NEET SS 2024 Medical Group

Question Paper

Conducted by NBEMS

General Instructions

(i) This question paper consists of **150 questions**. All questions are **compulsory**.

(ii) Total duration of exam is **2 hours 30 minutes** (150 minutes).

(iii) Total marks is **600**.

(iv) Each correct response carries **4 marks**, while **1 mark** is deducted for every incorrect answer.

1. A liver transplant patient presents with diarrhoea, colitis, a total leukocyte count of 1800, and a positive blood CMV PCR. What is the next step in management?

(A) Endoscopy and mucosal biopsy
(B) Start fungals
(C) Increase immunosuppression
(D) Observation and supportive care

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2. A 32-year-old male recovering from dengue fever initially showed clinical improvement but now presents with recurrence of high-grade fever, fatigue, and pancytopenia on day 10 of illness. He is hemodynamically stable with no bleeding manifestations. Which of the following investigations should be performed first to evaluate the cause of relapse and cytopenia?

(A) Serum ferritin
(B) Triglycerides
(C) Bone marrow study
(D) All of the above

3. A 48-year-old man with chronic hepatitis C infection is being evaluated for risk factors associated with progression of liver disease. He has a 20-year history of infection, drinks alcohol occasionally, and has a high serum HCV RNA viral load. Which of the following factors is not associated with an increased risk of progression of liver disease in chronic HCV infection?

(A) Old age
(B) HCV RNA titers
(C) Chronic alcohol use
(D) Long-term chronic HCV infection

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4. A 28-year-old veterinary worker who previously received a full 3-dose pre-exposure rabies vaccination series is bitten by a stray dog while handling an animal in the clinic. The wound is cleaned immediately. What is the most appropriate post-exposure management?

(A) Immunoglobulin alone
(B) ARV 0-3 days
(C) ARV 0-3-7-14-28 days
(D) ARV 0-7-28 days

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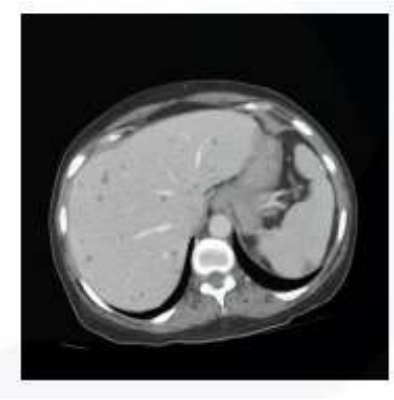
5. A 42-year-old patient undergoing chemotherapy for acute myeloid leukemia develops neutropenia (ANC < 500) and is treated with broad-spectrum antibiotics. After initial recovery of neutrophil counts (ANC $= 1500$), he again develops high-grade fever and right upper quadrant abdominal pain. Imaging shows multiple small hypodense lesions in the liver and spleen. What is the most likely diagnosis?



(A) Hepatosplenic candidiasis

(B) Typhlitis

(C) Bacterial liver abscess

(D) CMV hepatitis

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6. A 22-year-old man presents with testicular pain and swelling 5 days after an episode of parotid gland enlargement and fever. Ultrasound confirms orchitis. He reports that he was not vaccinated in childhood. Which of the following statements regarding mumps orchitis is true?

(A) Subfertility occurs in 30-80%

(B) Vaccination provides lifelong immunity

(C) Parotitis lasts 3-12 months

(D) Meningitis is unlikely

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7. A 45-year-old man presents with chronic diarrhea, significant weight loss, and arthralgia. Endoscopic biopsy of the small intestine reveals numerous foamy macrophages in the lamina propria that stain positive with Periodic Acid–Schiff (PAS). What is the most likely diagnosis?

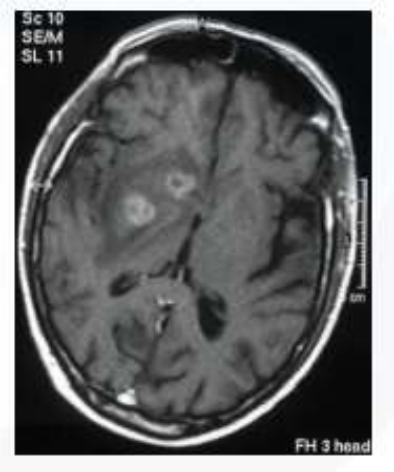
(A) Tropical sprue

(B) Celiac disease

(C) Whipple's disease

(D) Giardia infection

8. A 38-year-old HIV-positive man with a CD4 count of 38 presents with fever and generalized tonic-clonic seizures. MRI brain reveals two ring-enhancing subcortical lesions without any specific differentiating features. What is the most likely diagnosis?



(A) Toxoplasmosis

(B) Tuberculosis

(C) Neurocysticercosis

(D) Primary CNS lymphoma

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9. What is the drug of choice in the treatment of liver abscess?

(A) Metronidazole

(B) Azithromycin

(C) Drainage

(D) Needle aspiration

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10. Understanding the pharmacokinetics of Amikacin is important because it helps clinicians to:

(A) Give once daily

(B) Give twice daily

(C) Give thrice daily

(D) Given only in combination

11. what is the most common cause of reactive arthritis in a patient with diarrhea and dysuria?

(A) Treponema pallidum

(B) mycoplasma

(C) Salmonella

(D) streptococcus

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12. A 7-year-old unvaccinated child presents with a history of sore throat and fever 3 weeks ago. The child now develops nasal regurgitation of fluids, facial deviation, and tongue weakness with numbness. On examination, there is palatal paralysis and a nasal twang to the voice. What is the most likely diagnosis?

(A) Diphtheria

(B) CMV

(C) Guillain-Barré syndrome (GBS)

(D) Quincy abscess

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13. A 42-year-old HIV-positive patient on antiretroviral therapy with stavudine presents with progressive motor weakness, tingling in the limbs, hepatomegaly, and metabolic acidosis. Laboratory evaluation shows elevated serum lactate levels, and neurological examination reveals large fiber sensory loss. What is the most likely diagnosis?

(A) Toxic neuropathy

(B) HIV neuropathy

(C) HIV myelopathy

(D) Neuromuscular disorder

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14. A 60-year-old man presents with high-grade fever, headache, neck stiffness, and altered sensorium. Cerebrospinal fluid (CSF) examination is pending, but clinical findings are highly suggestive of bacterial meningitis. Which empirical antibiotic regimen should be started immediately?

(A) Ampicillin
(B) Ampicillin + Vancomycin
(C) Ampicillin + Vancomycin + Ceftriaxone
(D) Ampicillin + Cefotaxime

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15. A 45-year-old man on antitubercular therapy is found to have a rifampicin-resistant strain of Mycobacterium tuberculosis on GeneXpert testing. Which of the following best explains the mechanism of resistance?

(A) Inactivating enzymes
(B) Activating enzymes
(C) Altered target enzymes
(D) Efflux of drug

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16. A 35-year-old man from Bihar presents with prolonged fever, weight loss, and hepatosplenomegaly. Laboratory findings show pancytopenia. Which of the following is considered the gold standard investigation for confirming the diagnosis of leishmaniasis?

(A) Bone marrow biopsy to demonstrate amastigotes
(B) Blood culture
(C) rK-39
(D) PCR

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17. A 28-year-old pregnant woman in her first trimester undergoes routine antenatal evaluation. Urine culture reveals >100,000 CFU/mL of E. coli, but she remains asymptomatic. What

is the most appropriate next step in management?

(A) Screening in first trimester and management accordingly
(B) Management/antibiotics only if symptomatic
(C) Screening in third trimester and treat only if positive
(D) Treat only in third trimester

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18. A 58-year-old man presents with left lower quadrant pain, low-grade fever, and leukocytosis. CT abdomen shows diverticulitis with a small pericolic abscess. What is the first step in management?

(A) IV antibiotics
(B) CT-guided drainage
(C) Surgical resection
(D) Conservative management only

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19. A 48-year-old man undergoing chemotherapy for acute myeloid leukemia presents with high-grade fever, chills, and hypotension. Laboratory tests show an absolute neutrophil count (ANC) of 300 cells/mm^3. Blood cultures are pending. Which of the following organisms is most commonly responsible for sepsis in patients with febrile neutropenia?

(A) Escherichia coli
(B) Streptococcus pneumoniae
(C) Pseudomonas aeruginosa
(D) Enterococcus

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20. A 45-year-old patient with acute myeloid leukemia undergoing chemotherapy develops high-grade fever with chills and a total leukocyte count of 400 cells/mm^3. Blood pressure is stable, but the patient has mucositis and no localizing source of infection. Which of the following is the most appropriate empirical antibiotic regimen to start?

(A) Meropenem

(B) Ceftriaxone

(C) Piperacillin-tazobactam + Gentamicin

(D) Vancomycin alone

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21. A 32-year-old woman with relapsing-remitting multiple sclerosis presents with a positive Lhermitte sign indicating cervical cord involvement. She has low JC virus antibody titers and wishes to conceive in the future. Which of the following disease-modifying therapies is most appropriate for her?

(A) Fingolimod

(B) Interferon gamma

(C) Natalizumab

(D) Teriflunomide

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22. A 28-year-old woman in her third trimester presents with jaundice, malaise, and elevated liver enzymes. Serology confirms Hepatitis E infection. Which of the following statements regarding Hepatitis E infection in pregnancy is true?

(A) Acute liver failure (ALF) is more severe in 1st trimester than 3rd trimester

(B) ALF is more common in pregnancy than in non-pregnant state

(C) Chronic liver disease is more common in pregnancy

(D) It is the most common cause of ALF worldwide

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23. A 48-year-old male with acute hepatic failure is being evaluated for liver transplantation. His urine test shows ethylene glycol positivity. Which of the following constitutes an absolute contraindication to liver transplantation?

(A) HIV infection

(B) Urine ethylene glycol positive

(C) Coronary artery disease with EF 40%

(D) Coronary artery disease with 85% stenosis

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24. A 22-year-old male presents with progressive tremors, slurred speech, and personality changes over the past few months. On examination, he has mild hepatomegaly, dysarthria, and a brownish ring around the cornea visible on slit-lamp examination (Kayser–Fleischer ring). Laboratory evaluation shows mildly elevated liver enzymes. Which of the following is the definitive diagnostic test for Wilson's disease?

(A) Hepatic copper content

(B) Serum copper

(C) Urine copper

(D) Serum ceruloplasmin

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25. A 52-year-old man with long-standing alcohol use presents with jaundice and mild ascites. Laboratory tests show total bilirubin of 4.8 mg/dL, AST 48 U/L, ALT 45 U/L, and INR 1.8. Viral hepatitis serology is negative, and ultrasound shows a coarse echotexture liver with features of portal hypertension. What is the most appropriate method to determine the cause of cirrhosis in this patient?

(A) Liver elastography

(B) Transjugular biopsy

(C) Percutaneous biopsy

(D) FNAC liver

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26. A 35-year-old man with a 5-year history of ulcerative colitis presents with mild jaundice and fatigue. Liver function tests show mildly elevated ALT and markedly elevated ALP. Ultrasound of the abdomen reveals a normal biliary tree with no stones or ductal dilatation. Which antibody is most likely elevated in this patient?

(A) AMA

(B) p-ANCA

(C) SLA

(D) Anti-LKM

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27. A 48-year-old woman presents with progressive fatigue and pruritus. Laboratory tests reveal markedly elevated alkaline phosphatase and mild elevation of transaminases. Ultrasound shows normal bile ducts. Which of the following antibodies is most likely to be positive in this patient?

(A) Primary biliary cirrhosis

(B) Primary sclerosing cholangitis

(C) HCV infection

(D) Autoimmune hepatitis

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28. A 28-year-old woman presents with fatigue, jaundice, and elevated liver enzymes. Autoimmune markers are positive for ANA and anti-smooth muscle antibody, and a liver biopsy confirms autoimmune hepatitis. She is started on corticosteroids. Which of the following drugs should be added to steroids to maintain remission and minimize steroid toxicity?

(A) Rituximab

(B) Mycophenolate mofetil

(C) Cyclophosphamide

(D) Azathioprine

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29. A 35-year-old healthy female donor is found to be HBsAg positive during routine blood donation screening. She is asymptomatic with no known liver disease. As part of evaluating her infectious status and risk of disease progression, what is the next best step in her evaluation?

(A) Viral load

(B) IgM levels

(C) Check for Hepatitis D

(D) Anti-HBc IgM

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30. A patient undergoing therapeutic phlebotomy every two weeks shows a decrease in hemoglobin from 18 mg/dL to 14 mg/dL. As the hemoglobin approaches normal levels, the frequency of phlebotomy needs adjustment to maintain target hemoglobin and prevent anemia. What should be the next step regarding the interval of phlebotomy?

(A) Stop therapy

(B) Once a week

(C) Once in 2 weeks

(D) Once every 4-8 weeks

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31. A patient is diagnosed with hepatocellular carcinoma (HCC) measuring 5 cm. What is the treatment of choice?

(A) TACE

(B) Sorafenib

(C) Transplant

(D) Palliation

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32. A 45-year-old man with a history of heavy weekend alcohol consumption is brought to the emergency department with confusion, hallucinations, and ataxia. His friends report that he had been vomiting for two days and had poor oral intake before the episode. On examination, he is disoriented with horizontal nystagmus and unsteady gait.
Options:

(A) Antipsychotics

(B) Benzodiazepines

(C) IV fluids + Thiamine

(D) Hemodialysis

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33. Which of the following cells are primarily responsible for fibrosis formation in chronic liver disease due to remodeling?

(A) Stellate cells

(B) Kupffer cells

(C) Hepatocytes

(D) Endothelial cells

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34. A 52-year-old patient is found to have a liver lesion during an ultrasound examination performed for abdominal discomfort. The lesion's nature is unclear on ultrasound. To further characterize this lesion and assist in diagnosis and management planning, what is the next best imaging investigation?

(A) Triple phase CT

(B) MRI abdomen

(C) PET-CT

(D) Liver biopsy

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35. A patient, after undergoing extensive intestinal resection, now presents with progressive unsteadiness, difficulty walking, and symptoms of peripheral neuropathy. Considering the clinical context of malabsorption following bowel surgery, what is the most likely nutritional cause of the neurological symptoms?

(A) Vitamin E deficiency

(B) Vitamin B12 deficiency

(C) Thiamine deficiency

(D) Vitamin A deficiency

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36. A 40-year-old woman with a history of oral contraceptive use presents with right upper quadrant pain, hepatomegaly, and mild ascites. Laboratory findings show elevated liver enzymes and mild hyperbilirubinemia. The clinician suspects Budd-Chiari syndrome or portal cavernoma secondary to chronic portal vein thrombosis. Which is the best initial imaging modality to confirm the diagnosis?

(A) Doppler
(B) CT abdomen
(C) MR venography
(D) Liver biopsy

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37. A patient presents with bleeding gums and other signs suggestive of a nutritional deficiency. Considering the role of vitamins in maintaining vascular and tissue integrity, which vitamin deficiency classically causes bleeding gums?

(A) Vitamin C
(B) Vitamin K
(C) Vitamin B12
(D) Vitamin D

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38. A 38-year-old man from a rural area presents with progressive fatigue, pedal edema, and breathlessness. He reports consuming mainly polished white rice for several months with minimal protein intake. Examination reveals tachycardia, bilateral pedal edema, and elevated jugular venous pressure. No murmurs are heard. Which of the following vitamin deficiencies is the most likely cause of his condition?

(A) Vitamin B2
(B) Vitamin B1

(C) Vitamin B6

(D) Vitamin B12

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39. A patient presents with painful cracks at the corners of the mouth (angular cheilitis) and a swollen, red, smooth tongue (glossitis). These mucosal changes suggest a nutritional deficiency affecting the oral mucosa. Which vitamin deficiency is most characteristically associated with angular cheilitis and glossitis?

(A) Vitamin B2

(B) Vitamin B3

(C) Vitamin B6

(D) Vitamin B12

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40. A 45-year-old man with chronic alcoholism and severe malnutrition is started on total parenteral nutrition (TPN). After 24 hours, he develops muscle weakness and respiratory distress. Laboratory tests reveal markedly low serum phosphate levels. What is the most likely underlying mechanism responsible for his condition?

(A) Hypophosphatemia

(B) Hypokalemia

(C) Hypomagnesemia

(D) Hyponatremia

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41. A gastric ulcer located along the lesser curvature is found to be H. pylori positive on biopsy from the antrum. Which of the following statements regarding follow-up testing is true?

(A) Gastric ulcers should be biopsied

(B) Re-biopsy after stopping acid suppression therapy

(C) Large/complicated gastric ulcers - follow-up endoscopy is recommended to document healing, rule out malignancy, and confirm H. pylori eradication

(D) No follow-up required once treated

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42. A 45-year-old man presents with chronic diarrhea, steatorrhea, and weight loss. A D-xylose absorption test shows low serum and urinary D-xylose levels. What is the most likely cause of this finding?

(A) Ileal disease
(B) Bacterial overgrowth
(C) Pernicious anaemia
(D) Pancreatitis

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43. Which of the following is least likely to cause chronic pancreatitis?

(A) Autoimmune pancreatitis (AIP)
(B) Alcohol
(C) Gallstones
(D) Genetic causes

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44. A 50-year-old man with chronic pancreatitis has persistent, severe epigastric pain unresponsive to opioids and enzyme replacement therapy. He undergoes a celiac plexus block for pain relief. Shortly after the procedure, he develops dizziness and lightheadedness on standing. Which of the following best explains this finding?

(A) Pregabalin
(B) Celiac ganglion block
(C) Endoscopy
(D) Enzyme therapy (PERT)

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45. A 58-year-old man presents with fever, jaundice, and right upper quadrant pain. Laboratory results show elevated bilirubin and alkaline phosphatase. Ultrasound reveals a dilated common bile duct with suspected stones 3-4m . Which of the following is the best diagnostic and therapeutic procedure for this patient?

(A) USG abdomen
(B) ERCP
(C) MRCP
(D) CT abdomen

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46. A patient with chronic liver disease presents with abdominal distention and jaundice. Upper GI endoscopy reveals non-bleeding varices. What is the drug of choice for primary prophylaxis?

(A) Propranolol
(B) Octreotide
(C) Midodrine
(D) Terlipressin

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47. In celiac disease, which antibody has the highest negative predictive value (NPV)?

(A) Anti-TTG IgA
(B) Anti-endomysial antibody
(C) Anti-gliadin antibody
(D) Deamidated gliadin peptide antibody

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48. A 56-year-old man presents with left lower quadrant abdominal pain, fever, and leukocytosis. CT abdomen reveals acute sigmoid diverticulitis with a 3 cm pericolic abscess. What is the most appropriate first step in management?

(A) Intravenous antibiotics

(B) CT-guided drainage

(C) Analgesics

(D) Elective colectomy

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49. A patient with ulcerative colitis on mesalazine 2.4 g/day (MAYO score 1) in remission presents with bloody diarrhoea for the past 3–4 days. What is the next best step in management?

(A) Mesalazine suppository

(B) Increase dose to 4.8 g

(C) Budesonide

(D) Stool sample for infection

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50. A 52-year-old man with a history of alcoholic cirrhosis presents with massive upper gastrointestinal bleeding. Endoscopy reveals actively bleeding gastric varices that do not respond to cyanoacrylate (glue) injection. What is the next best step in management?

(A) Repeat glue therapy

(B) Balloon tamponade

(C) EVL (Endoscopic variceal ligation)

(D) TIPS procedure

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51. A patient has completed treatment for H. pylori infection. Which of the following statements regarding follow-up testing is true?

(A) Start PPI and test after 2 weeks

(B) Repeat non-invasive test immediately after therapy

(C) Repeat endoscopy in all cases

(D) No follow-up required if asymptomatic

52. A 30-year-old woman presents with amenorrhea, oral candidiasis, and features of adrenal insufficiency. Laboratory findings show elevated FSH level as 27IU/L. Which gene mutation is most likely responsible for this condition?

(A) FMR
(B) AIRE
(C) 21-hydroxylase
(D) KAL

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53. A 34-year-old male presents with episodic palpitations, hypertension, and ataxia. Urinary studies show very high normetanephrine but normal metanephrine. CT abdomen reveals a large adrenal mass. What is the most likely underlying syndrome?

(A) NF-1
(B) MEN
(C) VHL
(D) SDHB

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54. Which of the following hormones has the longest half-life (t½)?

(A) FSH
(B) LH
(C) TSH
(D) hCG

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55. A patient with 3 months of polyuria has serum osmolality of 280, urine osmolality of 300, serum sodium 140, and no nocturnal polyuria, no H/o previous medications. What is the most likely diagnosis?

(A) Central polydipsia

(B) Nephrogenic polydipsia

(C) Primary polydipsia

(D) Bardet Biedl syndrome

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56. A 16-year-old phenotypic female with hypertension and hypokalemia presents with primary amenorrhea and lack of secondary sexual characteristics. Karyotype reveals 46,XY. Which of the following enzyme deficiencies is most likely?

(A) 17-hydroxylase deficiency

(B) 21-hydroxylase deficiency

(C) 11-beta hydroxylase deficiency

(D) Leydig cell hypoplasia

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57. A patient with Cushing's disease underwent bilateral adrenalectomy and presents 10 years later with hyperpigmentation. Which of the following statements is false regarding this condition?

(A) Visual disturbances are seen

(B) Central hypothyroidism not seen commonly

(C) Octreotide isn't useful

(D) ACTH levels in the disease are much less than routine adenomas

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58. A patient presents with fatigue, weight loss, polyuria, low sodium, low cortisol, and joint pain. Serum calcium, ESR, and TSH are normal. What is the likely diagnosis?

(A) Pituitary adenoma

(B) Metastasis

(C) Sarcoidosis

(D) Adrenal tuberculosis

59. A female with cyclical abdominal pain, diabetes mellitus onset at age 10, and chronic kidney disease by age 18, with a family history of diabetes and uterine malformation, presents a clinical pattern characteristic of which diagnosis?

(A) Family history of diabetes
(B) MRKH syndrome
(C) MODY-5 (HNF1B mutation)
(D) DIDMOAD

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60. Patient with trigeminal neuralgia and focal seizures started on oxcarbamazepine, which of the following conditions would you monitor for in this patient.

(A) Hyponatremia
(B) Hyperkalemia
(C) Hypokalemia
(D) Hypernatremia

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61. A 17-year-old girl presents with short stature, delayed puberty, and primary amenorrhea. She also has poor vision due to bilateral optic atrophy. On examination, her visual acuity is reduced. What is the most probable diagnosis?

(A) Craniopharyngioma
(B) HESX1 mutation (Septo-optic dysplasia)
(C) Pituitary adenoma
(D) Rathke's cleft cyst

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62. A 5-year-old boy presents with short stature, facial dysmorphism, pulmonary valve stenosis, and features suggestive of Noonan syndrome. His parents ask about the genetic basis of the

disease. What should they be counseled regarding gene mutation and inheritance?

(A) Noonan syndrome is X-linked recessive and always inherited from the mother
(B) Noonan syndrome is caused by mutations in multiple genes, most commonly PTPN11, with autosomal dominant inheritance
(C) Noonan syndrome is due to a single gene defect and inherited in an autosomal recessive manner
(D) Noonan syndrome is sporadic, and there is no risk of recurrence in siblings

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63. A 52-year-old male with type 2 diabetes mellitus presents with hypertension and proteinuria. His serum creatinine is 1.4 mg/dL and estimated GFR is 65 mL/min/1.73 m^2. Which of the following classes of drugs is most appropriate for renal protection in this patient?

(A) ARB
(B) Calcium channel blocker
(C) Thiazide diuretic
(D) Beta-blocker

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64. A cachectic 65-year-old male hospitalized with community-acquired pneumonia has severe weight loss and muscle wasting. His gastrointestinal function is intact. Which of the following is the best nutritional support strategy for this patient?

(A) High-protein, calorie-dense enteral feeds
(B) Low-fat enteral feeds
(C) Total parenteral nutrition
(D) Normal oral diet

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65. A patient previously operated for parathyroid adenoma presents with abdominal pain, dyspepsia, and gastrin level of 600 pg/mL. Endoscopy shows multiple duodenal nodules with raised mucosal folds. What is the next step in management?

(A) High-dose PPI

(B) Laparotomy

(C) Endoscopic resection

(D) Terlipressin

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66. Identify the genetic condition from the image shown below

(A) Achondroplasia (trident hand)

(B) Thanatophoric dysplasia

(C) Hypochondroplasia

(D) Osteogenesis imperfecta

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67. An elderly male chronic smoker presents with dyspnea. His FEV1/FVC ratio is 65% and FEV1 is 55% of predicted. According to GOLD criteria he falls into which class?

(A) Mild

(B) Moderate

(C) Severe

(D) Non-severe

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68. A young boy presented with SOB and wheeze. He was kept in anti-asthmatic medication

with no significant improvement. Later he presented with skin lesions and was started on antifungals by the dermatologist which led to improvement in both the skin and respiratory symptoms. Likely diagnosis is?

(A) Allergic bronchopulmonary aspergillosis (ABPA)
(B) Eosinophilic interstitial pneumoina
(C) Chronic pulmonary aspergillosis
(D) fungal pneumonia

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69. TH2 inflammation is mediated by which of the following cytokines?

(A) IL-17
(B) IL-4
(C) IL-2
(D) TNF-alpha

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70. A 45 year old male patient presented with chronic cough and SOB, on examination infrascapular crepitationts present, CT shows Usual interstitial pneumonia (UIP) pattern ILD. Which of the following is the least likely diagnosis?

(A) Systemic sclerosis
(B) Sarcoidosis
(C) Rheumatoid arthritis
(D) Idiopathic pulmonary fibrosis (IPF)

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71. A patient with iron deficiency anemia has thrombocytosis on blood counts. What is the most appropriate next step in management?

(A) Treat IDA and repeat platelets
(B) Start hydroxyurea

(C) Bone marrow biopsy

(D) Test for JAK2 mutation

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72. Which of the following disorders is most commonly linked with ischemic stroke caused by a hypercoagulable (prothrombotic) state?

(A) Antiphospholipid syndrome (APS)

(B) Antithrombin III deficiency

(C) Factor V Leiden mutation

(D) Protein S deficiency

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73. A patient with acute graft-versus-host disease (GVHD) following allogeneic stem cell transplantation shows no clinical improvement despite treatment with high-dose corticosteroids. Which of the following is the next best drug to use?

(A) Ruxolitinib

(B) Tacrolimus

(C) Mycophenolate mofetil

(D) Etanercept

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74. Peripheral smear shows sickle-shaped RBCs in a known case of sickle cell disease. Which of the following is the best drug for disease modification?

(A) Voxelotor

(B) Hydroxyurea

(C) Crizanlizumab

(D) L-glutamine

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75. High-performance liquid chromatography (HPLC) shows HbS very high with HbA around 40%. What is the most likely diagnosis?

(A) Sickle cell disease (HbSS)
(B) Sickle cell trait (HbAS)
(C) Beta-thalassemia trait
(D) HbC disease

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76. A patient presents with thrombocytopenia, elevated bilirubin, rising creatinine, and elevated LDH. ADAMTS13 activity is 45%. What is the most appropriate next step in management?

(A) Plasmapheresis
(B) High-dose steroids
(C) Rituximab
(D) Eculizumab

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77. A 45-year-old male presents with recurrent episodes of flushing, abdominal discomfort, and splenomegaly. Laboratory studies show elevated serum tryptase levels. Bone marrow biopsy reveals mast cells positive for CD117 and CD25. According to the WHO criteria, which of the following findings fulfills the major diagnostic criterion for systemic mastocytosis?

(A) Multifocal dense infiltrates of abnormal mast cells in bone marrow or other extracutaneous organs
(B) Elevated baseline serum tryptase > 20 ng/mL
(C) Mast cells expressing CD25 and/or CD2
(D) Presence of KIT D816V mutation

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78. A 68-year-old male develops worsening renal function one week after undergoing CABG. He also has livedo reticularis and eosinophilia. Which urinary finding best supports the diagnosis of cholesterol crystal embolism?

(A) Eosinophiluria

(B) Hematuria with RBC casts

(C) Muddy brown granular casts

(D) Pyuria with sterile urine culture

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79. In a patient with Burkitt lymphoma undergoing chemotherapy, grading of tumor lysis syndrome is based on which classification system that defines both laboratory and clinical TLS?

(A) Cairo–Bishop score

(B) Ann Arbor staging

(C) Deauville scoring

(D) Lugano classification

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80. A patient presents with facial plethora, dilated chest wall veins, and dyspnea due to superior vena cava obstruction (SVCO). Which of the following malignancies is least likely to cause SVCO?

(A) Small cell lung carcinoma (SCLC)

(B) Breast carcinoma

(C) Thymic carcinoma

(D) Non-Hodgkin lymphoma

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81. A 62-year-old male with unresectable cholangiocarcinoma is planned for systemic therapy. Which regimen forms the current standard first-line chemotherapy for advanced disease?

(A) FOLFOX regimen

(B) Gemcitabine + Cisplatin

(C) Capecitabine + Oxaliplatin

(D) Sorafenib monotherapy

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82. A 30-year-old hypertensive male presents with grade II hypertensive retinopathy. Which investigation is most useful to guide further management and detect target organ damage?

(A) Urine protein estimation
(B) Serum cortisol
(C) Renal Doppler ultrasound
(D) 24-hour urinary catecholamines

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83. A 60-year-old man with long-standing hypertension and deteriorating renal function undergoes evaluation for secondary causes of hypertension. Which of the following statements regarding the diagnosis of renal artery stenosis (RAS) is most accurate?

(A) Duplex Doppler ultrasound has the highest specificity among noninvasive tests
(B) Conventional angiography remains the gold standard for defining renal vascular anatomy
(C) CT angiography has lower radiation exposure than conventional angiography
(D) Captopril scintigraphy is the preferred test for bilateral RAS

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84. A 45-year-old man is found to have microscopic hematuria on urinalysis. Phase-contrast microscopy shows acanthocytes and RBC casts. Which of the following best describes the underlying pathology?

(A) Isomorphic RBCs - Glomerular disease
(B) Dysmorphic RBCs - Glomerular disease
(C) Isomorphic RBCs - Lower urinary tract disease
(D) Dysmorphic RBCs - Tubular disorder

---

85. A 40-year-old woman presents with left flank pain. Non-contrast CT KUB shows a 3-4 mm distal ureteric stone. She is afebrile, hemodynamically stable, and shows no signs of obstruction or infection. What is the most appropriate initial management?

(A) Immediate DJ stent placement
(B) Conservative medical management with hydration and analgesics
(C) ESWL (Extracorporeal shockwave lithotripsy)
(D) Emergency ureteroscopic removal

---

86. A 68-year-old man with hypertension and coronary artery disease undergoes percutaneous coronary intervention (PCI) for unstable angina. Two weeks later, he presents with fatigue, worsening renal function (creatinine 3.1 mg/dL from baseline 1.2 mg/dL), eosinophilia, and a serpiginous, mottled rash over both legs. Which of the following is the most likely diagnosis?

(A) Acute tubular necrosis
(B) Contrast-induced nephropathy
(C) Cholesterol crystal embolism
(D) Acute interstitial nephritis

---

87. A 35-year-old man with known autosomal dominant polycystic kidney disease (ADPKD) presents with sudden-onset right flank pain and mild hematuria. He denies fever, dysuria, or recent trauma. Ultrasound shows enlarged cystic kidneys with no evidence of renal mass. Which of the following is least likely to be the cause of flank pain in this condition?

(A) Cyst hemorrhage
(B) Urinary tract infection
(C) Nephrolithiasis
(D) Renal cell carcinoma

---

88. A 65-year-old man presents with a 1-year history of slowness of movement and mild

resting tremor in his right hand. Over the past few months, he has also developed rigidity on the same side, but the left side remains normal. There is no history of antipsychotic use or cerebrovascular disease. Which of the following features most strongly supports the diagnosis of idiopathic Parkinson's disease?

(A) Bilateral symmetrical rigidity at onset
(B) Asymmetrical motor symptoms early in the disease course
(C) Absence of disease progression over time
(D) Early appearance of levodopa-induced dyskinesias

---

89. A 55-year-old woman receiving chemotherapy for breast cancer develops burning pain and tingling in both feet. Which of the following is considered the first-line pharmacologic treatment for cancer-related neuropathic pain?

(A) Gabapentin
(B) Amitriptyline
(C) Tramadol
(D) Diclofenac

---

90. A 30-year-old woman presents with a unilateral throbbing headache associated with photophobia, phonophobia, and osmophobia. Each episode lasts for 4-6 hours and improves with rest. What is the most likely diagnosis?

(A) SUNCT (Short-lasting Unilateral Neuralgiform headache with Conjunctival injection and Tearing)
(B) Paroxysmal hemicrania
(C) Cluster headache
(D) Migraine

---

91. An elderly man with end-stage metastatic lung carcinoma on palliative care is receiving morphine for severe pain. Despite escalating doses, he continues to experience significant pain

relief with mild drowsiness but develops a respiratory rate of 8/min and oxygen saturation of 88%. What factor should now determine the maximum permissible dose of morphine in this patient?

(A) Degree of pain relief
(B) Patient's tolerance and comfort
(C) Risk of respiratory depression
(D) Frequency of dosing and tablet strength

---

92. A 45-year-old man is brought to the emergency department with confusion and rapid breathing after being found unconscious at home. Arterial blood gas analysis shows pH 7.10 and an anion gap of 18. Toxicology screening is pending. Which of the following substances is least likely to be responsible for his condition?

(A) Ethanol
(B) Ethylene glycol
(C) Lithium
(D) Methanol

---

93. An unconscious patient presents with bilateral pinpoint pupils and partial improvement after administration of both naloxone and flumazenil. Which combination of substances has most likely been consumed?

(A) Barbiturate
(B) Opium and barbiturate
(C) Opium and amphetamine
(D) Opium

---

94. Which of the following is a key current limitation in the use of Artificial Intelligence (AI) for cancer diagnosis and management?

(A) Shortage of appropriate AI software

(B) Inability of AI to detect all types of cancer

(C) Ethical concerns and patient privacy issues

(D) Inability of AI to perform diagnostic tests

---

95. A 25-year-old man presents to the emergency department with dry mouth, dilated pupils, flushed skin, urinary retention, tachycardia, and altered sensorium after consuming seeds from a wild plant while trekking. His friends report that the plant was identified as Atropa belladonna. Which of the following is the specific antidote for this poisoning?

(A) Start naloxone 0.4 mg and nitrate

(B) IV naloxone 10 mg

(C) Atropine

(D) Physostigmine

---

96. A woman with breast cancer is being treated with trastuzumab. Which of the following statements regarding its cardiotoxicity is correct?

(A) Reversible

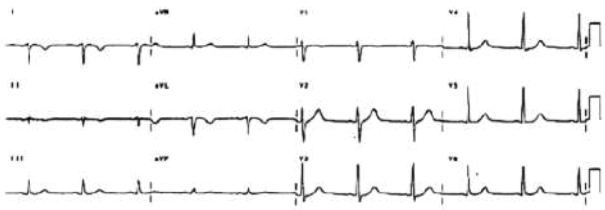
(B) Myocyte destruction

(C) Irreversible

(D) Dose dependent

---

97. An ECG was performed as part of a routine cardiac evaluation. Based on the findings, which of the following is the most likely cause of the abnormal pattern?



(A) Limb lead reversal

(B) Dextrocardia

(C) Right Ventricular Hypertrophy (RVH)

(D) Artefact

---

98. A 21-year-old man presents with sudden onset chest pain. His ECG shows ST-segment elevation in leads II, III, aVF, V5, and V6, and echocardiography reveals concentric left ventricular hypertrophy. What is the most likely cause?

(A) TCA toxicity

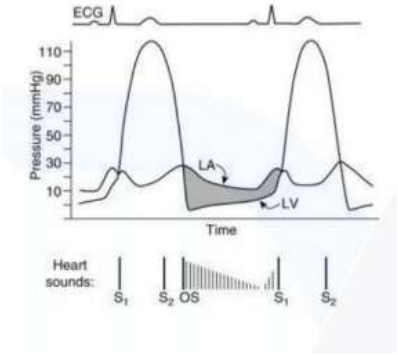
(B) Antihistamine toxicity

(C) Chronic cocaine overdose

(D) Antipsychotic toxicity

---

99. The following diagram represents which of the following valvular heart diseases?



(A) Mitral stenosis (MS)

(B) Mitral regurgitation (MR)

(C) Aortic stenosis (AS)

(D) Aortic regurgitation (AR)

---

100. Which of the following statements regarding Cardiac Resynchronization Therapy (CRT) is

correct?

(A) There is mortality benefit only when defibrillator is present along with CRT

(B) Equal benefit for both RBBB and LBBB

(C) Increases synchrony without increasing oxygen demand

(D) Improves coronary perfusion through mechanical pacing

---

101. A young patient presents with syncope and a family history of sudden cardiac death in a sibling at a young age. Which of the following statements regarding management is true?

(A) Avoiding high-intensity sports

(B) Beta blockers contraindicated

(C) Digoxin given

(D) Implantation of a pacemaker

---

102. A patient with multiple myeloma presents with shortness of breath, and his 2D echocardiogram shows characteristic findings. Which of the following statements is true?

(A) Frequent blood transfusion is a risk factor

(B) Associated with Beta MYH mutation

(C) ECG will meet criteria for LVH

(D) RCMP is most common presentation

---

103. A 58-year-old woman developed chest pain after hearing about her son's accident. Her 2D echocardiogram/MRI shows findings consistent with Takotsubo cardiomyopathy, Troponin

T = 1 ng/mL, and normal coronary angiogram. She has no history of drug use. Which of the following statements is true?

(A) Mostly occurs in postmenopausal females

(B) She should undergo PTCA

(C) Lifelong warfarin required

(D) After 2 weeks, echo shows apical dyskinesia

---

104. A patient is diagnosed with acute mitral regurgitation (MR). Which of the following statements about this condition is true?

(A) Normal JVP

(B) Short systolic murmur before S2

(C) Displaced apex

(D) (Dummy option) Early diastolic murmur present

---

105. A patient with mitral regurgitation (MR) underwent valve replacement surgery, and his ejection fraction (EF) improved from 30% to 50% postoperatively. The prognosis after such surgery primarily depends on which of the following factors?

(A) Etiology of MR

(B) Timing of surgery

(C) Degree of LV hypertrophy

(D) Duration of postoperative anticoagulation

---

106. Among the following chemotherapeutic agents, which one carries the highest risk of causing cardiotoxicity?

(A) Cisplatin

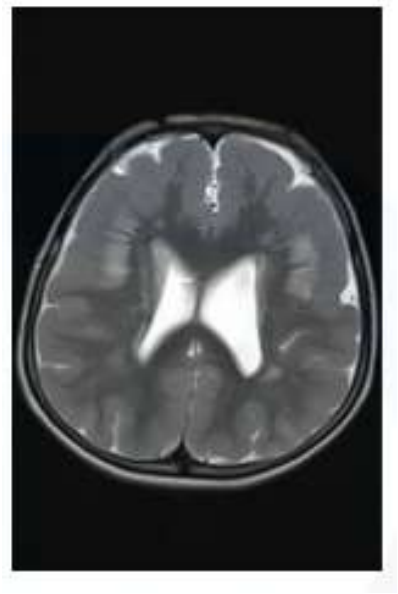
(B) Methotrexate

(C) Doxorubicin

(D) Paclitaxel

---

107. What is the most likely diagnosis based on the MRI findings?



(A) Lissencephaly

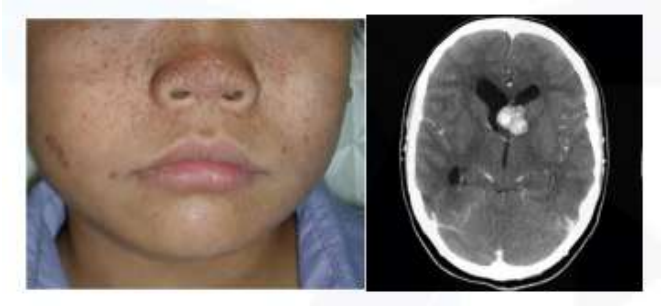
(B) Schizencephaly

(C) Holoprosencephaly

(D) Porencephaly

---

108. A young child experiences repeated episodes characterized by brief head nodding and sudden forward flexion of the neck and trunk, often occurring in clusters. Examination and imaging findings are provided. Which of the following medications is the most appropriate initial treatment for this patient?



(A) Vigabatrin

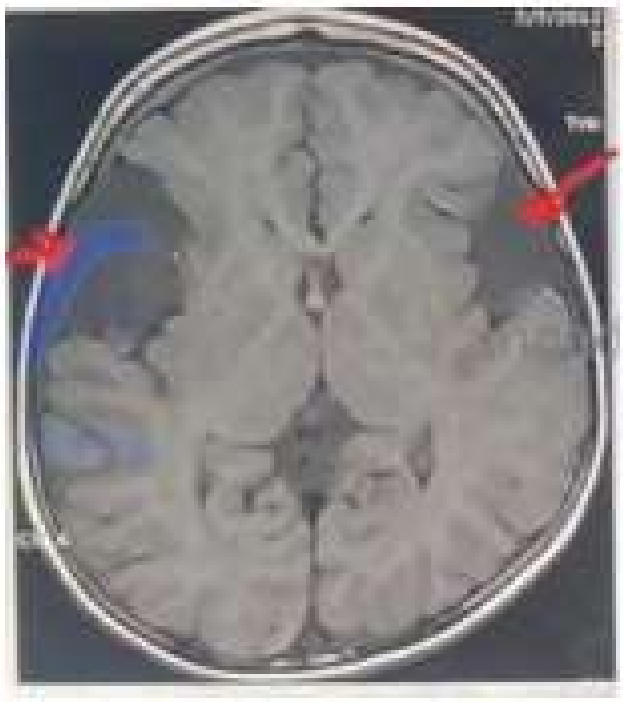
(B) Prednisolone

(C) Pyridoxine

(D) Valproate

---

109. A child presents with an abnormally large head (macrocephaly) and abnormal, involuntary muscle movements (dystonia). Which of the following enzyme deficiencies is the most likely underlying cause of this presentation?



(A) Isovaleric acidemia

(B) Glutaric acidemia type I

(C) Methylmalonic acidemia

(D) Biotinidase deficiency

---

110. A newborn has seizures, continuous hiccups, and developmental delay. EEG demonstrates a burst-suppression pattern. Which metabolic disorder best explains these findings?

(A) Holocarboxylase deficiency

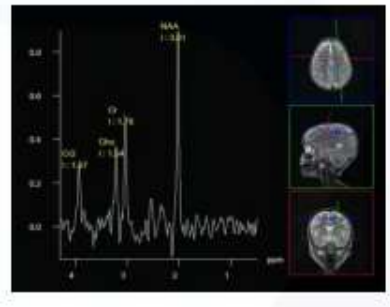
(B) Argininosuccinic aciduria

(C) Isovaleric acidemia

(D) Non-ketotic hyperglycinemia

---

111. Which MRI-based imaging technique is shown in the image that displays a spectral graph with peaks representing various tissue metabolites?



(A) MR angiography

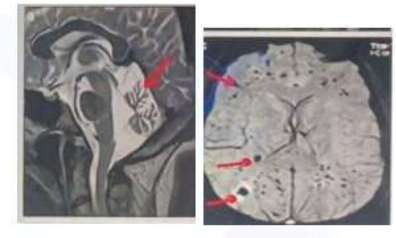
(B) MR elastography

(C) MR spectroscopy

(D) MR neurography

---

112. A child presents with chronic progressive ataxia, and on eye examination, conjunctival telangiectasias are seen. MRI brain shows characteristic findings. What is the most likely diagnosis?



(A) Cavernous angioma

(B) Cerebral telangiectasia

(C) Fahr syndrome

(D) NBIA (Neurodegeneration with brain iron accumulation)

---

113. Which thrombophilic (hypercoagulable) condition is most strongly linked to an increased risk of developing ischemic stroke?

(A) Antiphospholipid antibody syndrome
(B) Antithrombin III deficiency
(C) Factor V Leiden mutation
(D) Protein S deficiency

---

114. A 45-year-old woman with long-standing rheumatoid arthritis (RA) develops numbness, paresthesia, non-healing leg ulcers, and absent ankle reflexes. She is on regular RA treatment. What is the most probable diagnosis?

(A) RA-associated vasculitis
(B) Drug-induced peripheral neuropathy
(C) Rheumatoid myelopathy
(D) Amyloid neuropathy

---

115. A patient who has undergone intestinal resection develops progressive ataxia and loss of proprioception. Which vitamin deficiency most likely explains these neurological symptoms?

(A) Vitamin A
(B) Vitamin D
(C) Vitamin E
(D) Vitamin K

---

116. A patient with HIV receiving antiretroviral therapy including stavudine develops burning pain and numbness in a glove-and-stocking pattern along with absent ankle reflexes. Laboratory tests reveal elevated serum lactate levels. What is the most likely diagnosis?

(A) Stavudine-induced toxic neuropathy

(B) HIV-associated distal sensory polyneuropathy

(C) HIV-associated vacuolar myelopathy

(D) HIV-related inflammatory myopathy

---

117. A patient presents with memory loss and clinical features suggestive of subacute combined degeneration (SACD) of the spinal cord. What is the most likely diagnosis?

(A) Vitamin B12 deficiency

(B) Vitamin E deficiency

(C) Multiple sclerosis

(D) Friedreich's ataxia

---

118. Which of the following is a well-known side effect of Oxcarbazepine therapy?

(A) Hyponatremia

(B) Hepatotoxicity

(C) Gingival hyperplasia

(D) Weight gain

---

119. Rapidly progressive interstitial lung disease is associated with which of the following myositis specific antibodies?

(A) Anti MDA-5

(B) Anti Jo-1

(C) Anti TIF-1

(D) Anti-Mi-2

---

120. 42-year-old female, with diffuse cutaneous systemic sclerosis, presents with SOB/cough. CXR shows ILD. FVC 50% predicted, DLCO 30% predicted. ECG and imaging shows right

ventricular enlargement and dilated PA s/o pulmonary hypertension. Most appropriate next step in management is?

(A) Start systemic steroids
(B) Start CYC 500mg IV every 2 weeks
(C) Refer to lung transplant evaluation
(D) Start endothelin receptor antagonist(bosentan)

---

121. 60-year old male with RA on MTX for 5 years presents with SOB and cough. Chest examination reveals end-inspiratory crackles. HRCT shows reticular opacities and traction bronchiectasis (UIP pattern). Which of the following is correct?

(A) Methotrexate induced fibrosis is very common
(B) Honey combing on CT is suggestive of irreversible damage
(C) End inspiratory coarse crepitations are a typical finding
(D) This condition is likely to respond well to steroids

---

122. A young male presents with rapidly worsening kidney function. Urinalysis shows hematuria, 3+ proteinuria, and red blood cell casts. His serum creatinine is 3.2 mg/dL. Chest imaging reveals bilateral pulmonary nodules. Which of the following is the most appropriate initial management?

(A) Methylprednisolone pulse followed by oral prednisolone and cyclophosphamide
(B) Only avacopan for induction
(C) Rituximab+oral gluucocorticoids
(D) Prednisolone+methotrexate (await biopsy)

---

123. A patient with chronic hepatitis C presents with palpable purpura and Raynaud's phenomenon. Which of the following is the most likely diagnosis?

(A) Mixed cryoglobulinemia

(B) Polyarteritis nodosa

(C) ANCA vasculitis

(D) Rheumatoid vasculitis

---

124. A female presents with malar rash and her serology is positive for ANA and dsDNA antibodies. What is the most likely diagnosis?

(A) systemic lupus erythematosus (SLE)

(B) Dermatomyositis

(C) systemic sclerosis

(D) Mixed connective tissue disease (MCTD)

---

125. The image shows a hand deformity. What is the most likely diagnosis?

(A) Swan neck deformity

(B) Boutonniere deformity

(C) mallet finger

(D) z-thumb deformity

---

126. A 50 year old male with rheumatoid arthritis (RA) for 10 years on treatment presents with a non healing ulcer on the lower limb and stocking-glove neuropathy. What is the most

likely cause?

(A) RA vasculitis

(B) Drug induced neuropathy

(C) Amyloid neuropathy

(D) Diabetic neuropathy

---

127. Which of the following is a poor prognostic factor in rheumatoid arthritis?

(A) Presence of joint erosions on X-ray

(B) Rheumatoid factor positivity

(C) anti -CCP positivity

(D) Early methotrexate usage

---

128. A female patient with rheumatoid arthritis(RA) is currently on methotrexate (MTX), sulfasalazine (SSZ), and hydroxychloroquine (HCQ) and is planning for pregnancy. What is the appropriate next step in medication management?

(A) Stop MTX and sulfasalazine, add low dose steroids with HCQ

(B) Stop only MTX, continue sulfasalazine and HCQ

(C) Stop all DMARDs and only give steroids

(D) Switch to biologics

---

129. A 28 year old male presents with asymmetric oligoarthritis involving the knees and ankles, along with a history of dysuria and diarrhea 3 weeks ago. On examination, he has conjunctival infection, painless shallow oral ulcers also. Which of the following findings is most commonly associated with this condition?

(A) Malar rash

(B) Tophus formation

(C) Keratoderma blennorrhagicum

(D) Erythema marginatum

---

130. A patient presents with arthritis involving both DIP and PIP joints, with erosions and new bone formation. There are no skin manifestations. What is the most likely diagnosis?

(A) Inflammatory bowel disease assiciated arthritis

(B) Psoriatic arthritis

(C) Rheumatoid arthritis

(D) Hemochromatosis

---

131. A patient presents with recurrent skin eruptions and bone pain. Laboratory tests show elevated ESR and CRP. Imaging demonstrates the "bull's head" sign on the sternoclavicular region. Which of the following is the most appropriate initial treatment for this condition?

(A) NSAIDs

(B) TNF-alpha inhibitors

(C) Immediate use of bishosphonates

(D) Antibiotic treatment for propionibacterium acne

---

132. A 32 year old male present with chronic low back pain for the past 6 months. the pain is insidious in onset version in morning and improve with moment he also reports alternating buttocks pain. What is the most likely diagnosis?

(A) Ankylosing spondylitis

(B) Diffuse idiopathic skeletal hyperostosis

(C) Disc prolapse

(D) spondylolysthesis

---

133. A patient presents with widespread pain and multiple comorbidities. Which of the following clinical scenarios is most consistent with fibromyalgia?

(A) Pain sensitization increased by sleep disturbances with multiple comorbidities

(B) Pain worsened by activity without any systemic features

(C) Pain with swelling and stiffness

(D) Joint pain with prompt response to NSAIDs

---

134. A woman presents with widespread pain, multiple tender joints, fatigue and sleep disturbances with no signs of joint swelling or systemic inflammation. What is the next step in evaluation?

(A) Apply fibromyalgia diagnostic criteria

(B) Rheumatoid factor and anti CCP testing

(C) MRI of affected joints

(D) Muscle biopsy

---

135. A patient with IgG4-related disease with pancreatitis initially responded to steroid therapy but experienced a relapse (gland size increased) after tapering. What is the next step in treatment?

(A) High dose steroids

(B) Rituximab

(C) Methotrexate

(D) dapsone

---

136. A patient presents with acute-onset monoarthritis with severe joint pain, erythema, and swelling suggestive of gout. What is the gold standard investigation for diagnosis?

(A) Ultrasound

(B) Synovial fluid analysis

(C) Serum uric acid levels

(D) X-ray of the affected joint

---

137. What is the preferred initial treatment for acute gouty arthritis?

(A) Indomethacin

(B) Steroids

(C) Allopurinol

(D) febuxostat

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138. A patient presents with the fever Arthritis and a Salmon coloured rash on the trunk laboratory findings show decreased CD 25 expression. What is the most likely diagnosis?

(A) Adult-onset still's disease

(B) Systemic lupus erythematosus

(C) Systemic juvenile idiopathic arthritis

(D) Hemophagocytic lymphohistiocytosis

---

139. Neer's impingement test is used to diagnose which of the following conditions?

(A) glenohumeral arthritis

(B) Rotator cuff impingement

(C) Tear of supraspinatous

(D) Acromioclavicular joint osteoarthritis

---

140. Cancer associated cachexia is primarily mediated by which of the following cytokines?

(A) IFN

(B) TNF-alpha

(C) Tumor related products

(D) Hormones

---

141. An 27 year old patient presents with peripheral neuropathy normal immunoglobulin levels and recurrent cutaneous infections. autoimmune thyroiditis and low C3 was also seen which of the following is the most likely diagnosis?

(A) C1q deficiency

(B) Common variable immunodeficiency

(C) CLIPPERS (chronic lymphocytic inflammation with pontine perivascular enhancement resposive to steroids)

(D) SLE

---

142. In anaphylaxis, bronchoconstriction is primarily mediated by which of the following inflammatory mediators?

(A) Leukotriene C4

(B) Platelet activating factor

(C) Thromboxane A2

(D) Interleukin 4

---

143. A 35-year-old man presents with high-grade fever, right upper quadrant abdominal pain, and tender hepatomegaly. He has no history of jaundice. An abdominal CT scan shows a solitary hypoechoic lesion in the right lobe of the liver, suggestive of a liver abscess. What is the most appropriate next step in management?

(A) Ciprofloxacin

(B) Metronidazole

(C) Azithromycin

(D) Percutaneous aspiration

---

144. A 58-year-old patient in the ICU develops fever, cough, and breathlessness 5 days after being on mechanical ventilation. Chest X-ray shows bilateral infiltrates. MRSA is isolated from the tracheal aspirate culture with a vancomycin MIC of 1.5 μg/mL, and the platelet count is 40,000/cmm. What is the most appropriate antibiotic choice for this patient?

(A) Daptomycin

(B) Vancomycin + Rifampicin

(C) Linezolid

(D) Ceftaroline

---

145. A patient diagnosed with dengue initially improved but later returned with high-grade fever, severe thrombocytopenia (platelet count 15,000), and leukopenia. What is the next best investigation to evaluate the cause?

(A) Peripheral blood flow cytometry

(B) S. Ferritin, Triglycerides, Fibrinogen, NK Cells, bone marrow biopsy

(C) LDH

(D) Procalcitonin

