 5-6 months
✓ Transfers object from head to hand	◆ 6 months
✓ Rolls Over	◆ 7 months
✓ Sits steadily	◆ 7-8 months
✓ Crawls in bed	◆ 8 months
✓ Monosyllabic words (Mama, Dada)	◆ 10 months
✓ Creeps	◆ 10 months
✓ Cruises around furniture	◆ 10 months
✓ Builds a tower of 2 cubes and pincer grasp	◆ 12 months
✓ Can turn two or three pages of a book	◆ 13 months
✓ Walks alone	◆ 13- 14 months
✓ Walks Sideways and backwards	◆ 15 months
✓ Builds a tower of three cubes	◆ 18 months
✓ Feeds Self	◆ 18 months
✓ Can drop and draw a horizontal or vertical line	◆ 2 Years
✓ Can turn one page at a time	◆ 2 Years
✓ Able to wear socks or shoes	◆ 2 Years
✓ Kick a ball	
✓ Build tower of 5 blocks	
✓ Drink with a cup	
✓ Can remove his pants	◆ 2 ½ Years
✓ Can draw a circle	◆ 3 Years
✓ Can dress or undress completely and buckle his shoes	◆ 3 Years
✓ Knows age and sex	◆ 3 Years
✓ Can copy and draw a cross (Plus Sign)	◆ 4 Years
✓ Can draw a rectangle	◆ 4 Years
✓ Can draw a tilted cross (Multiplication sign)	◆ 5 Years
✓ Can draw a triangle	◆ 5 Years
✓ Bladder Control- Diurnal	◆ 12- 16 months
✓ Nocturnal	◆ 2 ½ Years to 3 Years

- 222.** A 45-year-old male presents to the emergency department with severe abdominal pain radiating to the back. Laboratory investigations reveal elevated serum amylase and lipase levels. Which of the following should be avoided in management of this condition?
- Nil per oral to avoid pancreatic stimulation
 - Administration of 5% dextrose
 - Parenteral nutrition preferred for 2-3 days over the nil per oral (NPO) approach.
 - Early initiation of oral feedings
- 223.** Which of the following is a common complication of ERCP?
- Hemorrhage
 - Acute pancreatitis
 - Duodenal perforation
 - Cholangitis
- 224.** An old aged patient was diagnosed with hernia Lateral to Deep inguinal ring. What is the most likely hernia the Patient is likely to have?
- Indirect Inguinal hernia
 - Inguinal direct hernia
 - Primary indirect femoral hernia
 - Recurrent indirect femoral hernia
- 225.** A 70 year old patient after trauma to the left side of Thorax and left side of abdomen has features of having pallor, subnormal temperature and hypotension. A positive peritoneal lavage is present. Best management is by:
- Wait and Watch
 - Administer Epinephrine and Insulin
 - Immediate Thoracotomy
 - Immediate exploratory laparotomy and splenorrhaphy
- 226.** A patient was recently operated where laparotomy was done. Patient developed a complication after the operation. What would be the surest sign of wound dehiscence in this patient?
- Severe abdominal pain
 - Serosanguinous discharge from the wound
 - Hypotension
 - Bleeding from the wound site
- 227.** 3 days back urinary catheterization was done. But due to some reason the catheter had to be taken out a few days later he presented with the following image?
- Fournier's gangrene
 - Gas gangrene
 - Cellulitis
 - Erysipelas
- 228.** A 75 year old male presented to the OPD with complaint of difficulty in swallowing initially for solids and later for liquids. There is history of significant weight loss. What is the gold standard investigation in this patient?
- Esophageal endoscopy
 - Manometry
 - CECT
 - Barium study
- 229.** Breast cancer surgery has been done in a patient 10 years back. Now she presented with swelling of the upper limb with bluish coloured raised cutaneous lesions in the upper limb. What can be the likely diagnosis?
- Lymphangiosarcoma
 - Lymphangioma
 - Kaposi's sarcoma
 - Lymphedema (Simple)
- 230.** A Chronic smoker male presented to the hospital with fever, malaise and lethargic symptoms, he also complained of hemoptysis in the early morning. He has lost 10 kg in the last 2 months. Chest x-ray image is given below. What is the most likely diagnosis in this patient?



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Cerebellar Tests are:

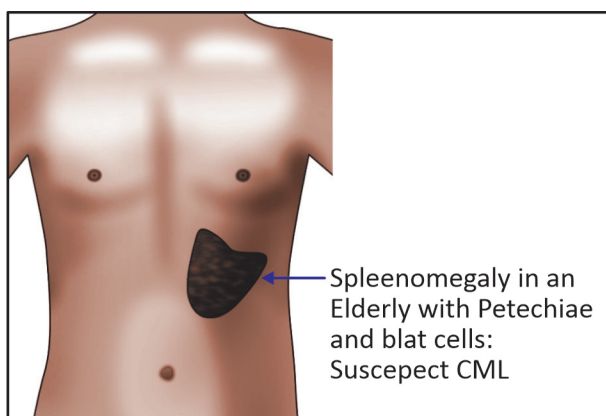
- ◆ Positive Romberg’s test
- ◆ Positive Heel Shin test
- ◆ Positive Finger Nose test

245. Ans.: B. CML

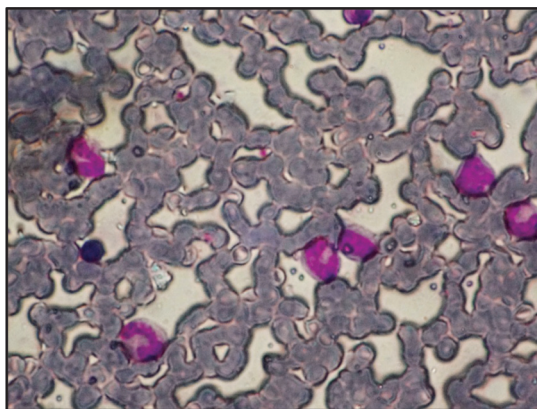
This Young Female has Petechiae, bleeding, splenomegaly with Leukocytosis and Blast Cells (Immature WBCs).

Now Look at the Features of CML Below. The Picture cannot always be Classic.

CML is characterized by Leukocytosis, Blasts less than 5 %. Anemia, Low LAP, High LDH and Serum Uric Acid level may be present.



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CML

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Chronic Myelogenous Leukemia (CML)

- ◆ It is a chronic disorder (a variant of C.M.L).
- ◆ Middle aged elderly males are usually affected.
- ◆ **Persistent Peripheral blood monocytes is $> 1 \times 10^9/L$.**
- ◆ Absence of Philadelphia chromosome or BCR/ABL rearrangement.
- ◆ **Blasts are less than 20% in peripheral blood or bone marrow.**

Psychiatry

17

- 264.** A Patient believes that his feelings and thoughts are being influenced by an external agency, the most likely diagnosis is
- A. Delusion of nihilism
 - B. Delusion of reference
 - C. Delusion of Influence
 - D. Othello syndrome
- 265.** A Patient admitted in hospital for palpitations thinking he has MI. On discharge, he said that he is not willing to go home and there is an additional history that 10 days back, thieves came there and robbed him in the gun point from then he became very anxious. His family members said he was normal before. The best possible diagnosis is:
- A. Acute stress disorder
 - B. Schizophrenia
 - C. Avoidant personality disorder
 - D. Delirium
- 266.** A Patient of schizophrenia was started on anti-psychotic drug Haloperidol. She develops one sided neck stiffness and altered body tone. What is the Next step in management?
- A. Increase dose of Haloperidol
 - B. Add Benztropine
 - C. Switch to Clozapine
 - D. Add Carbamazepine
- 267.** A Person consumed unknown substance, goes into tachycardia and is seeing red halos while listening to FM radio. Which of the following substance abuse can cause this?
- A. Cannabis
 - B. Cocaine
 - C. Heroin
 - D. LSD
- 268.** A 6 year old boy is having tapping movement. He was having lack of attention. He seems to be irritated, disturbing to others and restless most of the time. What should be the drug to be given?
- A. Methylphenidate
 - B. Atomoxetine
 - C. Guanfacine
 - D. Clozapine
- 269.** A 20 year old boy is suffering with depression and mania. On history taking, it was found that he was very agitated before. Which prophylactic medicine can be given to avoid further attacks?
- A. Phenytoin
 - B. Levodopa and pregabalin
 - C. Valproate and pregabalin
 - D. Pregabalin
- 270.** A Chronic female smoker asked the physician what will be the effects of smoking during pregnancy?
- A. Less risk of IUGR
 - B. No risk of preterm
 - C. High risk of miscarriage
 - D. Fetal alcohol syndrome

Miscellaneous

20

- 283.** In a 66 year old patient with uncontrolled Diabetes who had nasal infection, blackish masses were found in nasal mucosa which progressed rapidly to involve the air sinuses. There was intense necrosis of surrounding tissues. Most Likely causative agent is:
- A. Actinomycosis
 - B. Aspergillosis
 - C. Mucormycosis
 - D. Sporotrichosis
- 284.** Plasma Cell Pneumonia is caused by:
- A. Pneumococcus
 - B. Pseudomonas
 - C. Legionella
 - D. Pneumocystis
- 285.** Notching of the ribs is seen in:
- A. TR
 - B. TOF
 - C. Coarctation of aorta
 - D. PDA
- 286.** The Most Common cause of Nephrotic Syndrome in adults is:
- A. RPGN
 - B. Minimal change disease
 - C. Membranous GN
 - D. Good pasture syndrome
- 287.** True about Guillain Barre Syndrome is all except:
- A. Inflammatory process
 - B. Demyelinating process
 - C. Descending type of paralysis
 - D. Plasmapheresis is effective
- 288.** The Most Common site for Amoebiasis:
- A. Sigmoid colon
 - B. Transverse colon
 - C. Caecum
 - D. Liver
- 289.** Which of the following features is NOT seen in papillary carcinoma thyroid?
- A. Papillary structure usually complex with a fibrovascular core
 - B. Optically clear nuclei with nuclear overlapping
 - C. Nuclear pseudoinclusions and nuclear grooves
 - D. Tumor cell immunopositivity for calcitonin
- 290.** Defective DNA repair is associated with:
- A. Albinism
 - B. Xeroderma pigmentosum
 - C. Both of the above
 - D. None of the above
- 291.** Intensity modulated radiation therapy is used to treat all cancers except:
- A. Brain
 - B. Lung
 - C. Testis
 - D. Liver

High Yield FMGE Points

IMPORTANT ANATOMICAL MEMBRANES

◆ Basilar membrane	Forming floor of Organ of Corti (Ear)
◆ Bowmans Membrane	Anterior limiting membrane of Cornea (Eye)
◆ Bruchs Membrane	Pigment membrane in Retina (Eye)
◆ Decemet's Membrane	Posterior limiting membrane of Cornea (Eye)
◆ Elschings Membrane	Astroglial membrane covering Optic Disc (Eye)
◆ Henles Membrane	Outer layer of cells of root sheath of hair
◆ Heusers Membrane	Exocelomic Membrane
◆ Huxles Membrane	Inner layer of cells of root sheath of hair
◆ Periodontal membrane	Between cementum and socket of tooth.
◆ Quadrate membrane	Extends from arytenoids cartilage to epiglottis.
◆ Reissners membrane	Forming roof of organ of corti (Ear)
◆ Schenederian membrane	Mucus membrane lining nasal cavities
◆ Sharpnells Membrane	Pars Flaccida of the tympanic membrane
◆ Thyrohyoid membrane	Connects thyroid to hyoid bone. Pierced by internal laryngeal nerve and superior laryngeal vessels.

IMPORTANT VESSELS IN ANATOMY

- ◆ **Duodenal ulcer** is caused by bleeding of Gastroduodenal artery
- ◆ **Extra Dural Hematoma (EDH)** is caused by bleeding of Middle meningeal artery
- ◆ **Gastric ulcer** is caused by bleeding of Left Gastric artery
- ◆ **Haemoptysis** is caused by bleeding of Bronchial artery
- ◆ **Menstruation** is caused by bleeding of Spiral arteries
- ◆ **Sub Dural Hematoma (SDH)** is caused by bleeding of Bridging veins
- ◆ **Tonsillar Hemorrhage** is caused by bleeding of Paratonsillar veins
- ◆ **Myocardial Infarction** is caused by obstruction in Coronary vessels
- ◆ **Wallenburg's Syndrome** is caused by obstruction in Posterior inferior cerebellar arteries
- ◆ **Medial Medullary Syndrome** is caused by obstruction in Vertebral arteries
- ◆ **Superior Mesenteric Artery Syndrome** is caused by obstruction in Superior Mesenteric artery
- ◆ **Leirches Syndrome** is caused by obstruction in Aorto Iliac Vessels.
- ◆ **Great saphenous vein** is used for CABG (Coronary Artery ByPass Grafting)

IMPORTANT ANATOMICAL LINES

- ◆ **Hiltons line:** At level of interval between subcutaneous part of external sphincter and lower border of internal anal sphincter. Felt as a groove on digital examination
- ◆ **Nelaton line:** From anterior superior iliac spine to ischial tuberosity. Used for diagnosing Dislocation of hip.
- ◆ **Arcuate line (Fold of Douglas):** Represents posterior wall of rectus sheath, at level midway between umbilicus and pubic symphysis.
- ◆ **Pectinate line:** Circular line of attachment of anal valves.
- ◆ **Holdens line:** Lateral to pubic tubercle about 8 cms. Prevents extravasation of urine into lower limb
- ◆ **Reids base line:** Horizontal line between infraorbital margin and centre of external acoustic meatus.
- ◆ **Linea alba:** It is a raphe formed by interlacing fibres of aponeuroses of three muscles forming rectus sheath. It extends from xiphoid process to pubic symphysis
- ◆ **Langers Line:** Corresponds to natural orientation of collagen fibres parallel to orientation of muscle fibres. (in dead)
- ◆ **Kraissels line:** Corresponds to natural orientation of collagen fibres parallel to orientation of muscle fibres. (in living)

In either case cleavage with endonucleases results in fragments of lengths differing from the normal that can be detected by DNA hybridization. This technique can be used to diagnose genetic disease early in the gestation of a fetus.

- ◆ **X- or Y- linked** refers to genes having loci on either the X or Y chromosome. With X- linked alleles, both recessive and dominant inheritance may be seen. The term sex-linked is also used to represent X-linked inheritance.

TECHNIQUES FOR SAMPLES

Technique	Sample analyzed
◆ Allele specific oligonucleotide (ASO)	◆ DNA
◆ ELISA	◆ Protein or antibodies
◆ Microarray	◆ m-RNA or c-DNA
◆ Northern blot	◆ RNA
◆ Proteomics	◆ Protein
◆ South Western blot	◆ Protein DNA
◆ Southern blot	◆ DNA
◆ Western (immuno) blot	◆ Protein

VITAMINS AND ENZYMES

Vitamins	Enzyme
Thiamine (B1)	<ul style="list-style-type: none"> ◆ Pyruvate dehydrogenase ◆ A Ketoglutarate dehydrogenase ◆ Transketolase
Biotin	<ul style="list-style-type: none"> ◆ Pyruvate carboxylase ◆ Acetyl CoA carboxylase ◆ Propionyl CoA carboxylase
Pyridoxine	◆ Aminotransferases
Riboflavin	◆ Dehydrogenases
Niacin	◆ Dehydrogenases
Pantothenic	<ul style="list-style-type: none"> ◆ Fatty acid Synthase ◆ Fatty acyl CoA synthase

- Standard error of difference between 2 means:

$$SE_{\text{diff bet mean}} = \sqrt{\sigma_1^2/n_1 + \sigma_2^2/n_2}$$

- Standard error of proportion:

$$SE_{\text{proportion}} = \sqrt{pq/n}; \text{ where } q = (1 - p)$$

- Standard error of difference between 2 proportions:

$$SE_{\text{diff bet proportions}} = \sqrt{(p_1q_1/n_1) + (p_2q_2/n_2)}$$

- ◆ If we want to obtain the mean by sampling the distribution then,

$$SD_{\text{mean}} (\sigma_{\text{mean}}) = SD_{\text{distribution}} / \sqrt{N} = \sigma_{\text{distribution}} / \sqrt{N}$$

Where, N = number of samples used to sample the mean

- ◆ **In a Normal/ Gaussian distribution:**

- Curve is ‘bilaterally symmetrical, bell-shaped’
- Mean, Median and Mode coincide (Mean = Median = Mode)
- Has Mean (μ) = 0 and SD (σ) = 1
 1. Mean \pm 1SD ($\mu \pm 1\sigma$) covers 68% values
 2. Mean \pm 2 SD ($\mu \pm 2\sigma$) covers 95% values
 3. Mean \pm 3 SD ($\mu \pm 3\sigma$) covers 99% values

- ◆ **Z score (Standard score):**

- Is difference of a value from group mean, in terms of how many times of SD (?)
 $Z \text{ score} = (\text{Individual level} - \text{Mean}) / SD = (x - \mu) / \sigma$
- Z score indicates how many standard deviations an observation is above or below the mean

- ◆ **Coefficient of variation:**

- Is a measure used to compare relative variability
- Is a unit-free measure to compare dispersion of one variable with another
 $CV = SD / \text{Mean} \times 100 = \sigma / \mu \times 100$

TESTS OF STATISTICAL SIGNIFICANCE

	Parametric tests	Non-parametric tests
Based on	Gaussian/Normal distributions	Non-normal distributions
Type of data	Quantitative	Qualitative
Compares	Means (\pm SD)	Percentage, proportions & fractions
Examples	Students (paired) t - test Students (unpaired) t - test ANOVA F - test	Sign test Chi-square test (x2- test) Wilcoxon test (signed rank) Wilcoxon test (rank sum)

Teratogen	Congenital abnormality
Smoking	Fetal growth restriction, premature birth, problems with development of brain & cardiovascular system.
Alcohol	Fetal alcohol syndrome , short palpebral fissures, mental retardation, shortened palpebral fissure, low set ears, smooth philtrum, thinned upperlip and midfacial hypoplasia. CNS defects like microcephaly, mental retardation and behavioural disorders.
ENVIRONMENTAL CHEMICALS	
Mercury	Neurological problems resembling cerebral palsy.
Lead	Growth retardation.
PHYSICAL AGENTS	
X-Rays	Microcephaly, spina bifida, cleft palate.
Hyperthermia	Anencephaly, spina bifida, mental retardation, facial defects.
INFECTIOUS AGENTS	
Rubella virus	Glaucoma, cataracts, deafness, heart defects.
Syphilis	Fetal death, spontaneous abortion, liver & spleen enlargement, meningitis.
Cytomegalovirus	Underdevelopment & calcification of brain, blindness, deafness, blueberry muffin spots, jaundice.
Varicella virus (if baby is infected just before delivery)	Limb hypoplasia, muscle atrophy, varicella zoster pneumonia
HIV	Microcephaly, growth retardation.
Toxoplasmosis	Hydrocephalus, microphthalmia, cerebral calcification.
HORMONES	
Androgenic agents (ethisterone, norethisterone)	Masculinization of female genitalia, fused labia, clitoral hypertrophy.
Diethylstilbestrol	Malformed testes, uterus, vagina, vaginal cancer.
MATERNAL DISEASES	
Diabetes	Heart & neural tube defects.
Phenylketonuria	Mental retardation, microcephaly, cardiac defects.

Medico Surgico Radiological Questions

CLINICAL SCENARIOS ASKED FREQUENTLY

Q. A 36 year old presents with complaints of cough and weight loss. His radiograph of chest shows hilar nodes enlarged on both sides. His serum calcium levels and ACE levels are increased. He has been diagnosed by Dermatologist as having Lupus Pernoi. Most likely diagnosis is:

- A. Sarcoidosis
- B. Collapse
- C. Emphysema
- D. Pneumonitis

Answer A: Sarcoidosis

Sarcoidosis presents with bilateral hilar Lymphadenopathy on CXR. Other findings are supportive. Cough and weight loss. Hilar nodes enlarged on both sides. His serum calcium levels and ACE levels are increased. Lupus Pernoi. These are all features associated with Sarcoidosis

Q. A Young Female patient from Bihar presents with chronic headache, vomiting, visual disturbance, seizures, hypopituitarism, polyuria, galactorrhea and amenorrhea. Most like cause is:

- A. Pituitary Tumor
- B. Cerebellar Tumor
- C. Posterior Cranial fossa Tumor
- D. Midline tumor of Vermis

Answer A: Pituitary Tumor

This is classic of Pituitary tumours compressing usually Optic Chiasma. Presents with Bitemporal Hemianopia and other findings are suggestive. (Chronic headache, vomiting, visual disturbance, seizures, hypopituitarism, polyuria, galactorrhea and amenorrhea).

Q. An elderly patient has Multiple Demyelinating Plaques on CT Scan with Optic Neuritis in an elderly patient with normal cognition indicates Most Likely Cause to be

- A. Guillain Barre Syndrome
- B. Multiple sclerosis
- C. Subacute degeneration of cord.
- D. SAH

Answer B: Multiple Sclerosis

The Radiographic evidence of Demyelinating Plaques is MS. A fatal disease with remissions and relapses and associated with Optic neuritis. Plaques can be present in the spinal cord as well.

Q. A patient had chronic cough. Multiple antibiotics prescribed by chest physicians did not resolve the cough. He had two episodes of hemoptysis last week. The patient is from Mumbai and is losing weight associated with decreased appetite. He complains of increased sweating at night. ESR is high. Chest Radiograph taken early showed apical involvement and mottling after a year. Most likely cause is:

- 1. Pulmonary abscess
- 2. Lung cancer
- 3. Pulmonary Kochs
- 4. Pleural effusion

Answer C: Pulmonary Kochs

It is a typical history of Pulmonary Tuberculosis. An individual from Subcontinent with chronic cough, losing weight associated with decreased appetite increased sweating at night. ESR is high. These are all pointers towards chronic condition associated with CXR findings as mentioned.

Q. A doctor asked for an USG Abdomen followed by CT Abdomen. CT Angio of patient is shows a pulsatile mass in the abdomen. Data would suggest that Most likely diagnosis is:

- A. Aortic dissection
- B. Renal artery aneurysm
- C. Renal artery Stenosis
- D. Infra renal aortic aneurysm

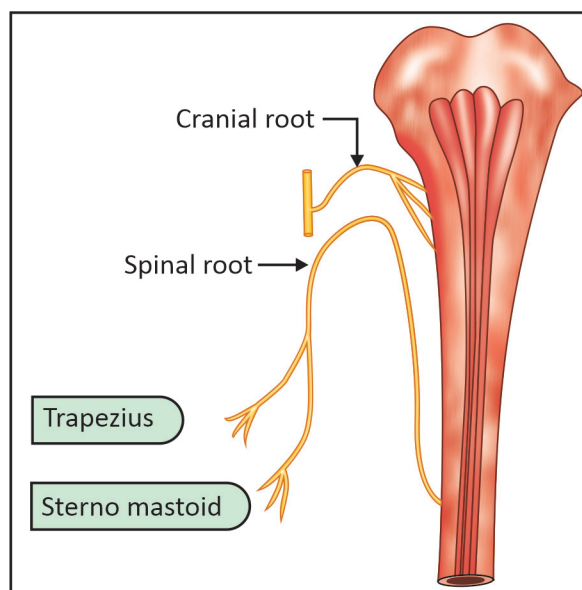
Answer D: Infra renal aortic aneurysm

This is a significant issue as Large Aneurysms can rupture. Aneurysm is a dilatation of A Blood Vessel. There is an abnormally large calibre of Aorta below the Renal Artery which is Infra renal aortic aneurysm. Rupture can be Fatal. Infra Renal Aneurysms are more common.

The contents of posterior mediastinum are:

1. Descending thoracic aorta
2. Azygous vein
3. Hemiazygos vein
4. Accessory hemiazygos vein
5. Vagus nerves
6. Greater splanchnic nerve
7. Lesser splanchnic nerve
8. Least splanchnic nerve
9. Thoracic duct
10. Posterior mediastinal lymph nodes and
11. Oesophagus.

Q. A FMGE student is studying cranial Nerves. The Figure Below Shows the Cranial Nerve XI (Accessory Nerve). Not a True Statement about Accessory Nerve is:



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- A. The cranial root arises from the lower part of Nucleus Ambigus.
- B. The spinal root arises from the cervical part, C₁₋₅ of the spinal cord.
- C. The spinal root enters the cranial cavity through the Foramen Rotundum
- D. The accessory nerve called accessory because It is accessory to the vagus nerve.

Ans.: C. The spinal root enters the cranial cavity through the Foramen Rotundum

- A. Motor nerve to most of the Muscles of the tongue
- B. Branches of hypoglossal nerve contain fibres of C 4
- C. It Supplies Thyrohyoid
- D. It Supplies Geniohyoid.

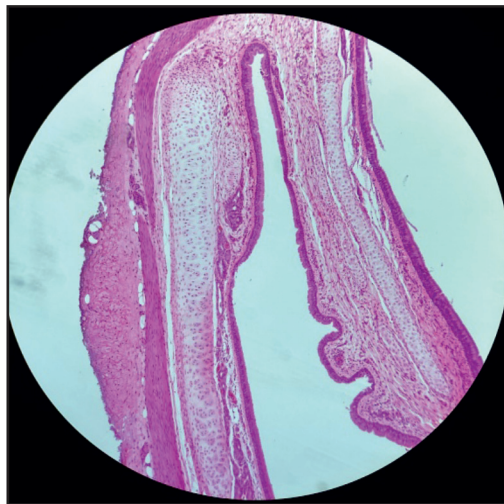
Ans.: B. Branches of hypoglossal nerve contain fibres of C 4

Hypoglossal is the motor nerve to all Muscles of the tongue except the palatoglossus.
Branches of hypoglossal nerve contain fibres of C1 nerve.

It also Supplies:

- ◆ **Meningeal branch:** To meninges of anterior cranial fossa.
- ◆ **Descending branch:** Upper root of ansa cervicalis, Thyrohyoid and Geniohyoid.

Q. A FMGE student is asked to recognize the below slide with a cartilaginous element in it. It represents



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- A. Lung
- B. Trachea
- C. Hyaline Cartilage
- D. Cancellous bone

Ans.: B. Trachea

Its wall is formed of four layers:

- | | |
|-----------------------------|--------------|
| 1. Mucosa | 2. Submucosa |
| 3. Fibro cartilaginous coat | 4. Fibrosa |