15-May-2024

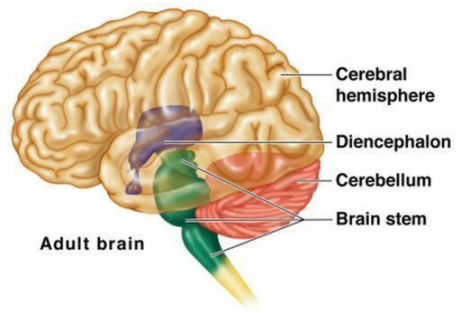
I have written a lot of questions exactly from the file I got repeat from

Try to study with your partner and do all recall together.

The explanation given below were from other files and I JUST COPY AND PASTE.

1. Child with (loss of smell) and delay growth which area derivative affected? Diencephalon

(it derives thalamus and hypothalamus)

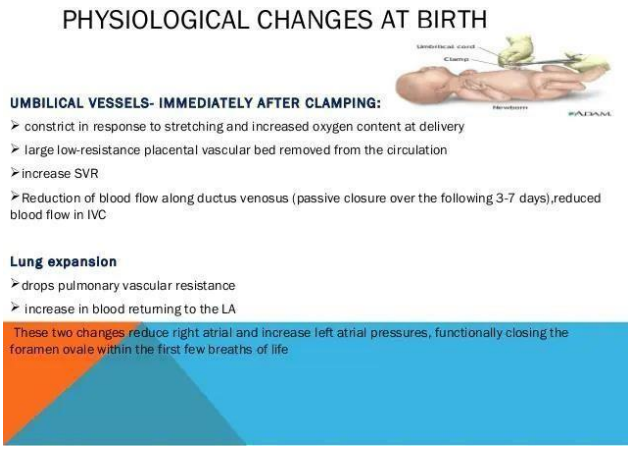


Diencephalon, is the part of the fore-brain that lies above the brain stem. It includes the thalamus and hypothalamus. The thalamus is an important relay station for sensory information coming to the cerebral cortex from other parts of the brain. The thalamus also interprets sensations of pain, pressure, temperature, and touch, and is concerned with some of our emotions and memory. It receives information from the outside environment in the form of sounds, smells, and tastes (Gale 2010). The hypothalamus performs numerous important functions. These include the control of the autonomic nervous system. The hypothalamus controls normal body temperature and helps regulate the endocrine system, which produces hormones or chemical messengers that regulate body functions.

- Metenceph
- Mesaceph
- Rhomben
- Myelen

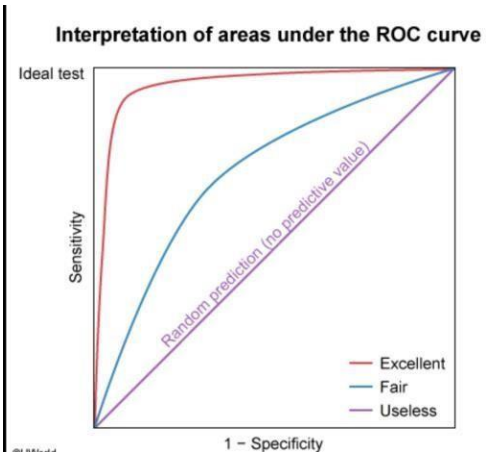
2.What will you see in a newborn compared to a fetus?

Inc, dec, unchanged.



3.Osteoclasts, chondroblasts, hematopoietic stem cells

4.Which point has the highest specificity (should be closest to the y axis) ROC curve



5.How does ACE inhibitor help in cardiac damage?

- dec afterload

- Dec preload

- Inc afterload

- Inc preload

ACE inhibitors **can reduce preload and afterload** on the heart, prevent ventricular remodeling, and even retard atherogenic changes in the vessel wall. The exact mechanism of ACE inhibitors is not fully known. They interfere with the renin-angiotensin-aldosterone system, but their effect is not directly related to renin levels in the blood. As the name implies, ACE inhibitors block an angiotensin-converting enzyme that converts angiotensin I to angiotensin II. Decreased production of angiotensin II enhances natriuresis, lowers blood pressure, and prevents remodeling of smooth muscle and cardiac myocytes. Lowered arterial

and venous pressure reduces preload and afterload. Also, the hypothesis is that ACE inhibitors interfere with the degradation of bradykinin, a peptide that causes vasodilation.

6. CT image of pancreatic pseudocyst (didn't say it but it was as patient had acute pancreatitis a while back) at* tail* of pancreas. Asked whats the vein drainage

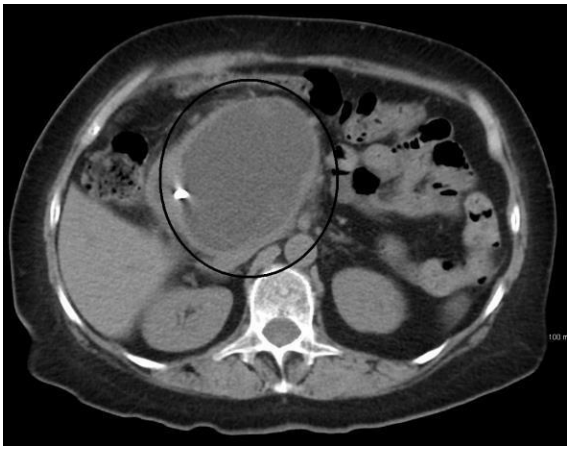
*****- Splenic vein**

- Gastro duodenal

- Inferior pancreatic

- Superior pancreato

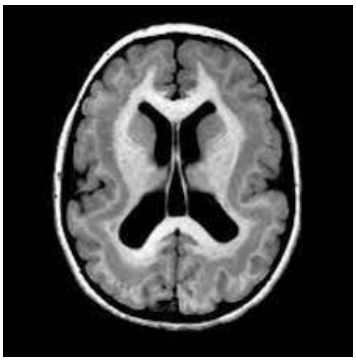
The venous drainage of the duodeno-pancreas is effected via two territories: a posterosuperior and an anteroinferior, the former draining toward the portal v. and the second into the superior mesenteric v. The borderline between the two is represented by the inferior posterior pancreatico-duodenal (IPPD) v. PUBMED.



7. Double cortex baby

- Radial migration is the answer.

Double Cortex syndrome is a rare congenital malformation of cortical development consisting in an extra layer of neurons underneath the properly migrated cortex, mostly associated to **Double Cortin X** and Lissencephaly 1 genes' mutation, usually causing drug-resistant epilepsy and severe cognitive deficits.



8. Virus attained half gene from another virus called polio. What is this?

- **Recombination** . Exchanges of genes 2 chromosomes by crossing over within regions of significance base sequence homology.

9. Muscle weakness patient. Gomorie stain showing granular fiber and red. Whats the inheritance?

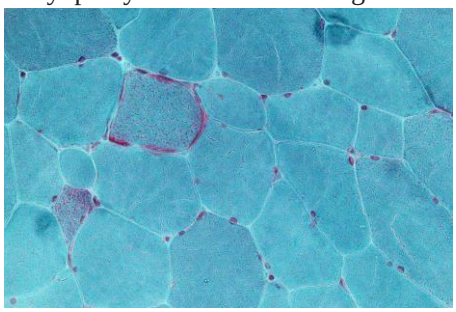
- Mitochondrial (ans)

- AD

- AR

- X LINKED

Mitochondrial myopathies are types of myopathies associated with mitochondrial disease.[1] On biopsy, the muscle tissue of patients with these diseases usually demonstrate "ragged red" muscle fibers. These ragged-red fibers contain mild accumulations of glycogen and neutral lipids, and may show an increased reactivity for succinate dehydrogenase and a decreased reactivity for cytochrome c oxidase. Inheritance was believed to be maternal (non-Mendelian extranuclear). It is now known that certain nuclear DNA deletions can also cause mitochondrial myopathy such as the OPA1 gene deletion. There are several subcategories of mitochondrial myopathies.



in a mitochondrial myopathy. Gömöi trichrome stain.
Muscle biopsy: ragged red fibers in Gömöri trichrome stain.

Very high magnification micrograph showing ragged red fibres

10. Patient has heart failure. Basilar crackles and peripheral edema. What's the murmur?

- Aortic stenosis was the ans (when u place on carotid u can hear heart beat, that is abnormal u should not hear anything except breath sounds due to trachea location)

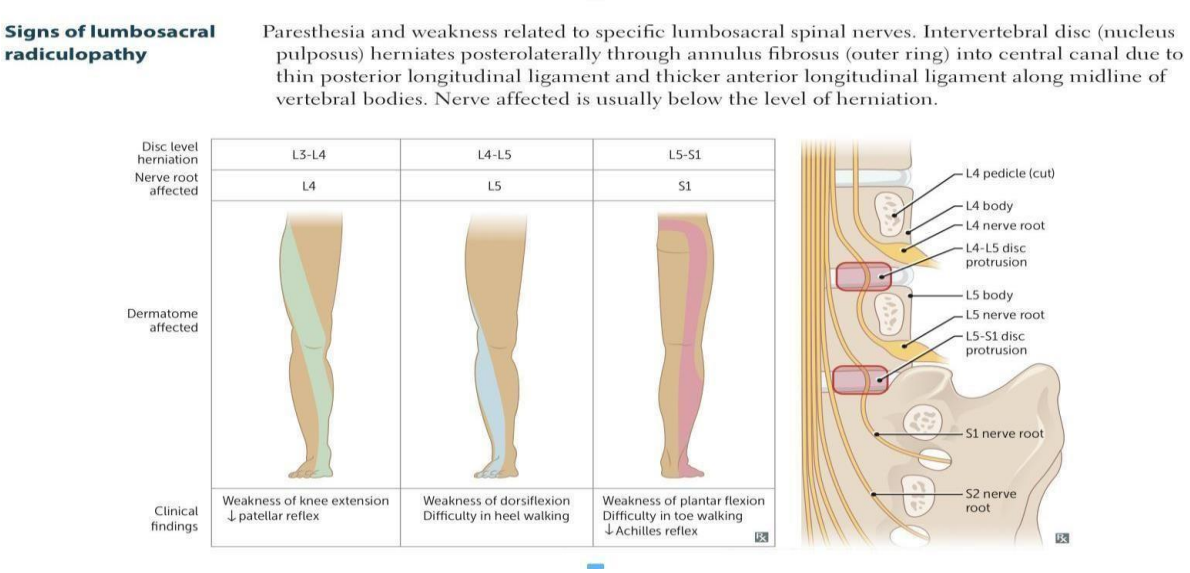
- VSD

- MR

11. Patient with back pain loses ankle reflex and lateral leg and sole sensation. Which nerve compressed?

- L5-S1

- L1-L2



- L3-L4

12. To assess damage to medial collateral ligament what should u do?

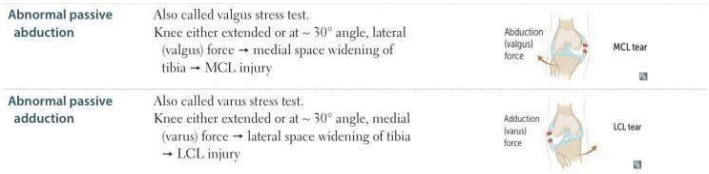
- Varus force on knee

- Valgus force on knee

- Rotate tibia

- Posterior drawer test

- Anterior drawer test



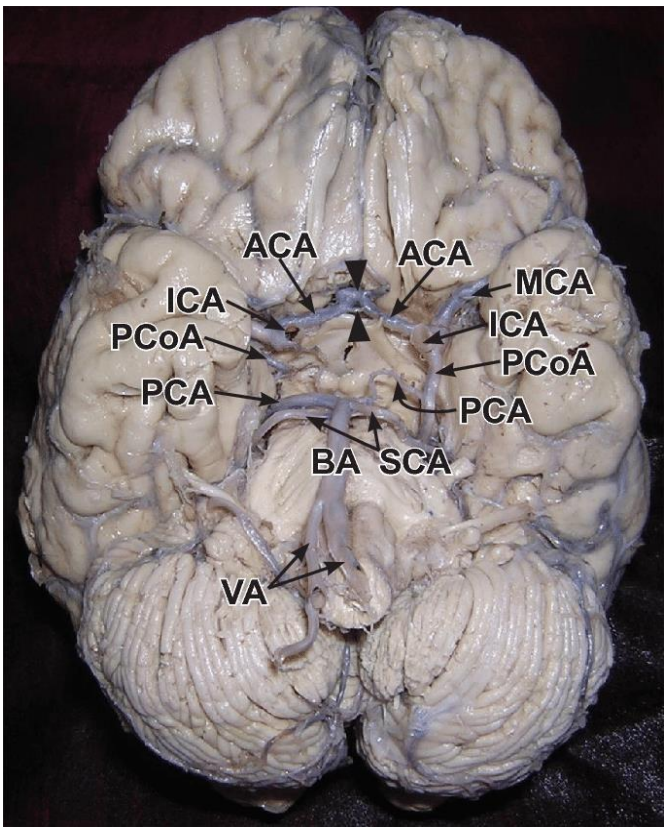
13. Calculate half life? Extracellular volume was 15 mL and 150 GFR.

- 70

- 100 - 200

i think this is incomplete q

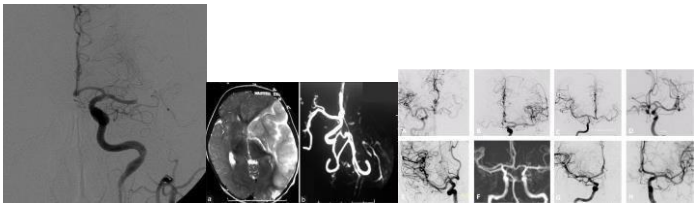
14. Gross image of brain (below view) Marked the artery and asked what will be affected?



15. artery was MCA but don't recall the options so just know lesions created by MCA occlusion

Middle cerebral artery	Motor and sensory cortices A—upper limb and face. Temporal lobe (Wernicke area); frontal lobe (Broca area).	Contralateral paralysis and sensory loss—face and upper limb. Aphasia if in dominant (usually left) hemisphere. Hemineglect if lesion affects nondominant (usually right) hemisphere.	Wernicke aphasia is associated with right superior quadrant visual field defect due to temporal lobe involvement

16. CT angiography of the brain showing Half of circle of willis. Like it showing a basilar artery and above that part now below that. Arrow pointed at artery occlusion (MCA artery pointed) and asked what defect. This qs was repeat of nbme i believe



these are not nbme pic

17. Pedunculated mass in colon. Excised and follow up colonoscopy done after 3 months. What will be seen? Qs was nbme repeat as well i believe

- normal mucosa

- Ulcer

- Some more options

repeat q.,i believe the answer is scar mucosa

Follow-up examinations are mandatory after endoscopic resection of large adenomas to detect residual adenoma tissue or recurrence . Follow-up examinations should be repeated until a clean scar can be confirmed. The term "recurrence" should only be used if complete removal of the entire lesion has been established. Subsequent follow-up will depend on the polyp's size and histologic findings. Follow-up protocols depend on the manner of resection and histology. Follow-up endoscopy for large pedunculated polyps can typically be performed in three years.

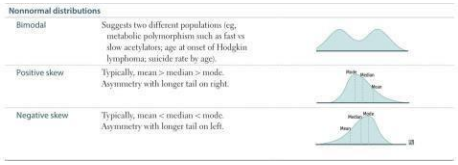
18. A virus with p53 was injected into a tumour cell. What will happen?

- Induction of apoptosis

- Some more options

19. Positively skewed graph

- ans = mean greater than mode



20. Ectodermal dysplasia patient. Had defects of hair and eyebrows lost. What else would be affected?

- Ans = toenails. As ectoderm is affected

- Blue eyes

- Some other options that were not ectoderm origin

Ectodermal dysplasia (**ED**) is a group of genetic syndromes all deriving from abnormalities of the ectodermal structures. More than 150 different syndromes have been identified.

Despite some of the syndromes having different genetic causes, the symptoms are sometimes very similar. Diagnosis is usually by clinical observation, often with the assistance of family medical histories so that it can be determined whether transmission is autosomal dominant or recessive.

Worldwide, around 1/7,000 people have been diagnosed with an ectodermal dysplasia condition. Some ED conditions are only present in single family units and derive from very recent mutations. Ectodermal dysplasias can occur in any race but are much more prevalent in Caucasians than any other group and especially in fair Caucasians.

Ectodermal dysplasias are described as "heritable conditions in which there are abnormalities of two or more ectodermal structures such as the hair, teeth, nails, sweat glands, salivary glands, cranial-facial structure, digits and other parts of the body

21. Endoscopy of Barrett esophagus. Asked what will u see in biopsy?Pg 372 first aid 2018

Barrett esophagus-Specialized intestinal metaplasia replacement of nonkeratinized stratified squamous epithelium with intestinal epithelium(nonciliated columnar with goblet cells(stained blue)in distal esophagus.Due to chronic gastroesophageal reflux disease (GERD)...Associated with increase risk of esophageal adenocarcinoma

- columnar cells (answer is correct which is more of nonciliated columnar).

- More options

22. Weird genetic qs. CT regions were the cause of mutation. What will be affected? i can make much sense out of this question but you all can read more in depth if needed for more details.

- Dna adduct-a DNA adduct is a segment of DNA bound to a cancer-causing chemical.DNA adducts are covalent interactions between reactive carcinogen chemical species and DNA (usually genomic).

- Splice insertion-To join together genes or gene fragments or to insert them into a cell or other structure, such as a virus.A splice site mutation is a genetic mutation that inserts, deletes or changes a number of nucleotides in the specific site at which splicing takes place during the processing of precursor messenger RNA into mature messenger RNA.

- More options

23. Placenta previa patient. Asked whats the defect?-Pg 664 first aid

Attachment of placenta to lower uterine segment over(or <2cm)internal cervical os.Risk factors:multiparity,prior c-section.Associated with painless third trimester bleeding.A “preview” of the placenta is visible through cervix.

Page 640 first aid mentioned the placenta and fetal component and Cytotrophoblast(inner layer of chorionic villi) and Syncytiotrophoblast(outer layer of chorionic villi) which are both talking about chorionic villi.

Therefore option for this will be chorionic plate as mentioned below.

answer- chorionic plate (i choose this because placenta wasn’t given and this was best choice out of all option)

- Cytotrophoblasts -

More options forgot

24.

PCP has an inhibitory effect on the neurotransmitter NDMA (N-methyl-D-aspartate), an important excitatory neurotransmitter that is involved in many different functions, including learning and memory, perception, and attention.PCP affects the D2 dopamine receptor, which is a receptor that is also implicated in psychotic behaviors, such as in individuals with schizophrenia. Its actions on dopamine may explain some of its hallucinogenic effects.PCP inhibits the effects of the neurotransmitter acetylcholine, which is involved in movement and memory.PCP has an effect on certain serotonin receptors.

25. Pcp treatment MOA?

- act on GABA (this is the ans)

Below is one of the treatment option along with other antipsychotic medication.

Benzodiazepine mechanism of action

The exact mechanism of action of benzodiazepines is not known, but they appear to work by affecting neurotransmitters in the brain, chemicals that nerves release in order to communicate with other nearby nerves. One of these neurotransmitters is gamma-aminobutyric acid (GABA), a neurotransmitter that suppresses the activity of nerves.

26. Patient came from south america or somewhere with rice water diarrhea. Whats the pathogenesis? The stem was cholera. first aid 2018 pg 132 toxin-cholera toxin

mechanism- overactivates adenylate cyclase(increase cAMP)by permanently activating Gs>increase CL-secretion in gut and H2O efflux

Manifestation-voluminous"rice-water"diarrhea

28.- something toxin was the answer. Can't remember but everything else was easy to rule. Cholera is a toxin.

Vibrio cholerae toxin is cholera toxin.

first aid 2018 pg 132.

29. Patient with pinpoint pupils?

- Heroine (ans)

When pupils constrict or become small because of drug use, it means the drug affects the parasympathetic part of the autonomic nervous system. Heroin eyes or pinpoint pupils can be one of the telltale signs of heroin or opioid use because the majority of other types of substances have the opposite effect and cause the pupils to appear larger.

Please note if Heroin is not mentioned, you can always pick opioid.

30. Patient post surgery develops sweating and fine resting tremor. They find out patient was a substance abuser. What's the substance she was taking?

- Benzodiazepines

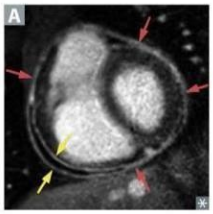
Physiological dependence on benzodiazepines is accompanied by a withdrawal syndrome which is typically characterized by sleep disturbance, irritability, increased tension and anxiety, panic attacks, hand tremor, sweating, difficulty in concentration, dry retching and nausea, some weight loss, palpitations, headache, muscular pain and stiffness and a host of perceptual changes.

31. Patient had post mi complication. Diffuse st elevation and Pr depression with friction rub.

- its pericarditis but options didnt say that. I don't remember it but know that pathophysiology of fibrinous pericarditis and all post mi complications how they happen.

***Postinfarction fibrinous pericarditis** (1-3 days after MI), -->Extensive coagulative necrosis Tissue surrounding infarct shows acute inflammation with neutrophils.

Acute pericarditis



Inflammation of the pericardium (red arrows in A). Commonly presents with sharp pain, aggravated by inspiration, and relieved by sitting up and leaning forward. Often complicated by pericardial effusion [between yellow arrows in A]. Presents with friction rub. ECG changes include widespread ST-segment elevation and/or PR depression.

Causes include idiopathic (most common; presumed viral), confirmed infection (eg, coxsackievirus B), neoplasia, autoimmune (eg, SLE, rheumatoid arthritis), uremia, cardiovascular (acute STEMI or Dressler syndrome), radiation therapy.

Treatment: NSAIDs, colchicine, glucocorticoids, dialysis (uremia).

32. Patient with aniridia and renal tumour. Which gene?

- WT1 ofc

33. Clinical trial on children of a drug; double blind controlled. Informed consent needed.

- Share risk n benefits with physician, parents, child and obtain consent from parents

- Share risk n benefits with parent, child and obtain parent consent

- Share risk n benefits with parents and child; obtain assent from child

- One more option that was bad lol definitely wasn't the answer.

Consent for minors

A minor is generally any person < 18 years old. Parental consent laws in relation to healthcare vary by state. In general, parental consent should be obtained, but exceptions exist for emergency treatment (eg, blood transfusions) or if minor is legally emancipated (eg, married, self-supporting, or in the military).

Situations in which parental consent is usually not required:

- Sex (contraception, STIs, prenatal care—usually not abortion)
- Drugs (substance use disorder treatment)
- Rock and roll (emergency/trauma)

Physicians should always encourage healthy minor-guardian communication.

Physician should seek a minor's assent (agreement of someone unable to legally consent) even if their consent is not required.

34. Got qs on TMD. Patient with ear pain and pain upon chewing.

- trigeminal was the answer

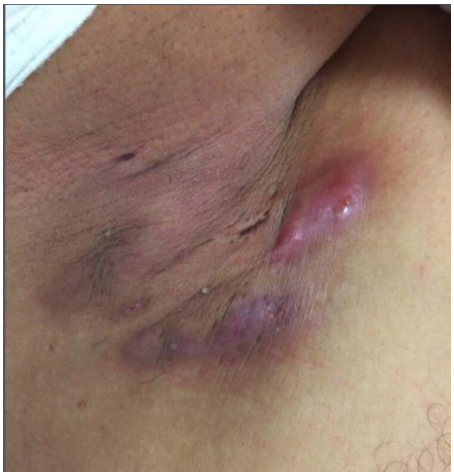
35. Patient with gum edema and perifollicular haemorrhage

- Vit C deficiency ofc

36. Hidradenitis suppurativa pic. Armpit with multiple red ulcers was the pic.

- Blockage of apocrine glands
Hidradenitis suppurativa

Definition: inflammation of the hair follicles and apocrine glands
Risk factors: obesity, smoking, family history
Clinical presentation:in folded skin areas containing apocrine glands (most commonly the axillae, groin, inner thigh, and perineal area
Formation of abscesses, fistulas, and keloids
Formation of draining sinuses with scarring and foul odor Treatment:
Antibiotics, retinoids



37. There was a qs on doctor wanted to ask the alcohol abuse qs to a patient.

- Do you drink beer and wine?
- Do you drink alcohol? (I choose this because beer and wine can be non-alcoholic and this qs was direct non judgemental and addressing the qs best)
- Rest of options were rude and judgemental was only confused between above two.

38. There was a qs where a patient came to ask about something again that the doctor already told him on his first visit? What was the response.

- One option was just basically answering the qs and i choose this because you should answer the qs irrespective u have told before or not.
- Rest options technically qs why patient needs to know or that he cant follow instructions or what not basically i found them all bad.

39. Radial migration- double cortex

40. Cryptococcus - thick capsule

41. Zika virus - neurotropic or dermatropic ?

NEUROTROPIC FLAVIVIRUS

During pregnancy:

Congenital Zika sx: growth restriction and significant CNS complications in neonates resulting from intrauterine transmission of Zika Virus

MICROCEPHALY (craniofacial disproportion)

Ventriculomegaly

Subcortical calcifications

Spasticity (contractures), hyperreflexia, seizures

Ocular abnormalities (pigmentary retinal mottling)

Sensorineural hearing loss

Miscarriage

Belongs to the Flaviviridae family of RNA viruses

Genus: FLAVIVIRUS, type of Arbovirus

Positive-sense. Single stranded. Enveloped RNA

Route of transmission:

Vector-borne transmission by the mosquito AEDES AEGYPTI (common)

Transplacental transmission from mother to the fetus

Sexual transmission

Incubation time: 2-14 days

80% are asymptomatic Sx:

Low grade fever

Flu like symptoms: headache, arthralgia, myalgia, non purulent conjunctivitis, malaise

Maculopapular pruritic rash (20%)

Usually symptoms are mild and last 2-7 days

Leukopenia

Thrombocytopenia

Increase acute phase reactants (CRP, ferritin)

Increase LDH and y-GT DX:

First 7 days of infection: PCR detects Zika virus RNA in blood or urine samples

During days 7-28: RT-PCR and serology

After 28 days: serology confirms Zika virus antibodies

42. AS murmur - pulses et tardus in carotid artery

Narrowed opening area of aortic valve during systole -> obstruction of blood flow from left ventricle (LV) -> increased LV pressure -> left ventricular concentric hypertrophy which leads to:

- Increased LV oxygen demand
- Impaired ventricular filling during diastole -> left heart failure
- Reduced coronary flow reserve

Initially, cardiac output can be maintained.

Later, the decreased distensibility of the left ventricle reduces cardiac output and then may cause backflow into pulmonary veins and capillaries -> higher afterload (pulmonic pressure) on the right heart - > right heart failure.

SYNCOPE

ANGINA

DYSPNEA

Physical examination:

- Small blood amplitude, decreased pulse pressure
- **Weak and distal pulse (pulsus parvus et tardus)**
- Palpable systolic thrill over the bifurcation of carotids and the aorta Auscultation:
- **Harsh crescendo-decrescendo (diamond-shaped), late systolic murmur that radiates bilaterally to the carotids**
- Best heard in **2nd right intercostal space**
- Handgrip decreases intensity of murmur
- Valsalva and standing from squatting decreases or does not change the intensity of the murmur - Soft S2
- S4 is best heard at apex
- Early systolic ejection click

43. MVP murmur- systolic ,young patient

Long, floppy leaflets with excessive valvular tissue -> mitral annulus becomes dilated and chordae tendineae becomes elongated and may rupture -> prolapse of one or both mitral valve leaflets into left atrium during systole

The leaflets may also exhibit fibrous thickening at regions where they run against each other

If prolapse happens without the rupture of chordae tendineae -> mitral valve leaflets billow into the left atrium -> mild to moderate mitral regurgitation

If the papillary muscles becomes severely ischemic and the chordae tendineae rupture -> mitral valve leaflets flail about in left atrium -> severe mitral regurgitation

Most patients are **asymptomatic**

Rarely: atypical pain and anxiety

In case of complications: fatigue, dyspnea, cough, syncope and palpitations Auscultatory

findings:

Mitral valve prolapse click: high frequency, midsystolic click that is best heard in mitral region

High frequency, mid to late systolic murmur that is best heard at mitral region and may radiate to axilla

(Squatting diminishes the murmur)

Patients w/ severe MR: S3 may be heard as a result of left ventricular overload (especially in left decubitus position)

44. Serratia- catalase positive,CGD

Chronic Granulomatous Disease

Deficiency of superoxide production by polymorphonuclear neutrophils and macrophages

X - linked recessive or Autosomal Recessive inheritance

Defective phagocytic nicotinamide adenine dinucleotide phosphate (**NADPH) oxidase**

- Defective reactive oxygen species (ROS) production (superoxide) -> impaired ability to deactivate or kill ingested microorganisms
- Decreased respiratory burst in neutrophils CF:

Recurrent severe infections (chronic, skin, lymph node, bone, respiratory, GI and urinary tract infections) with catalase-positive organisms (S. AUREUS, NOCARDIA SPP, ESCHERICHIA COLI, CANDIDA, KLEBSIELLA, PSEUDOMONAS, ASPERGILLUS, SERRATIA)

Lymphadenopathy

Granulomas of skin and GI/GU tract DX:

Neutrophil assay

- Dihydrorhodamine test (DHR): flow cytometry test showing abnormal NADPH oxidase activity (inability to metabolize dihydrorhodamine to fluorescent product -> rhodamine -> decreased green fluorescence)
- Nitro blue tetrazolium dye reduction test: negative (incubated leukocytes fail to turn blue when exposed to nitro blue tetrazolium)

Hypergammaglobulinemia

Anemia

Genotyping is confirmatory TX:

Tx for infections

Life - long prophylactic antibiotics (TMP-SMX) for catalase positive infections

Glucocorticoids for severe inflammation

IFN-gamma therapy

Bone marrow transplant Possibly

gene therapy

45. Ulcer in duodenum - epigastric pain from which plexus?- greater splanchnic nerve or superior mesenteric ganglion sympathetic?

46. Vitamin E toxicity - increase warfarin effect

Vit E

Antioxidant

- Prevents free radical damage, especially in RBCs and at cell membranes
- Interrupts free radical chains and oxidizes itself as a result
- Inhibition of platelet aggregation, cell proliferation and monocyte adhesion
- Enzyme inhibition (protein kinase C, phospholipase A2)
- Inhibition of gene transcription (for alpha-TTP, tropomyosin alpha-1 chain)

Vit E toxicity

Toxicity is very rare Causes:

over-supplementation CF:

- Infants: increased risk of necrotizing enterocolitis (NEC)
- **High-dose supplementation: Alteration of vitamin K metabolism -> increase anticoagulatory effects of warfarin -> increase risk of bleeding**
- Increased incidence of heart failure, subarachnoid hemorrhage and increased mortality

47. Polio recombination

Poliovirus

RNA virus in the family of Picornaviridae, genus enterovirus, and has 3 serotypes

Poliovirus type 1 causes causes most paralytic manifestations of poliomyelitis

Humans are the only hosts Transmission

route:

Fecal-oral route: absorption of poliovirus in the intestinal tract

Rarely, droplet transmission may occur during epidemics

Incubation time: 7-14 days

Virus replicates in the GI tract (oropharynx and small intestine) following oral ingestion -> enters the bloodstream -> potential invasion of grey matter of spinal cord (particularly the lower motor neurons of anterior horn) -> myelitis

Poliovirus is the first RNA virus in which genetic recombination was observed (5,6), the frequency of recombination across the genome is estimated to be as high as 10-20% (1,7,8). Despite the prevalence of recombination among RNA viruses, its biological role is poorly understood.

Viral recombination is when viruses of two different parental strands coinfect the same host cell and interact during replication to generate virus progeny that have some genes from both parents.

48. Mucosa after polypectomy- normal

Snare polypectomy: cold snaring for diminutive lesions (< 5mm in size)

I think this question is referring to another recall question about how you would expect to see the mucosa after 1 year of doing the polypectomy and the answer would be NORMAL.

49. Competitive ELISA

Inhibition ELISA or competitive immunoassay measures the concentration of an antigen by detection of signal interference.

50. Endometrial cancer in postmenopausal women- risk factors

MC cancer of female genital tract in US

Peak incidence btw 65-74 y.o

Type 1 endometrial cancer: endometrioid adenocarcinomas (grade 1 and 2) derived from atypical endometrial hyperplasia

Directly related to long-term exposure to increased estrogen levels

Some genetic mutations (in the PTEN gene or mismatch repair genes) are also associated with this type of cancer

Type 2 endometrial cancer: endometrioid adenocarcinomas (grade 3) and tumor of non-endometrioid histology (serous, clear cell, mucinous, squamous, transitional, and undifferentiated cells)

Mostly estrogen - independent

Associated with endometrial atrophy (especially in post menopausal women)

Strongly associated with a genetic predisposition **Risks**

for estrogen dependent tumors

- Nulliparity
- Early menarche and **late menopause**
- Polycystic ovarian syndrome
- Metabolic syndrome (especially obesity and DM2)
- Hypertension

- Unopposed estrogen replacement therapy (for menopausal symptoms)
- History of breast cancer and tamoxifen tx
- Lynch syndrome (hereditary nonpolyposis colorectal cancer)

Protective factors

Low estrogen and high progestin or progesterone levels have a protective effect

- Multiparity
- Combination of oral contraceptive pills
- Regular physical exercise
- Lifelong soy rich diet

51. Kell antibody

Anti-K is capable of causing severe Hemolytic transfusion reaction and Hemolytic disease of the fetus and newborn(HDFN).Anti-k is the most common antibodies directed against high frequency antigens. It accounts for a significant number of patients with non Rh HDFN.

52. Clearance -. 0.7(Vd)/ t1/2

Clearance-the volume of plasma cleared of drug per unit time. It is impaired by cardiac, renal and hepatic impairment.

CL=rate of elimination of drug/plasma drug concentration= Vd×Ke(elimination constant)

While half life is the time required to change the amount of drug in the body by ½ during elimination.

t1/2=0.7×Vd/CL, then CL=0.7×Vd/t1/2

53. Radon q From free 120

Pyruvate kinase deficiency is an inherited disorder that affects red blood cells, which carry oxygen to the body's tissues. People with this disorder have a condition known as chronic hemolytic anemia, in which red blood cells are broken down (undergo hemolysis) prematurely, resulting in a shortage of red blood cells (anemia). Specifically, pyruvate kinase deficiency is a common cause of a type of inherited hemolytic anemia called hereditary nonspherocytic hemolytic anemia. In hereditary nonspherocytic hemolytic anemia, the red blood cells do not assume a spherical shape as they do in some other forms of hemolytic anemia.

Chronic hemolytic anemia can lead to unusually pale skin (pallor), yellowing of the eyes and skin (jaundice), extreme tiredness (fatigue), shortness of breath (dyspnea), and a rapid heart rate (tachycardia). An enlarged spleen (splenomegaly), an excess of iron in the blood, and small pebble-like deposits in the gallbladder or bile ducts (gallstones) are also common in this disorder.

In people with pyruvate kinase deficiency, hemolytic anemia and associated complications may range from mild to severe. Some affected individuals have few or no symptoms. Severe cases can be life-threatening in infancy, and such affected individuals may require regular blood transfusions to survive. The symptoms of this disorder may get worse during an infection or pregnancy.

Smaller lungs and faster breathing rates may result in higher radiation doses to the lungs of children relative to adults. However, limited information from children employed as miners in China do not provide evidence of increased susceptibility to the effects of exposure to radon.

54. Portal to systemic shunt in cirrhosis- azygous

In esophageal varices,there is anastomosis of the left gastric vein(which are portal) and the lower esophageal vein-that drain into the Azygos and hemiazygos veins;which systemic veins. The site of anastomosis is in the lower esophagus.

55. HOCM murmur intensity increase or decrease-It increases in intensity.

Hypertrophic obstructive cardiomyopathy (HOCM), historically referred to as idiopathic hypertrophic subaortic stenosis, is a relatively common disorder. HOCM is a significant cause of sudden cardiac death in young people, including well-trained athletes, and affects men and women equally across all races. In most patients, it results from asymmetric septal hypertrophy causing outflow obstruction of the left ventricle.

Murmurs of HOCM increase following the compensators pause after a PVC,with standing phase of valsalva-as this decreases LV Volume and it decreases with Passive leg raise, Squatting and hand grip as this manoeuvres increases LV volume.

56. Pyruvate kinase deficiency clinical findings

Pyruvate kinase deficiency is an inherited disorder that affects red blood cells, which carry oxygen to the body's tissues. People with this disorder have a condition known as chronic hemolytic anemia, in which red blood cells are broken down (undergo hemolysis) prematurely, resulting in a shortage of red blood cells (anemia). Specifically, pyruvate kinase deficiency is a common cause of a type of inherited hemolytic anemia called hereditary nonspherocytic hemolytic anemia. In hereditary nonspherocytic hemolytic anemia, the red blood cells do not assume a spherical shape as they do in some other forms of hemolytic anemia.

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In people with pyruvate kinase deficiency, hemolytic anemia and associated complications may range from mild to severe. Some affected individuals have few or no symptoms. Severe cases can be life-threatening in infancy, and such affected individuals may require regular blood transfusions to survive. The symptoms of this disorder may get worse during an infection or pregnancy.

57. Type 2 hypercholesterolemia- LDL receptor defect

Type II Hypercholesterolemia is an AD condition characterized by absent or defective LDL receptors or defective ApoB-100.

Increased blood levels of LDL and cholesterol is found in type II a and increased levels of LDL, cholesterol and VLDL in type II b.

Presents with accelerated atherosclerosis (MI before 20 yes),corneal arcus and tendon xanthomas.

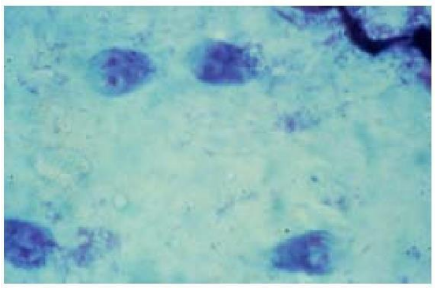
58. Most potent competitive antagonist- given graph with a b c d in order all with same efficacy but with different potency -b is the graph without any antagonist- chose d as it decreases the potency of b greatest

59. NNT

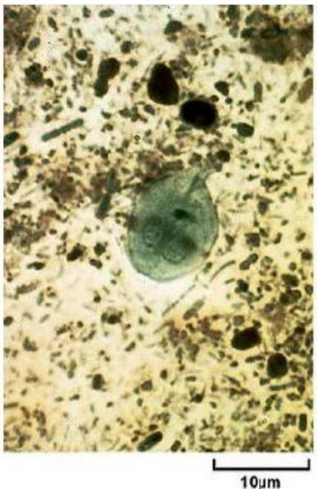
60. ROC curve but screening completed - best test to rule in disease- I chose the one with most specificity instead of most sensitivity

61. Giardia - hiking ,drank water from pond

(FA p 155) Giardia lamblia- giardiasis sxs= bloating, flatulence, foul-smelling fatty diarrhea (often seen in campers/hikers). Transmission> cysts in water. Dx> multinucleated trophozoites or cysts in stool. ELISA antigen detection. Tx> Metronidazole> MOA= toxic free radical metabolites in bacterial cell that damage DNA- bactericidal, antiprotozoal.



49. Giardiasis
This slide shows Giardia trophozoites. The organism is a flagellated protozoan that produces diarrhea, cramps, flatulence, and malabsorption by infecting the small intestine. **(Gi270)**



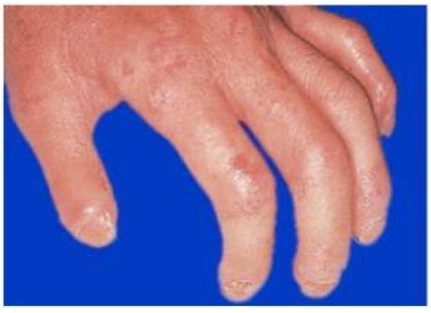
Giardia Lamblia

62. Enterococcus faecalis - endocarditis after GI procedure

(FA p 137) *E faecalis* gram + cocci can grow in bile and 6.5% NaCl, nml GI flora that are PCN G resistant and cause UTI, biliary tract infections, and subacute endocarditis (following GI/GU procedures)

(FA p 311) Subacute endocarditis- fever (mc), new murmur, Roth spots, Osler nodes,Janeway lesions, splinter hemorrhages….Mitral Valve freq involved...Enterococcus endocarditis….CV could be old man after GI/GU manipulations (abd srg, urinary cath, TURP)

63. Scleroderma- simple one showing picture of fingers

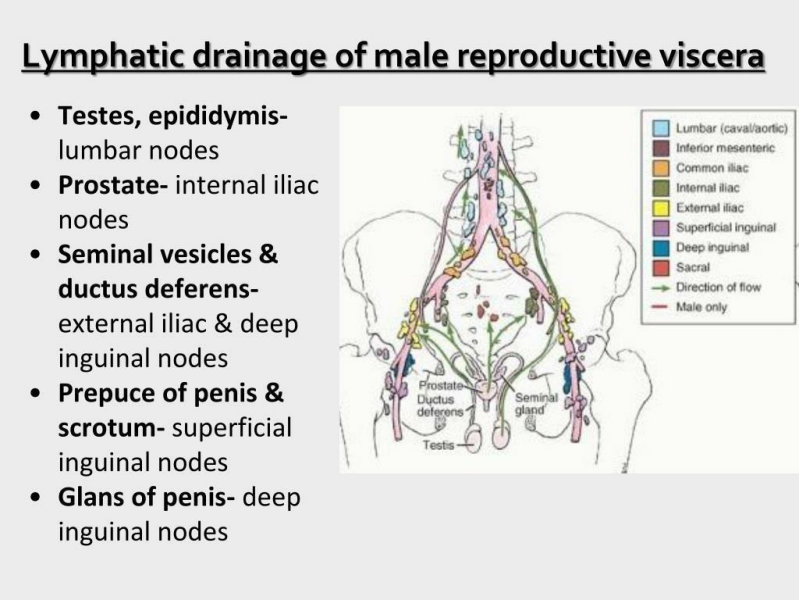


Scleroderma/CREST

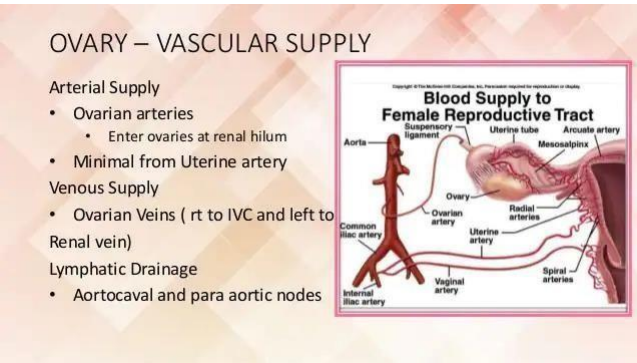
(FA Classic Vignettes p 274- Diffuse systemic sclerosis; anti-sci 70 (anti-topoisomerase 1) CREST: anti-centromere antibody)

Scleroderma is an autoimmune disease characterized by collagen deposition with fibrosis that affects the skin and other organs (lungs, kidneys, heart, and GI tract). Patients typically present with tight skin, but they may also have digital ulceration, calcinosis cutis, and telangiectasias. Microstomia (decreased ability to open mouth) also may be seen. Crackles and edema may be present if there is cardiac/pulmonary involvement. Almost all patients with systemic sclerosis experience **Raynaud's phenomenon**, which is described as color changes in the digits precipitated by cold or stress. If a patient is actively experiencing a vasospasm, then there may be a notable color change. Depending on the phase of the attack, digits may be white (ischemia), blue (hypoxia), or red (reperfusion). Digital ulceration and gangrene may be present. If idiopathic (primary), it is labeled as Raynaud disease. If secondary, it is called Raynaud syndrome. Subtypes of scleroderma include limited cutaneous (fingers and face) and diffuse cutaneous (widespread skin involvement). **CREST** (Calcinosis cutis, Raynaud's phenomenon, Esophageal dysmotility, Sclerodactyly, and Telangiectasias) syndrome is a limited cutaneous form of systemic sclerosis that this patient has. Labs may be positive for ANA, anti-scl-70 (generally associated with diffuse systemic sclerosis), and anticentromere antibody (generally associated with CREST syndrome).

64. Glans penis drains to deep inguinal



65. Ovary drains to para aortic



66. Rhematoid arthritis treatment- I marked TNF alpha inhibitor

(FA p 502) **TNF-□ Inhibitor Entanercept** MOA- fusion protein (decoy receptor for TNF-□ + IgG1,

Fc) produced by recombinant DNA; Use- RA, psoriasis, ankylosing spondylitis **Infliximab** MOA- Anti-TNF-□ monoclonal antibody; Use- IBD, RA, psoriasis, ankylosing spondylitis

Adverse Effects for TNF-□ Inhibitors= Predisposition to infection, reactivation of Latent TB (since TNF is important for granuloma formation and stablization). Can also lead to DRUG-INDUCED LUPUS

67. **HIV receptors-**HIV virus particles interact with several receptors on cell surfaces. Two receptors, CD4 and a co-receptor act sequentially to trigger fusion of viral and cellular membranes and confer virus entry into cells. For HIV-1, the chemokine receptor CCR5 is the predominant co-receptor exploited for transmission and replication in vivo. Variants that switch to use CXCR4 and perhaps other co-receptors evolve in some infected individuals and have altered tropism and pathogenic properties. Other cell surface receptors including mannose binding protein on macrophages and DC-SIGN on dendritic cells also interact with gp120 on virus particles but do not actively promote fusion and virus entry. These receptors may tether virus particles to cells enabling interactions with suboptimal concentrations of CD4 and/or co-receptors. Alternatively such receptors may transport cell surface trapped virions into lymph nodes before transmitting them to susceptible cells. Therapeutic strategies that prevent HIV from interacting with receptors are currently being developed.

68. **Interleukin 1**-Interleukin-1 (IL-1) is the prototypic pro-inflammatory cytokine. There are two forms of IL-1, IL-1alpha and IL-1beta and in most studies, their biological activities are indistinguishable. IL-1 affects nearly every cell type, often in concert with another pro-inflammatory cytokine, tumor necrosis factor (TNF). Although IL-1 can upregulate host defenses and function as an immunoadjuvant, IL-1 is a highly inflammatory cytokine. The margin between clinical benefit and unacceptable toxicity in humans is exceedingly narrow. In contrast, agents that reduce the production and/or activity of IL-1 are likely to have an impact on clinical medicine. The synthesis, processing, secretion and activity of IL-1, particularly IL-1beta, are tightly regulated events. A unique aspect of cytokine biology is the naturally occurring IL-1 receptor antagonist (IL-1Ra). IL-1Ra is structurally similar to IL-1beta but lacking agonist activity is used in clinical trials to reduce disease severity. In addition, regulation of IL-1 activity extends to low numbers of surface receptors, circulating soluble receptors and a cell surface "decoy" receptor to down-regulate responses to IL-1beta.

69. Graft versus host disease-Graft versus host disease (GvHD) is a condition that might occur after an allogeneic transplant. In GvHD, the donated bone marrow or peripheral blood stem cells view the recipient's body as foreign, and the donated cells/bone marrow attack the body.

There are two forms of GvHD:

- Acute graft versus host disease (aGvHD).
- Chronic graft versus host disease (cGvHD).

As an allogeneic transplant recipient, you might experience either form of GvHD, both forms, or neither.

Acute graft versus host disease

Risk factors

Several factors are thought to increase the development of acute GvHD (aGvHD). The most important is donor/recipient HLA (human leukocyte antigen) match, in which there are differences between you and your donor. The differences can cause donor cells to recognize your cells as foreign, and lead to an immune response against your tissues and organs.

Recipients who have received peripheral blood stem cells/bone marrow from an HLA mismatched related donor (or from an HLA matched unrelated donor) have an increased risk of developing acute GvHD.

Other donor/ recipient factors that might increase the risk of developing aGvHD include:

- A female donor who has been pregnant in the past.
- The advanced age of either the donor or the recipient.

When/where acute graft versus host disease might occur

Acute GvHD might occur once the donor's cells have engrafted in the transplant recipient. It might develop in your skin, liver or gastrointestinal tract, and symptoms might appear within weeks after your transplant.

Chronic graft versus host disease

Risk factors for chronic graft versus host disease

Patients who have an increased risk of developing cGvHD are:

- Those who've received stem cells/bone marrow from an HLA (human leukocyte antigen) mismatched related donor or from an HLA matched unrelated donor.

- Patients who may have already experienced acute GvHD. ● Older transplant recipients.

When/where chronic graft versus host disease might occur

Chronic GvHD can appear at any time after allogenic transplant or several years after your transplant. Chronic GvHD might occur in the skin, liver, mouth, lungs, gastrointestinal tract, neuromuscular system, or genitourinary tract.

Important note about graft versus host disease: While GvHD can deeply impact your quality of life, it does have some benefit. The same immune response responsible for attacking your normal cells is also monitoring and destroying any surviving cancer cells. This is called the graft versus tumor effect. Patients who develop GvHD have lower disease relapse rates.

SYMPTOMS AND CAUSES

What are symptoms of acute graft versus host disease (aGvHD)?

NOTE For patients with either aGvHD or cGvHD: Because of the increased risk of developing infections. it's very important to report any physical changes and fevers of 100.4° F or higher to your bone marrow transplant team.

Symptoms of acute GvHD might include any of the following:

- Skin rash or reddened areas on the skin (signs of aGvHD of the skin): Please report if your skin is itchy.
- Yellow discoloration of the skin and/or eyes, and abnormal blood test results (signs of aGvHD of the liver).
- Nausea, vomiting, diarrhea, or abdominal cramping (signs of aGvHD in the gastrointestinal tract, or “gut”).

What are symptoms of chronic graft versus host disease (cGvHD)?

Symptoms of chronic GvHD might include any of the following:

- Rash, raised, or discolored areas, skin thickening or tightening (signs of cGvHD of the skin).
- Abdominal swelling, yellow discoloration of the skin and/or eyes, and abnormal blood test results (signs of cGvHD of the liver).
- Dry eyes or vision changes (signs of cGvHD of the eyes).
- Dry mouth, white patches inside the mouth, pain or sensitivity to spicy foods (signs of oral cGvHD, of the mouth).
- Shortness of breath or changes seen on your chest X-ray (signs of dry cough pulmonary cGvHD — of the lungs).
- Difficulty swallowing, pain with swallowing, or weight loss (signs of cGvHD of the gastrointestinal tract or "gut").
- Fatigue, muscle weakness, or pain (signs of neuromuscular cGvHD, of the nerves and muscles).
- Vaginal dryness or pain with intercourse (cGvHD of the vagina or vulva).
- Decreased range of motion in joints or tightness in joints (cGvHD or the fascia or connective tissue).

DIAGNOSIS AND TESTS

How is graft versus host disease diagnosed?

Your BMT doctor can make the diagnosis of a GvHD during a physical exam by observing certain symptoms and/or by evaluating the results of site biopsies and lab values.

In the case of chronic graft versus host disease (cGvHD), some symptoms might be very vague, which might make the diagnosis possible only after other causes are excluded.

MANAGEMENT AND TREATMENT

How is acute graft versus host disease (aGvHD) treated?

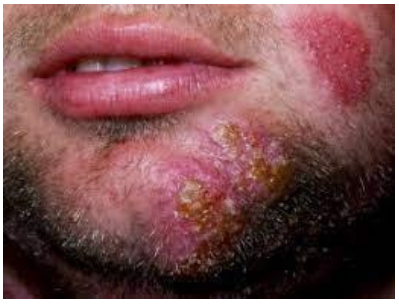
If aGvHD occurs, your doctor will discuss available treatment options with you and your family. Many patients are successfully treated with increased immunosuppression in the form of oral (given by mouth) or intravenous (given through the vein) steroid medicines. If steroids are unsuccessful or are not appropriate to use, other treatment options are available.

How is chronic graft versus host disease (cGvHD) treated?

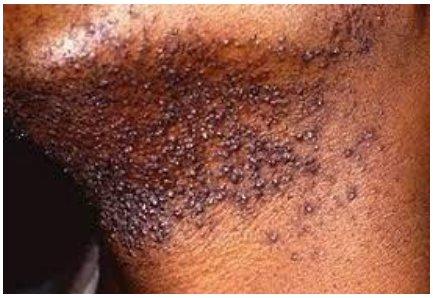
If cGvHD occurs, your doctor will discuss available treatment options with you and your family. Long-term immunosuppressive medicines are usually the treatment regimen for cGvHD. Fungal, bacterial, and viral infections are a major risk with this treatment option since your immune system will be suppressed for a very long time. Your doctor will prescribe several medicines to help prevent these life-threatening infections from occurring.

The treatment of cGvHD can take many months to years.

70. Beard rash - looks like fungal



vs.

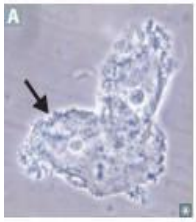


tinea barbae	pseudofolliculitis barbae

Tinea barbae is a fungal infection of the hair. Tinea barbae is due to a dermatophytic infection around the bearded area of men. Generally, the infection occurs as a follicular inflammation, or as a cutaneous granulomatous lesion, i.e. a chronic inflammatory reaction. It is one of the causes of folliculitis. It is most common among agricultural workers, as the transmission is more common from animal-to-human than human-to-human. The most common causes are Trichophyton mentagrophytes and T. verrucosum	Foreign body inflammatory facial skin disorder characterized by firm, hyperpigmented papules and pustules that are painful and pruritic. Located on cheeks, jawline, and neck. Commonly occurs as a result of shaving ("razor bumps"), primarily affects African-American males.

71. Gardenella vaginosis d/t **depletion of lactobacillus**

Gardnerella vaginalis

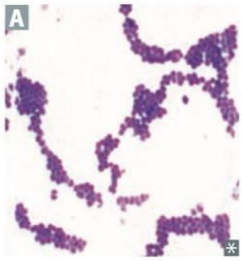


A pleomorphic, gram-variable rod involved in bacterial vaginosis. Presents as a gray vaginal discharge with a fishy smell; nonpainful (vs vaginitis). Associated with sexual activity, but not sexually transmitted. Bacterial vaginosis is also characterized by overgrowth of certain anaerobic bacteria in vagina (due to ↓ lactobacilli). Clue cells (vaginal epithelial cells covered with *Gardnerella*) have stippled appearance along outer margin (arrow in A).

Amine whiff test—mixing discharge with 10% KOH enhances fishy odor.
Vaginal pH >4.5 during infection.
Treatment: metronidazole or clindamycin.

72. Got 2 questions on **staph**

Staphylococcus aureus



Gram ⊕, β-hemolytic, catalase ⊕, coagulase ⊕ cocci in clusters A. Protein A (virulence factor) binds Fc-IgG, inhibiting complement activation and phagocytosis. Commonly colonizes the nares, ears, axilla, and groin.

Causes:

- Inflammatory disease—skin infections, organ abscesses, pneumonia (often after influenza virus infection), endocarditis, septic arthritis, and osteomyelitis.
- Toxin-mediated disease—toxic shock syndrome (TSST-1), scalded skin syndrome (exfoliative toxin), rapid-onset food poisoning (enterotoxins).

MRSA (methicillin-resistant *S aureus*)—important cause of serious nosocomial and community-acquired infections. Resistance due to altered penicillin-binding proteins (conferred by *mecA* gene). Some strains release Panton-Valentine leukocidin (PVL), which kills leukocytes and causes tissue necrosis.

TSST-1 is a superantigen that binds to MHC II and T-cell receptor, resulting in polyclonal T-cell activation and cytokine release.

Staphylococcal toxic shock syndrome (TSS)—fever, vomiting, diarrhea, rash, desquamation, shock, end-organ failure. TSS results in ↑ AST, ↑ ALT, ↑ bilirubin. Associated with prolonged use of vaginal tampons or nasal packing.

Compare with *Streptococcus pyogenes* TSS (a toxic shock–like syndrome associated with painful skin infection).

S aureus food poisoning due to ingestion of preformed toxin → short incubation period (2–6 hr) followed by nonbloody diarrhea and emesis. Enterotoxin is heat stable → not destroyed by cooking.

S aureus makes coagulase and toxins. Forms fibrin clot around itself → abscess.

73. 25 year old Dizziness, tingling sensation on hands in medical student -Assume he has normal kidney and lung function-Gave **CO2,PH,Ca2+,K+** up and down arrows--I answered

Down

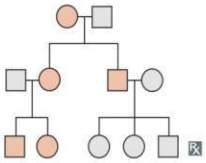
Up

Down

Down

74. Mitochondrial inheritance in the form of flow chart with diff symptoms in different family members

Mitochondrial inheritance



= unaffected male; = affected male; = unaffected female; = affected female.

Transmitted only through the mother. All offspring of affected females may show signs of disease.

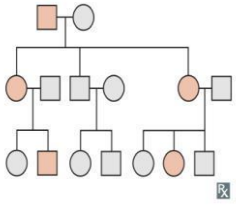
Variable expression in a population or even within a family due to heteroplasmy.

Mitochondrial myopathies—rare disorders; often present with myopathy, lactic acidosis, and CNS disease, eg, MELAS syndrome (mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes). 2° to failure in oxidative phosphorylation. Muscle biopsy often shows "ragged red fibers" (due to accumulation of diseased mitochondria in the subsarcolemma of the muscle fiber).

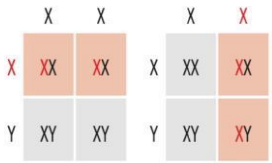
Leber hereditary optic neuropathy (LHON)—cell death in optic nerve neurons → subacute bilateral vision loss in teens/young adults, 90% males. Usually permanent. Also leads to neurologic dysfunction, cardiac conduction defects.

75. X linked dominant inheritance(FA 2021 pg 59)

X-linked dominant



Transmitted through both parents. Mothers transmit to 50% of daughters and sons; fathers transmit to all daughters but no sons.



Examples: fragile X syndrome, Alport syndrome, hypophosphatemic rickets (also called X-linked hypophosphatemia)—phosphate wasting at proximal tubule → rickets-like presentation.

76. Peroxisome dysfunction-2 questions

Peroxisome

Membrane-enclosed organelle involved in:

- β-oxidation of very-long-chain fatty acids (VLCFA) (strictly peroxisomal process)
- α-oxidation of branched-chain fatty acids (strictly peroxisomal process)
- Catabolism of amino acids and ethanol
- Synthesis of cholesterol, bile acids, and plasmalogens (important membrane phospholipid, especially in white matter of brain)

Zellweger syndrome—autosomal recessive disorder of peroxisome biogenesis due to mutated *PEX* genes. Hypotonia, seizures, hepatomegaly, early death.

Refsum disease—autosomal recessive disorder of α-oxidation → buildup of phytanic acid due to inability to degrade it. Scaly skin, ataxia, cataracts/night blindness, shortening of 4th toe, epiphyseal dysplasia. Treatment: diet, plasmapheresis.

Adrenoleukodystrophy—X-linked recessive disorder of β-oxidation due to mutation in *ABCD1* gene → VLCFA buildup in **adrenal** glands, white (**leuko**) matter of brain, testes. Progressive disease that can lead to adrenal gland crisis, progressive loss of neurologic function, death.

FA 2021 page 48.

77.2 q on reflexes- just be thorough with all reflexes

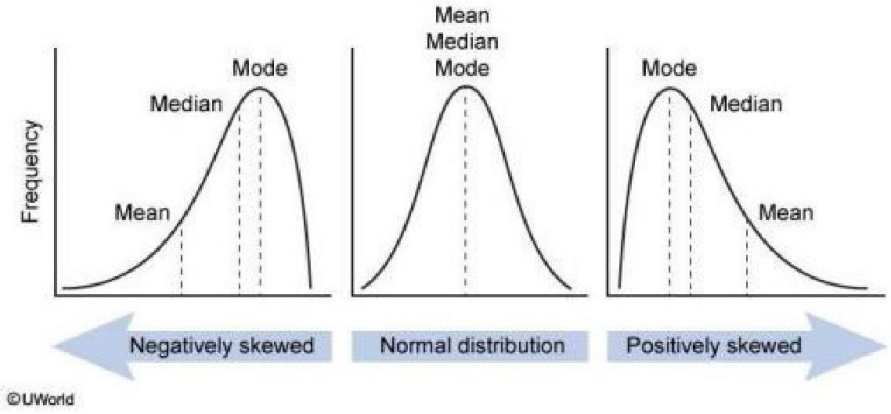
78. Temporal lobe removed in previous surgery - which part is missing- **hippocampus**

Temporal lobectomy is the most common type of surgery for people with temporal lobe epilepsy. It removes **a part of the anterior temporal lobe along with the amygdala and hippocampus**

79. Positive skew diagram- which is most predictive to analyse the result- ans is **median.**

In the case of positive or negative skewed, the median is most predictive.

For normal (symmetric) distribution the mean is most predictive. for multimodal distribution mode is the most predictive.



80. Habituation question.

81. Pleural fluid -0.6 ratio - **malignancy**

82. Got many q in communication

83.2 interpreter q

84.Uterine diphysis

85.2 hyperparathyroidism

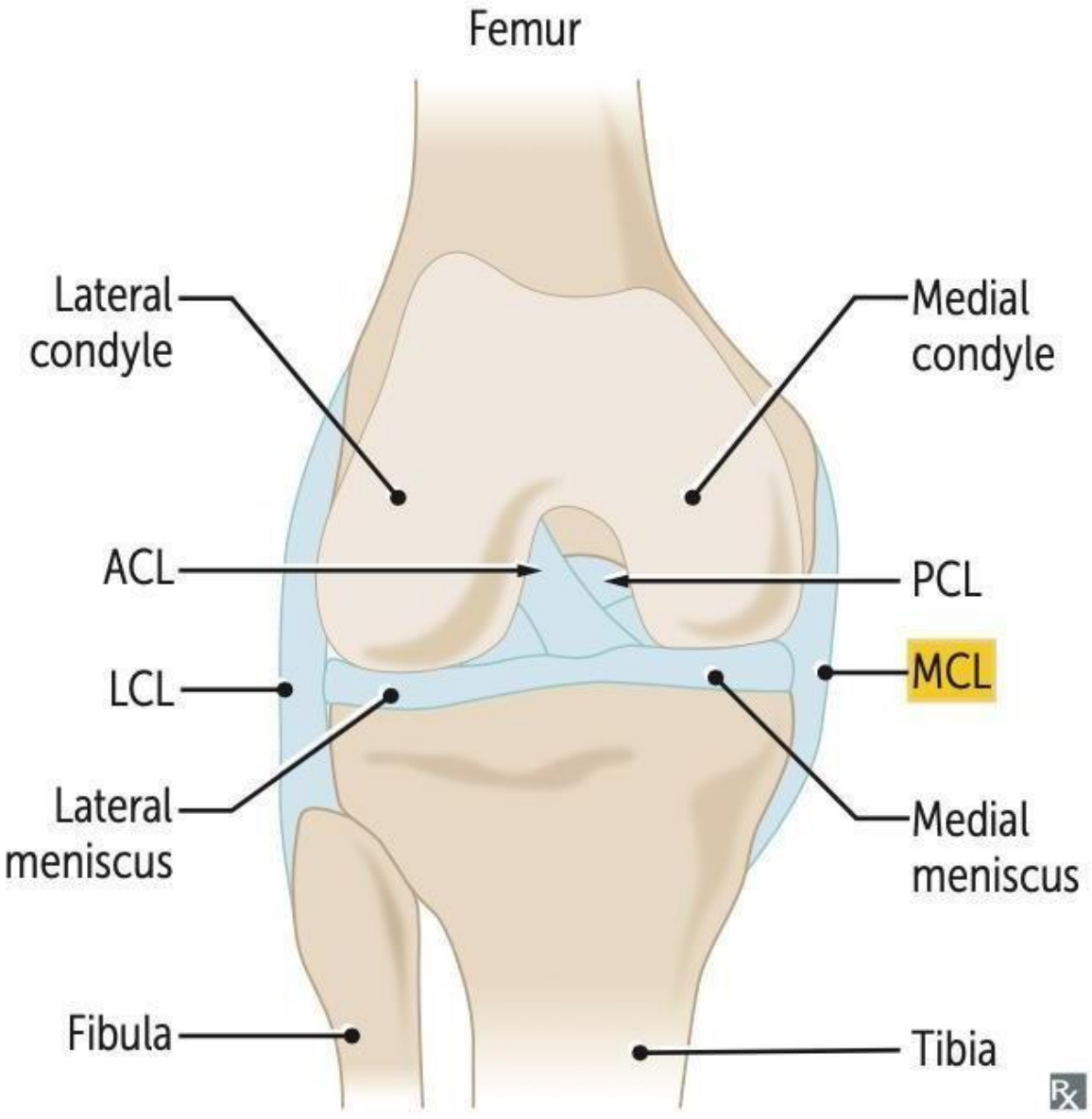
2° hyperplasia due toCa^{2+} absorption and/orPO_4^{3-}, most often in chronic

kidney disease (causes hypovitaminosis D and hyperphosphatemiaCa^{2+}). **Hypocalcemia**, hyperphosphatemia in chronic kidney disease (vs hypophosphatemia with most other causes),ALP,PTH.

86. ADPKD

flank pain, hematuria, hypertension, urinary infection, progressive renal failure in ~ 50% of individuals. Mutation in *PKD1* (85% of cases, chromosome 16) or *PKD2* (15% of cases, chromosome 4). Complications include chronic kidney disease and hypertension (caused byrenin production). Associated with berry aneurysms, mitral valve prolapse, benign hepatic cysts, diverticulosis.

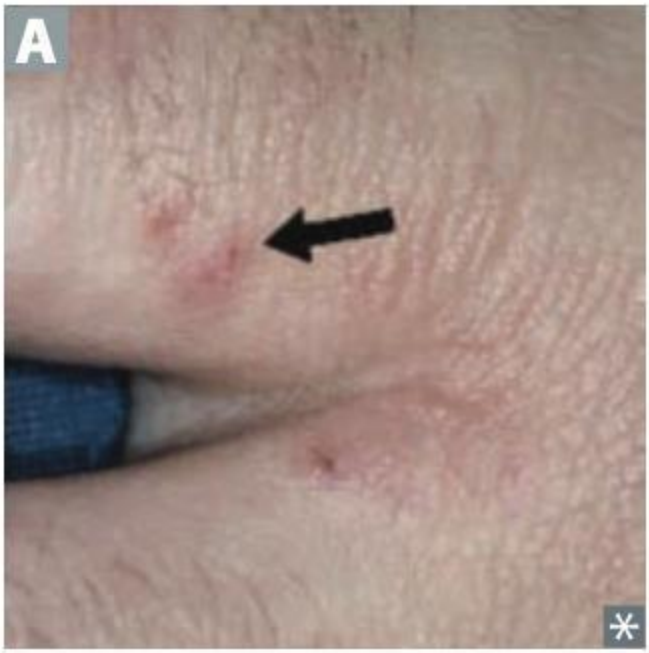
87. MCL



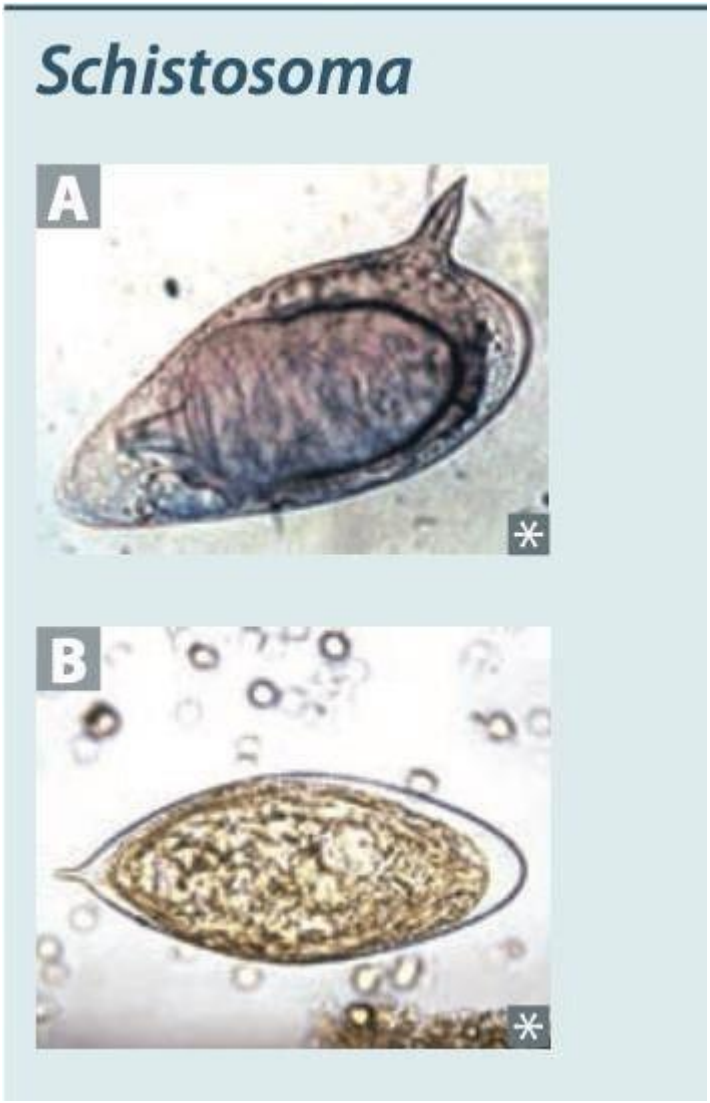
88. Leshminia

89.Scabies

Mites burrow into stratum corneum and cause scabies—pruritus (worse at night) and serpiginous burrows (lines) often between fingers and toes



90. Shistosoma



A. mansoni
B. Hematobium

Liver and spleen enlargement (shows *S mansoni* egg with lateral spine), fibrosis, inflammation, portal hypertension

Chronic infection with *S haematobium* (egg with terminal spine) can lead to squamous cell carcinoma of the bladder (painless hematuria) and pulmonary hypertension

91. PGI2

- platelet aggregation

-vascular tone Epoprostenol

92. Pseudomonas

Aer*uginosa*—**aer**obic; motile, catalase ⊕, gram ⊖ rod. Non-lactose fermenting. Oxidase ⊕. Frequently found in water. Has a grape-like odor.

PSEUDOMONAS is associated with: **P**neumonia, **S**epsis, **E**cthyma gangrenosum, **U**TIs, **D**iabetes, **O**steomyelitis, **M**ucoid polysaccharide capsule, **O**titis externa (swimmer's ear), **N**osocomial infections (eg, catheters, equipment), **A**ddiction (people who inject drugs), **S**kin infections (eg, hot tub folliculitis, wound infection in burn victims).

Mucoid polysaccharide capsule may contribute to chronic pneumonia in patients with cystic fibrosis due to biofilmformation.

Produces **PEEP**: **P**hospholipase C (degrades cell membranes); **E**ndotoxin (fever, shock); **E**xotoxin A (inactivates EF-2); **P**igments: pyoverdine and pyocyanin (blue-green pigment ; also generates ROS).

Corneal ulcers/keratitis in contact lens wearers/ minor eye trauma.

Ecthyma gangrenosum—rapidly progressive, necrotic cutaneous lesion caused by *Pseudomonas* bacteremia. Typically seen in immunocompromised patients.

93. Ecoli

Escherichia coli — Gram ⊖, indole ⊕ rod. *E coli* virulence factors: fimbriae—cystitis and pyelonephritis (P pili); K capsule—pneumonia, neonatal meningitis; LPS endotoxin—septic shock.

STRAIN	TOXIN AND MECHANISM	PRESENTATION
Enteroinvasive *E coli*	Microbe invades intestinal mucosa and causes necrosis and inflammation.	EIEC is Invasive; dysentery. Clinical manifestations similar to *Shigella*.
Enterotoxigenic *E coli*	Produces heat-labile and heat-stable enteroToxins. No inflammation or invasion.	ETEC; Traveler's diarrhea (watery).
Enteropathogenic *E coli*	No toxin produced. Adheres to apical surface, flattens villi, prevents absorption.	Diarrhea, usually in children (think EPEC and Pediatrics).
Enterohemorrhagic *E coli*	O157:H7 is most common serotype in US. Often transmitted via undercooked meat, raw leafy vegetables. Shiga toxin causes hemolytic-uremic syndrome—triad of anemia, thrombocytopenia, and acute kidney injury due to microthrombi forming on damaged endothelium → mechanical hemolysis (with schistocytes on peripheral blood smear), platelet consumption, and ↓ renal blood flow.	Dysentery (toxin alone causes necrosis and inflammation). Does not ferment sorbitol (vs other *E coli*). EHEC associated with hemorrhage, hamburgers, hemolytic-uremic syndrome.

94. H pylori

Curved, flagellated (motile), gram ⊖ rod that is **triple** ⊕: catalase ⊕, oxidase ⊕, and urease ⊕ (can use urea breath test or fecal antigen test for diagnosis). Urease produces ammonia, creating an alkaline environment, which helps *H pylori* survive in acidic mucosa. Colonizes mainly antrum of stomach; causes gastritis and peptic ulcers (especially duodenal). Risk factor for peptic ulcer disease, gastric adenocarcinoma, and MALT lymphoma.

Most common initial treatment is **triple** therapy: **a**moxicillin (metronidazole if penicillin allergy) + **c**larithromycin + **p**roton pump inhibitor; **a**ntibiotics **c**ure ***P****ylori*. Bismuth-based quadruple therapy if concerned about macrolide resistance.

1. Patient presented with exudative effusion. Weight loss. Signs and symptoms were given. Had to answer the cause. Looked like TB, however triglyceride level of effusion was not given like in other POs.

2. Child presented with lesion on foot, granulation tissue, fever etc. looked like Osteomyelitis. Cause? Salmonella.

3. paitent had MVC. Was brought to the hospital. He didn't survive and had brain death. There were some incidents of negligence in the hospital. Family recieved organ donation letter from organ donor organization cause patient was organ donor. Family refused coz they said we want to transfer patent to another hospital for care though he was already brain dead and will are going to take legal action against the hospital and attorney advised them to not donate organs till autopsy. Whose decision should be followed in the cause? Options: a) follow family and don't

donate organs b) go ahead with donation c) transfer patient to another hospital for 2nd opinion d) some about organ donation decision lies with state or something coz medicolegal aspect is involved(marked).

4. What is necessary to confirm that brain death has occured. Options: various investiogations like WS schintography to check blood flow to brain etc. I choose option which was something like confirm the whole process(cortical reflexes etc) required for brain death by two physcians.

5. Elderly woman had Some unilateral scaly lesion on nipple of a breast. What to do. I chose biopsy.

6. A man had a small round fleshy mass on the edge of forhead. Diagnosis was asked. It looked like Lipoma to me so i marked it.

7. Guy had accident. Was having respiratory difficulty. Xray was given. White out on middle and lower lobe Of left side Of xray and trachea was also deviated. NBS? Tube thoracostomy to drain fluid.

8. Woman had severe Rheumatoid Arthritis Of hands. Pic was given. She was on various meds like Methotrexate and whatnot. Now its her daughters wedding and she Wants to sew her wedding dress. What can be done, Options: steroid injection,various Other meds, i chose occupational therapy.

9. Woman had some pelvic surgery and presented after some time with fever and other symptoms. After investigation, it was found thay gauze was left in operation site. What can be done to prevent it? Various options which could be ruled Out. One option which made sense was make a standardized process after surgery or something which i marked.

10. A person was hospitalized and Was On antibiotics and he developed diarrhea. CDI. How to treat? Various antibiotics were given and had to choose from them.

11. poor recall but child had prolonged cough or something and then he developed s/s Of pneumonia and tx was asked. ABS were given. I chose Amoxicillin.

12. A young man had knee injury during Sports. Xray Was done and it should fat globules. What kind of fracture? Plateu fracture Of tibia (PQ)

13. la month old was brought by parent. Had fracture of bone. Mother said rolled from bed. Hx wasnt consistent with injury. NBS? Skeletal survey.

14. Elderly woman came to hospital. Said living with daughter. I think was diabetic too. Sugar not controlled. Said daughter gives her one time meal coz times are tought but its ok. I dont wanna be a bother. NBS? Report to APS

15. Woman came and said husband beats her but is remorseful after. Is alcoholic. One time he also beat their daughter with belt. She doesnt wanna report. NBS? Call child protective services.

16. Similar question but wife said he doesnt beat daughter but she had on occasion witnessed the abuse. She wanna report. Besides giving her number for shelter and making plan and stuff like that what to do next? As child wasnt being abused to i didnt choose calling CPS.

17. 17 year Old cam to Office was depressed. Said she contemplated suicide. And she some 4 months ago she was raped by step brother who still lives with their parents. What to do next? Call police. Inform parents about the abuse. As she was minor was chose inform parents.

18. Abstract question. Caculate NNT> cant be calculated from data.

19. Scenario about Neonatal Toxicum Neonatorum. Only description. NO picture. TX was asked. Self limited.

20. Neurofibromatosis type 1 symptoms were given. Complication was asked. Angifibroma, schwan cell tumor. Got this wrong. Wasnt sure whether optic pathway glioma is schwan cell tumor or not which it is.

21. Patient with some heart condtion was very bradycardiac HR 48 or something. Hospital monitor is

O Rb gene function (pic of leukocoria)

O HPV pe koi experiment question tha to see effect of drug on cervical cancer — tissue konsa lenge options were columnar epithelium , lymphocytes, kidney?

O CMV — congenital

O EBV — atypical cells the labs mn. Infectious mono ki presentation no cmv in option. O Oral leukoplakia
O Thrush cause in patient— corticosteroids o Brain tumor at the junction of white and gray matter

O Chemotherapy given doesn't affect testes
— occludens / tight juctions

O Clinical trial — conscent from parents assent from patient

O Increase protein diet — increase in urea cycle

O Carcinoid syndrome— increased tryptophan use

O Osteogenesis imperfecta Blue scelera pic collagen I
O Mitochndrial mutation disease symptoms

O Polycythemia - jak2

O Aortic prothetic valve blood smear showed shistocyte - mechanic trauma

O Crohn/ ulcerative dx history di thi kuch smjh nh aya par ek endoscopy ki pic bhi thi looked like cobble stone so went with crohn. But rectal bleeding bhi mentioned tha which got me confused

O A nurse working in some clinic where she uses latex gloves , coming frequently with rash almost every other day plus she has history of allergy to fruits. Ab involved cytokine poocha tha. There was nothing relating to contact dermatitis toh went with histamine

O Interestitial nephritis ka dx tha , easy piesy. O Acute tubular necrosis easy again

O Methanol poisoning pe 2 the one with the presentation and contact with paint and coming

O One had labs showing anion gap metabolic acidosis (MUDPILES) option exclude krne hn

O Rb gene function (pic of leukocoria)

< Notes

13 May 2024 at 1:20 PM

o Xeroxerma pigmentosa ka scenario tha were asking about mode in inheritance (AR)

O Lynch syndrome scnerio (mismatch repair gene)

O HUS ecoli organism asked

O Posterior urethral valve in child o Nail fungal infection risk factor asked bht kuch diya hua tha I felt occupation would be correct o Scleroderma scenario (biopsy of esophagus will demonstrate poocha tha) there was fibrosis something

O Atrial myxoma ka scenario or histo feature pooche the

O Lambort eaten syndrome

O Ek tha familial hypocalcemia lab values thi jisme sirf calcium low tha phosphate, pth, vitamin D all normal, I easily excluded all options except one jo zindagi mn kabhi mutation nh sunni, did that.

O GBS symyoms - chlamydia - mechanism

r year old cam to omce was depressed sac sne contemplated suicide. And sne some 4 months ago she was raped by step brother who still lives with their parents. What to do next? Call police. Inform parents about the abuse. As she was minor was chose inform parents.

18. Abstract question. Caculate NNT> cant be calculated from data,

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20. Neurofibromatosis type symptoms were given. Complication was asked. Angifibroma, schwan cell tumor. Got this wrong. Wasnt Sure whether optic pathway glioma is schwan cell tumor or not which it is.

21. Patient with some heart condtion was very bradycardiac HR 48 or something. Hospital monitor is supposed to alarm with HR becomes less than 50. Nurse told resident to Set the alarm at 55 HR. What will happen if resident doesnt follow the instruction, Options:Resident autonomy will be intact, alarm fatigue, some Other weird options.

22. Adopted child overly friendly with strangers. Disinhibited social engagement disorder.

23. Child slower in reading and learing Compared to Siblings. NBS> Audiology.

24. 17 year Old boy with single partner, previously vaccinated no risk factors Of STIs what to do next, Meningococcal booster dose made sense only among the options to me.

25. Child with S/s of Digeorge syndrome. Craniofacial abnormalities, recurrent infections, What to do th find the cause > genetic testing for chromose 22

26. Patient with some terminal condition at end stage wants only relief measures now. Wife doesnt agree. Says dont be silly otcourse doctors will do anything to prolong life even it its a single day. NBS> recommed hospice care made sense among the options to me.

27. Classic symptoms of squamous cell lung Cancer, elevated calcium, located centrally. Diagnosis was asked.

28. Picture Of child was given. Looked like port wine stain Of Sturge-Weber syndrome. Complication was asked. Dont remember the options,

29. Adult patient with signs and symptoms of Left sided HE Systolic Murmur in aortic area, Had to listen > Aortic stenosis

30. Elderly woman brought in by daughter in confused state. Was very hypoglycemic. she Wasnt alcoholic or malnourished too i think. What to give next > iv dextrose. Thiamine was also in option.

31 , I think one atrial fibrillation ecg was given and management was asked,

32. Another ecg was given with some deep and continuous st depression. Only single lead. I think prevention Of its complication was asked but not sure. But options didnt make sense to me. There was propanolol, iv lidocaine and some Other options. I was short on time so just marked lidocaine coz i thought

it might cause arrythimia. But not Sure,

33. Adolescent girl with classic signs and symptoms Of anorexia nervosa. What is She at risk fracturing her bones,

34. person with symptoms Of restrictive lung disease, fine crackles etc. fevi, dlco were also given in labs. Diagnosis was asked> interstitial lung disease was in option.

35. Another question with a guy with COPD. Up down arrow question with RV, fevl , lung capacity etc.

36. there were also a few questions where a disease like pneumonia and some infection was given and you has to choose the antibiotic to treat it. Cant recall properly.

37. Patient with signs and symmptoms Of meralgia paresthetica. What would you recommend> weight loss.

38. Patient was having pain with defection. Anus was not tender. However bluish type bulge was present inside anal canal. Diagnosis> thrombosed hemorrhoid

39. One scenario about newborn with grunting, tachypnea, using accessory muscles. ARDS

40. A child with hydrocele. Unilateral Swelling. Transillumination. I think Question was about how does it develop.

41. One question about a person who called his doctor friend that his wife need some sort of pain meds and their doctor is not present and the on call doctor is not willing to prescribe and asks the doctor to prescribe. What will be the answer. Options: (a)i am surpriesed that u put me in this position i have to report it to ethics committe. (b) let me call the on call doctor to see if i can convince him. (C) let me prescribe it for you. (D) sorry i am unable to prescribe it. It is also inaprropriate to prescribe meds over the

< Notes

O CBS symyoms - chlamydia - mechanism poocha tha

O Aseptic arthritis — no organism found on gram strain (thought it could be gonorrhea or chlamydia) options mn mechanism of injury tha two were very similar don't remember the options

O Polyarthritis nodosa ki presentation you'll test for hep.B

- Female with hypertension labs were decreased renin decreased aldosterone option could easily be excluded.

- Vague history of so many past histories koi 15-16 lines ki kahani ki and asked what will you see on presentation today. First line mn bataya tha diziness when standing ans was decreased blood pressure when standing.

- On more female presented with decreased appetite stops eating midway weight loss or phir bht lambi past medical history unke drugs she's taking. Cause ? Metformin
- Polycythemia - jak2

- Aortic prothetic valve blood smear showed ghigtncvtë - mechanic.trauma

1. Thumb dermatome
2. Loss of sensation on dorsum of foot.which nerve damage?

3. Posterior displacement of knee.which structure damaged?no ligament was mentioned.
4. Gout
5. Sensation problem in thumb,index and middle finger?median nerve
6. Prepatelar bursa
7. Comparment syndrome-a cut is to be given which structure will me damages
8. Lambertaton syndrome
9. Polycythemia vera 2 questions- JAK 2 mutation, 1 was itching after bath
10. AML 2 questions

1 1 . Hereditary spherocytosis

12. G6PD
13. Porhyria
14. Hemolytic anemia 2 questions

1 5. Malignant melanoma treatment MAO

1 6. HIT antibody

17. 2 week starvation what will happen to levels of glucose, fatty acid,B hydrobutarate

18. CKD

19. AT N

20. AIT

21 . Calcium oxalate stone

22. Stone in kidney of pregnant patient

23. biostat questions were tough

24. One was sensitivity and specificity is 0.95,prevalnce is 50%.what is PPV?

25. Incidence

26. One was about mortality rate after 4 years(randy neil video)

27. Positive skewed

28. 2 3 bias question 29. Bradford hill criteria

30. CI

31 . ADH> SUPRAOPTIC NUCLEI

32. Effe t of OCP on free T4,total T4,TSH
33. 1 1 B hydroxylase deficiency
34. Central DI >damage to hypothalamus
35. Hyperthyroidism
36. Medullary carcinoma
37. Anaplastic carcinoma
38. Hyperaldosteroneism
39. Neural tube defect
40. Gliosis cell involved>astrocytes

41 . Slow wave sleepstage 3 non rem

42. Bedwetting, drug given will effect which sleep stage.
43. Truncal ataxia,finger nose test affected.forgort what they asked
44. Which nerve supplies sensory to lateral forehead and eyelid
45. Trigeminal neuralgia
46. Corneal reflex impaired,nerve damages

47. Subarachinoid hemorrage case what will you ask in family history>ADPKD
48. Creutzfeldt Jakob disease>spongiform cortex
49. MS,oligocolonal bands>oligodendrocytes damaged
50. 2 3 CNS tumors with histo pics,difficult to diagnose
51 . Explosion,now difficulty hearing>weber and rinnes will be localized where
52. Glucoma drugs will acts on which receptor? Alpha,beta?
53. Shortest acting benzodiazepines?
54. Malignant hyperthermia>ryanodine receptor
55. Operant conditioning
56. Child abuse
57. ADHD drug MAO
58. Mania>pressured speech
59. Schizoaffective/schizophreniform disorder
60. MDD
61 . Panic disorder drug

62. Illness anxiety disorder
63. Gender dysphoria
64. Opiods withdrawal
65. Antidepressants pic in page 598 FA2022.was asked Adhd drug will act where
66. Single kidney..imapired function of what?
67. Duplex collecting system gross pic was given
68. Acidbase disorder 2 questions
69. Crescentic GN..which type of Hypersensitivity reaction?
70. Urinary incontenance

71 . Hydrochlorothiazide >gout

72. Patient taking multiple drus
.ACEl,statins...now inc CKB..why?
73. Isotretinoin use till 10 week pregnancy..what defect will happen?
74. Fetal alcohol syndrome 75. Patient with difficulty to conceive ,have

atropy of testies what will get impaired

76. Poop through umblicum,what defect?
77. One CT scan was given in 2 planes was showing vagina and uterus, 1 5F ,no menses and vagina was enlarged.defect in what?i marked hymen option
78. Kidney LN drainage

79. Another CT scan of lower abdomen with enlarged cyst..wasn't sure about where was it.was asked from which cell it is arised?seemed liked a cyst in
ovary

80. Nbme 28 histo pic of urethra of male.same pic was asked foley will be inserted in which part..same pic in USWA 1

81 . Kallman syndrome

82. Androgen insensitivity syndrome

83. A question from ovarian carcinoma ot sure from where was it

84. Mastitis

85. BPI-H

86. NRDS

87. Age related changes in lungs

88. CO poisoning

89. COPD

90. Pulmonary fibrosis and pleura plaques in a female superintendent..marked asbestosis bcz of plaques..plz confirm

91 . Worsening asthma..already taking corticosteroids and B agonists what other interventio ..? Options:do nth,antileukotrienes,antimonoclonal?

92. Acute transplant rejection.
Mechanism?

93. Acute blood loss,6 bags of blood transfused..suddenly rejection starts..mechanism?

94. Alot of pneumonia questions from micro..i hate micro so didn't like them much

95. 2 murmur audios.one was AS other couldn't diagnose
96. V3-V6 lead changes
97. Atrial flutter ecg..defect where?
98. Hot bath..what will happen?was asked about preload,after load
99. Physiological spliting will b heard where?had to mark on chest
100. TOF
101. Atheroseclerotic histo pic
102. HF
103. CT of aortic dissection
104. Dilated cardiomyopathy
105. 1 histo pic of heart..what is deposited?was mention about amylodosis
106. Most commonly damaged in sternal trauma>AV
107. Infective endocarditis 2 3 questions. 1 was a pic of splinter mehorrages,other was asked aboutorganism
108. Rheumatic fever murmur was asked
109. Drug asked which will help in lowering risk of cardiovascular event but no statins was mentioned
110. Digoxin mechanism asked with pic
111. TIPS procedure done..will drain i to which vein?
112. Histo Picture on page 371 of FA 2022 was asked to mark parietal cells
113. Lipase deficiency in CF
114. Metaplasia in chronic GERD
115. Gastritis 2 queations
116. Crohns 2 questions

1 1 7. Celiac disease

1 1 8. Appendicitis

1 1 9. Meckel diverticulum Tc pertechnetate scan..which tissue will uptake it?

1 20. Intussusception

1 21 . Lynch syndrome

1 22. Liver cirrhosis

1 23. Rotor syndrome

1 24. Wilson disease>decreased excretion in bile

1 25. Acute pancreatitis

1 26. FA 2022 page 407 pic..was asked
MAO of omeprazole

1 27. Profuse diarrhea ..which nutrients should be given

1 28. Anemia of chronic disease

1 29. Spleen removal>encapsulated organism infection.s pneumonia was mentioned

1 30. 2 3 hemolytic anemias were asked

1 31 .ITP

1 32. Factor v leiden

1 33. CD 15 CD 30 mentioned ,hodfkin lymphoma was also mentions ..forget what was asked

134. M M

1 35. Infliximab given..First check for TB

1. Paraortic (testes)
2. External hemoroids pic and asked affected superior rectal artery
3. Paget disease case
4. Fibromyalgia case (point tenderness) ERP was not raised
5. Medium sized vasucilitis (Hep B)
6. Esophagus pic : metaplasia (columnar cells asked)
7. Spindle cells slit (HHV8)
8. Calcium pth arrow qs primary hypo
9. Incomplete penetratence (Brca mutation)
10. Von gerike (glucose 6 phosphates)
11. Famlial hypocalcuira (CAS-R)
12. Mc ardle case enzyme?
13. Tension pneumothorax case arrow on tactile fremitus and breath sounds (i did both down)
14. Patient spa 176F temp : i marked dec preload
15. Bph case treatment asked : alpha 1 blocker
16. Thyroid case hypo: antibiodies against(i did tpo)
17. Sinustis , patient have headache as well which inc when head down, i felt is MOPS and was asking additional finding : I did typmanic membrane bulging
18. Thalamic pain syndrome
19. Pedigree given asked how % chance? It was something only coming from mother so i did 100% heteroplasmy
20. Vit A case : dry hair alopecia excess vit A
21. Vit b12 case
22. Albinism enzyme : tyronisase
23. Ph 9.0 stone : which enzyme property : urease
24. Experimental qs on candida on mice, improvement etc : i marked neutral ph (thinking that candida don't change ph) 25. PKU : BH4
26. IDA: malnutrition

27. Lung from? Foregut endoderm , midgut endoderm hindgut endoderm
28. Holoprosencephaly case : asked defect in i did prosencephalon
29. Wpw : ecg was given accesory pathway of kent
30. Patellar syndrome case : pain on flexion due to excessive sitting
31. Positive skewed graph
32. Patient had molar tooth extraction branch of which nerve at risk of damage i did trigeminal thinking mandibular branch (infe areolar branch)
33. Oral thursh due to ? Glucocorticoid
34. Same case not scrapble
35. Hodgkin lymphoma : due to b lymphocytes
36. Anterior spinal artery etc , exactly was not mentioned some other artery mentioned
37. Gravid female having premature contraction with tocolytics which additional drug given act at? I did lamellar bodeis
38. Sperm count normal but couple come with infertility issue and they asked what prevented sperms : i did tight juction occuldins
39. Babesios case : connecticut
40. Diffuse lung infiltration patient has hx of any skin cancer : i did melanoma thinking it metastis to lungs
41. Alchol case : which receptors i did gaba
42. They said a nerve injury due to which wadling gait : i thought of trendleburg sign and marked same side patho causes opposite leg to drop down
43. Osler syndrome (av malformations): i did small dilated veins
44. Entamoeba Histolytica
45. Cirrohtic patient edema cause : dec plasma oncotic pressure
46. Intussipating mass case
47. Lung mass hypercalceima PTHrp
48. Iron absorption: duodenum
49. Hypocalcemia etc seems like digeorge -CD3
50. Duptyern contracture fibroblast
51. Crest syndrome fibrosis

52. RUQ pain pain radiating shoulder phrenic nerve
53. Methylphenidate moA
54. Mvp squatting murmumr dec standing inc
55. Marfan case : fibrillinn defect
56. Lynch syndrome mismatch repair
57. Itp antibodies against 2a/3b
58. Opoid withdrawal case
59. MDD case
60. Cholestrol emboli syndrome
61. Lachman test positive (ACL)
62. Mucosal neuroma
63. Rheumatoid arthritis
64. Psoriasis case
65. Intermittent claudication PDE-5
66. Circadian rhythm
67. Malformation risk : 6 weeks
68. Swimmers ear pseudomonas
69. Klinfiter case : meotic non disjunction
70. 2 sounds
71. Foot drop case : fibular nerve
72. Trichophyton microsporum.
73. 17 hydroxyprogestone inc which hormone inc, androstenedione
74. Urgenevy mein muscuranic anatogonist
75. IgA
76. Obese people what dec? Hormones given gastrin , leptin,
77. Straddle injury — urethrra
78. Tuberous sclerosis

79. Septic shock arrows

80. Folate nucleotide synthesis

81. Female already on antidiabetic what additional drug : biguanides (metformin) as obese

82. Brain abscess nocardia

83. Telephone interpreter

84. Gram positive clusters : strep pyogens

85. 9:22 cml

Imflamtory phase
3 hours - 5days
PDGF , VEGF , interleukin
1
Tnf a , TGF b

* cells seen post injury 24hrs - Neutrophils
* Hypovolemic shock up & down arrow SVR, CO, PCWP.
* Pt present with tongue swelling, facial swelling, difficulty in breathing hours after dental procedure - what is cause Ans Decreased CI esmarsk intubation.
* In allergic reaction the initial tissue response - Histamine
* Pt with skin reactions & hives which cells are implicated - Mast cell.
* Auscultation of Abd content in the chest xray (left) - Ans left pleuroperitoneal membrane - Diaphragmatic hernia
* Pt with acute resp. distress no other history given lungs markings with bronchioles and clogs given, asked what is the cause of death. bronchial asthma & Bronchial artery embolism were the related answer I went with bronchial asthma.
* Asthmatic pt with cough & eosinophil - Ans aspergillosis
* pt with flea bitten & rough surfaced nail - Cause asked. I went with heart disease - Infective endocarditis
* A 38 yr- old pt with Diabetes, presented with erectile dysfunction and is on abutest but drinks 16oz day, & smokes occasionally what is the risk factor medication side effect - Dibates mellitus
* 4 Question asked on risk factors which is Ans Smoking
* One pleural effusion case where everything is ↓ - Dull percussion , dec fermitus , dec breath sound
* Renal cell carcinoma
* Pancreatic
* Lung cancer
* Larageal carcinoma

* Picture of a Nephron - Enzyme are decrease phosphate, amino acid and water, HCO_3, where does it occur - PCT
* Another Nephron - Thick ascending limb tapped - K, Na, Cl
* In hyperkalemic condition excretion of excess K^+ occurs - Ans Collecting tubule
* Central diabetic insipidus - where we have hyperosmolarity & dilute urine in a pt with head injury that affects Sella turc
* Picture of a Renal cell carcinoma.
* RET
* Dilated calyceal system due to BPH.
* Female with unilateral flank pain Nephrolithiasis.
* Nephrotic syndrome parameters in 4 yr old child. Pr - 3+, RBC, minimal, fat cells - Ans Minimal change dyse
* Mifepristone - Abortion
* ARB - Angiotensin receptor blocker - Causes Efferent arteriolar dilatation thus ↓ GFR, ↓ FF, ↑ RPF
* In the case where Ca^{2+} enters the cell what does it cause
  (a) ↑ velocity of muscle contraction
  (b) ↑ Amplitude of action potential
  Ans (c) Repeated muscle contraction of the fibres
* A 12 yr old had a mass felt on the abd. at L3 Vertebra & has had a recurrent UTI from Age 2 yrs. Ans Horse shoe kidneys
* Pt with Sign & symptoms of decompensated heart failure, periph edema & crackles, S3 which Rx.
  (a) Na/Cl inhibitor, (b) Na/K/2Cl inhibitor (c) Carbonic anhydrase inhi

Competitive inhibitors of progestin at progesterone receptors

* A Postmenopausal woman came to ED with c/o urinary incontinence – Ans decrease muscular closure of urethra. (pressure not there)
* A preg. HTN female on ace inhibitor throughout preg. had oligohydramnios which led to pulmonary hypoplasia in baby. Question which other defect will baby have o/E : Ans club foot.
* Question on oligoclonal bands – Ans oligodendrocytes.
* Dermatomyositis with hyperemia on the dorsum of both hands in 65-yr old woman – what do you examine for Ans muscular weakness.
* Picture of (Xray of Ant penile injury) – Site injury not sure if penile or bulbous urethral.
* A Picture of baby (Girl 16 yrs.) with hyperemic palm & diminutive digits – fanconi anemia.
* Eye lashes turns darker – Ans ↑ Prostaglandin E_2
* Renal interlobar arterioles narrows because of ? (a) Endothelium 2, (b) decrease ✓ prostaglandin in a pt exposed to NSAID. I picked this.

Rheumatology

* Tophi on great toe – which pathway purine metab/path
* Pt presented with severe acute pain at the ED & is being treated for cml & pain is felt at the elbow, wrist & great toe. How will you Treat – Cyclooxygenase pathway inhibitor.

Tumor necrolysis syndrome

* A carpenter who uses s... repeatedly feels pain at the antecubit... ...ndon is injured

Ans Biceps Brachii

12

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* Renal interlobar arteries narrows because of ?
(a) Endothelium 2, (b) decrease prostaglandin in a pt exposed to NSAIDs. I picked this.

Rheumatology

* Tophi on great to - which pathway purine metab/path
* Pt presents with severe acute pain at the ED & it being treated for cml & pain is felt at the elbow, wrist & great to. How will you Treat - Cyclooxygenase Pathway inhibitor.
* A carpenter who uses screwdriver repeatedly feels pain at the anterior cubital fossa wc Tendon is inflamed Ans Bicep. Brachi

* Sequence of shoulder abduction -
  0-15 → Supraspinatus → 15-90 → Deltoid → > 90 → Serratus anterior
* Baby born breech - And Developmental dysplasia of the hip
* 2 months old baby has 3 thigh creases on the right & 2 on the left - And hip dislocation on the right.
* 14 yr old boy who involved in sports injuries (Jumping) has pain & could not bear weight on the leg. And : Patellar dislocation.
* A new born baby with GGT of 77 Supple, AST & ALT. normal, And biliary atresia.
* In a pt with cholecystitis with gram-ve organism implicated which other organism can you treat in Ans Enterococcus (Ecoli , liver fluke)
* Pt with ↑ Ca2+ / hypercalcemia & a lesion is suspected mid lesion will produce (A) ACTH (b) PTHrP
* Polycythemia Vera : JAK stat mutation
* Before initiating TNA inhibitor - Do PPD
* Cause of Absence Seizure - T-type Ca^{2+} channel.
* mechanism of inhibiting pain - blocking of voltage gated Na^+ channel.

Local anesthetic

- An Elderly 72yrs. man doing well [crossed out] living alone, doing shopping alone later start missing his way to the house, recall 2 out of 5 questions - which part of the brain is affected - Nucleus basalis of meynert.

- family hx of cancer mutation - Ans MLH1

- A pt with this disease finding 14-3-3 - Ans Spongiform Vacuolation

- A child with fatty chalky stool, hx of cystic fibrosis - Ans Vit E

- A 30yr old lady when compared with a 68 yr old would need what - Ans Iron.

Iron deficiency anemia

- A picture of a child that shows white eye reflex Ans cell cycle defect. No Rb.

- pt with hyperreflexia, red spot in the eye & hypotonia; Ans hexosaminidase A.

T sac disease

- mother with mitochondrial inheritance expresses less defect than her son - Reason - Chromosome X lyonization lyonisation

- A pt has increased homocysteinemia & normal methylmalonate Ans - folic Acid

A 56 yr old woman has endometrial Ca, brother has colon CA resected 6 yrs ago - which process is impaired in family - mismatch repair gene

- A child took primaquine came down with anemia, echymosis, Ans defect in NADPH.

- The organ that maintains balance in woman who was having vertigo & bel rotation - Semi circular canal.
- Continous declining in hearing in a young man what is implicated - Ans Medial cerebellar body.
- Upper 3rd molar extraction Nerve implicated that mediates pain - Ans Trigeminal Nerve
- Uvula deviated to the left - Ans Right Vagus Nerve
- Starvation for 1 week what stops from glycogenolysis
- Hereditary fructose intolerance - Aldolase B - defect
- Hypoglycaemia, jaundice, cirrhosis, vomiting
  Symptoms present with consumption
  Of fruit juice , honey
- Pipecolic (VLCFA) Phytanic accumulation - Peroxisomal
- A man with lesion on the side of the nose & a farmer as occupation - Base excision repair (No nucleotide excision the optimi
- A patient with CLL develop acute pain in the toe. The cause is due to which pathway - purine degration.
- Motor , verbal , cognitive defects , ataxia , scoliosis ,
  Hand wringing
  Defect in MECP2 defect on X chromosome
  Baby girl doing well but regressed over time what else will occur in the baby - Swinging hand movt
- Parents switched their overweight child from high fat meals to high carbohydrate meals & came with complaints that their child is not losing weight. Question what will happen 2-3 hours after eating. Ans ↑ acetyl CoA to malonyl CoA

- A 40 yr old came to ED Complain of Jaundice, leg swelling He is a known alcoholic with Cirhosis under treatment O/E: hypotensive, RR ↑, fluid thrill, pitting edema. where in the cell is the defect. Ans Golgi RER.

- Excess cholesterol in the systems which enzyme helps us in clearing - Ans HMG COA mutase (option given)

7 alpha hydroxylase

- A malaise & dyspnoeic 65 yr old old pt having Aortic stenosis where will pressure ↑ - Ans Carotid arteries

- ECG with long QT interval - Ans Voltage gated K^+ channel.

Torsead de points

- Congenital long QT syndrome with deafness - Cause Ans decrease K outflow.

Jervell and Lange neilson syndrome

- A man died in the hospital and has renal interlobar artery narrowed. Cause of death hypertension.

- A hypertensive pt has S4.

- what increases & decreases murmur respectively - standup & Squatting.

Hypertrophic cardiomyopathy Inc on valsalva and standing Dec with squaring

- A female newborn has harsh systolic murmur at the left upper border of the heart. She was baby shaped & later murmur disappeared. Echo shows no abnormality

Ans PDA

- A pt with murmur maximal at the apex and radiated to the left axilla - Ans mitral regurgitation.
- passage of stent through the/close to the pericardium, which structure is prone to injury - Ans phrenic nerve.
- Structure of pancreas showed in the GIT. what type of necrosis occurs - fat necrosis.
- penetrating injury to the ~~chest~~ on the left sternum - structure injured Rt ventricle.
- Picture of Atrial fib ECG.
- tumor in left heart - Ans Atrial myxoma.

1. Obstructive sleep apnea case asking for pathophysiology

2. Biostats: test has sensitivity and specifity of 95% each, and disease prevalence is 50%. What is PPV and> 95
3. Mitral regurgitation murmur
4. DOC for congenital long qt syndrome. ECG given > B Blocker
5. MDD case
6. Atypical depression
7. Fibromyalgia presentation given. Asked for diagnosis
8. Vitamin A excess presentation given. Asked for which vitamin is cause
9. Folate function > Methylation
10. T11;14 translocation is present in which pathology > Follicular lymphoma
11. Most common cause of otitis media > Strep pneumonia
12. Aortic stenosis murmur
13. Biostats: Interviewed patients of obesity on perception of general public > Focus group
14. Biostats > Calculate NNT
15. Histo pic of tear drop rbc, diagnosis > Mvelofibrosis

16. Picture of hemangioma. What is the embryonic derivative > Mesoderm?
17. Contact dermatitis picture > Type 4 hypersensitivity with T Cells involved
18. Old age erectile dysfunction and decreased libido > low testosterone
19. Zollinger ellison syndrome
20. Insulinoma
21. 2 months old presents with vomiting. Double bubble sign on xray. Obstruction of duodenum > annular pancreas
22. Patient with typical presentation of cocaine overdose. Mechanism of action of coocain > Inhibit norepinephrine reuptake
23. Patient with bulemia nervosa. What is MOA of drug of choice > SSRI inhibit serotonin reuptake
24. Lambert eaton syndrome > presynaptic ca channel antibodies
25. Hamartoma diognosis asked
26. Kallman syndrome diagnosis asked with typical presentation along with loss of smell
27. Lynch syndrome with ovarian and endometrial cancer hisyory given > MSH2

28. Histology of urothelial carcinoma risk factor > smoking
29. Patient with recurrent thrombosis and anti cardiolipin antibodies positive > antiphospholipid syndrome
30. Cancer patient with vomiting. MOA of drug to stop vomiting > 5HT3 receptor antagonist
31. Female with low platelets. Around 30k i guess. What is diagnosis > ITP antibodies against gp2b/3a
32. Median nerve lesion. Patient can not button his shirts
33. Common peroneal nerve lesion.
34. Back pain, loss of ankle reflex. Where is lumboscleral location located > l5-s1
35. Patient with short limbs and large head. Parents are normal> FGFR3 (achondroplasia)
36. Pedigree of Mitochondrial disorder. Mother and all children affected. What is the chance of next child being affected > 100%
37. Old age patient with vertebral compression fracture. What is the MOA of the drug of choice > Bisphosphonate

38. Osgood schlatter disease diagnosis. Young boy with tibial pain
39. Osteosarcoma patient 20 years old. What is common risk factor > i forgot the options
40. Xray of tophi. What is the cause > uric acid crystals
41. Patient with hyperparathyroidism has pain and swelling of joint. Rhomboid shaped crystals are present. What is the risk factor in this patient > Hyperparathyroidism (it is a case of pseudogout)
42. Which cytokine is involved in rheumatoid arthritis(presentation of RA was given not the diagnosis) > Th17
43. Presentation of kaposi sarcoma given. Which organism is involved > HHV8
44. Presentation of medial medullary syndrome with tongue deviation. Cause > Anterior spinal artery thrombosis
45. Patient has hamartoma, hypopigmented spots. What else will you find in this patient > Subependymal tumor (it is case of tuberous sclerosis)

syndrome with tongue deviation. Cause > Anterior spinal artery thrombosis

45. Patient has hamartoma, hypopigmented spots. What else will you find in this patient > Subependymal tumor (it is case of tuberous sclerosis)
46. Patient gets naked in public > Histrionic personality disorder
47. Patient has many complains and has gone to many physicians > Somatic symptom disorder
48. Patient with generalised anxiety disorder. Mechanism of action of drug > SSRI

MAY 21, 2024

1) Low T-cell, Allopurinol → 6MPT

2) Mismatch repair, Lynch S' → MLH-1

3) E7 ⊖ → Rb gene

4) unable Long fatty acid chains – peroxisomes

5) Tetanus injury, what is used by virus → Dynein + Microtubule

6) Bone [prx] of Arm, Bence – chondroma

7) Elastase → Emphysema

8) One of Biostats Question [unable to Recall] → 0.027 (2.7%)

9) Family tree, Grandpa ⊕, parents ⊖, Kids ⊕ → Incomplete penetrance.

10) girl, laughing, Angelman → Maternal - deleted
Paternal - silenced.

11) - dehydration, salt wasting - Cystic fibrosis

12) Fragile X s' - Hypermethylation

13) gene translocation (14:18) - Apoptosis (BCL-2)

14) ? Nutr, why to Eat/Healthy - F.A. don't make any bodies.

15) Chronic pancreatis, - no fat absorption, Neurological Symp.

16) Chron pt., Ileectomy done, no fat absorption
- Bile Acids Lost in feces.

17) Alcoholic pt. - vit. B_7 def.

18) pt. c pigmentation - Niacin.

19) vit. D. Arrow ques. Ca^+, PTH, etc.

20) vit. K - carboxylation

21) Glutathione, Acetaminophen Overdose - Hepatic substrate conjugation is Affected.
(conjugation Competing)
∴ out of body via urine

22) ↓ pigmentation, eye defects. – phenylalanine

23) pheochromocytoma, Hyperglycemia – ↑ Epinephr. ↑ Glycogenesis

24) Mc Ardle – glycogen phosphorylase

25) ↓ LDL, ↓ HDL defect of Apo B 48-
(Abetalipoproteinemia scenario)

26) drainage of penis, metastasis goes – superficial L.N.

27) Thymoma, Myasthenia Gravis – post synaptic (R) Breakdown

28) Lambert-Eaton – mark Ca channels in diagram.

29) B27 – Can't Recall

30) ppd Tb Test; what cells help – CD8, CD4.

31) CD40L defective, unable to Activate B-cells for class switching.

32) Neisseria Meningitis - Complement def. C_6-C_9

33) Red on legs, kidneys problem, (probably HSP) - IgA

34) Nurse, gloves daily, Rxn on hands & correct - Mast cell in same day

35) ACE ⊖ taken, Eyelids swelling d/t bradykinin - Ang II

36) C1 esterase def.

37) Tb mein helped by → IL-2, 12

38) Tb is in → mein has intracellular organism of Tb

39) Infliximab given to pt. - Reactivation of Tb.

40) Catalase ⊕ organism - CGD.

41) diff. language Grandma, had daughter, wanted to use

42 Transpl Rejection. Type IV - Acute.

43) pt. given Ab's & Complex deposition in mesangium (strep.)

44) Staph. Aureus, IV drug Abuse — Endocarditis

43) Diff. language Grandma, had grand-daughter c her, wanted to use her as interpreter, there was a Nurse who spoke same language & is also certified?

→ Allow her to use Granddaughter
- Allow Nurse but send Grand daughter out
- Call another telephone interpreter
- Use Nurse & Allow Grand-daughter to stay.

44) pt c A+, given O+, plasma to be given, which → A, or O.

45) Rash on eyelids, Heliotrope — T-cell infiltration. (Dermatomyositis)

46) HIV, ↓ T-cell, Brain lesion — Toxo (pic given)

47) HIV, ↓ T-cell count, infections mentioned — CMV

48) Mononucleosis Sym. — EBV.

49) Inhaler, asthma pt, no effect noted, now DM (Albuterol)
dry to start — Glucocorticoids.

50) Echinocytes (pyc) ← pyruvate kinase

51) RBC schistocytes, ↓plt count, ↓↑ clotting factor consumption.

52) ↑RBC count — JAK-2 mut.