

MULTIPLE CHOICE

ABDOMEN - MIXED EXAM

PROPOSED FOR REVIEW - questions are the author's verbatim Q&A; distractors are auto-selected from other answers in the same bank and must be checked by a subject-matter reviewer (a distractor could coincidentally be correct). Not authoritative assessment content.

1. What is the approximate normal storage capacity of the adult gallbladder?

- A. Approximately 50 mL
- B. Approximately 250 mL
- C. Approximately 500 mL
- D. Approximately 5 mL

2. What range of Doppler frequencies is commonly used for color and spectral Doppler during scrotal ultrasound?

- A. 10 to 15 MHz
- B. 4 to 8 MHz
- C. Below 1 MHz
- D. 1 to 3 MHz

3. Which clinical features are most typical of medullary cystic disease (nephronophthisis)?

- A. Polyuria, salt wasting, anemia, pain, infection, and progressive azotemia with otherwise normal-appearing renal function early in the course
- B. Fever, eosinophilia, hematuria, and rash following drug exposure
- C. Painless gross hematuria with a large flank mass and weight loss
- D. Hypertension, hematuria, and palpable bilateral flank masses in adulthood

4. True or False? A lobar dysmorphism can resemble a mass or a prominent column of Bertin on ultrasound.

- A. False
- B. True

5. At the renal hilum, the two branches of the renal vein lie in what position relative to the renal artery?

- A. Posterior to the renal artery
- B. Anterior to the renal artery
- C. Superior to the renal artery
- D. Medial to the renal artery

6. After the proper hepatic artery accompanies the bile duct and portal vein through the porta hepatis, into which two branches does it typically divide?

- A. Right hepatic artery and left hepatic artery
- B. Caudate artery and quadrate artery
- C. Cystic artery and right gastric artery
- D. Common hepatic artery and gastroduodenal artery

7. Alkaline phosphatase is produced by which of the following tissues?

- A. Spleen and lymph nodes
- B. Liver and pancreas only
- C. Kidney and adrenal gland
- D. Liver, bone, intestine, and placenta

8. Which Doppler waveform characteristic defines a nonresistive vessel that supplies an organ requiring continuous perfusion?

- A. Absent diastolic flow with a sharp systolic peak
- B. A high diastolic flow component with continuous antegrade flow throughout diastole
- C. Reversed (retrograde) flow throughout diastole
- D. A triphasic waveform with a brief diastolic flow reversal

9. Systemic splenic venous congestion is most commonly associated with which cardiac condition?

- A. Right-sided cardiac decompensation.
- B. Atrial septal defect with left-to-right shunt.
- C. Left-sided cardiac decompensation.
- D. Aortic stenosis.

10. Which structure is the cup-shaped capsule that surrounds the glomerulus?

- A. Renal capsule
- B. Bowman's capsule
- C. Gerota's fascia
- D. Loop of Henle

11. An abnormal increase in the number of circulating red blood cells is called:

- A. Thrombocytosis
- B. Leukocytosis
- C. Polycythemia
- D. Erythropenia

12. The splenic parenchyma is composed of which two components?

- A. Cortex and medulla
- B. Red pulp and white pulp
- C. Mucosa and submucosa
- D. Cortex and medullary pyramids

13. Which thyroid hormone helps maintain a strong bone matrix by lowering blood calcium levels?

- A. Calcitonin
- B. Parathyroid hormone (PTH)
- C. Triiodothyronine (T3)
- D. Thyroxine (T4)

14. The portal vein is located in what position relative to the inferior vena cava?

- A. Lateral
- B. Medial
- C. Posterior
- D. Anterior

15. What is the typical sonographic appearance of a simple cystic renal mass?

- A. Round or oval, anechoic, with thin smooth well-defined walls and increased posterior acoustic enhancement
- B. Spiculated mass with calcifications and disrupted capsule
- C. Echogenic mass with low-level internal echoes and decreased through-transmission
- D. Heterogeneous mass with irregular borders and posterior shadowing

16. Which structures divide the medial and lateral segments of the left lobe of the liver?

- A. Coronary ligament and bare area
- B. Falciform ligament and ligamentum teres
- C. Main lobar fissure and middle hepatic vein
- D. Ligamentum venosum and caudate lobe

17. Where does a DeBakey type I aortic dissection begin?

- A. Distal to the left subclavian artery, in the descending aorta
- B. Only within the ascending aorta
- C. At the root of the aorta, with extension through the arch and into the descending and abdominal aorta
- D. Within the abdominal aorta below the renal arteries

18. What is the most common disease process of the spleen?

- A. Splenic abscess.
- B. Splenomegaly.
- C. Primary splenic neoplasm.
- D. Splenic infarction.

19. Which set of vessels are the three main branches of the inferior mesenteric artery?

- A. Left gastric, splenic, and common hepatic arteries
- B. Left colic, sigmoid, and superior rectal arteries

- C. Jejunal, ileal, and middle colic arteries
- D. Right colic, middle colic, and ileocolic arteries

20. What is the typical sonographic appearance of nephrocalcinosis?

- A. Hypoechoic medullary pyramids
- B. Multiple anechoic cortical cysts
- C. Diffusely hyperechoic cortex with normal-appearing pyramids
- D. Echogenic medullary pyramids, with or without posterior shadowing

21. What are the two principal forms of polycystic kidney disease?

- A. Autosomal recessive (infantile) and autosomal dominant (adult)
- B. Autosomal dominant juvenile and X-linked adult
- C. Acquired cystic disease and medullary sponge kidney
- D. Multicystic dysplastic kidney and tuberous sclerosis cystic disease

22. Leukocytosis is typically found in which direction with a pancreatic abscess?

- A. Increased
- B. Variable with no consistent pattern
- C. Decreased
- D. Unchanged

23. Patients with chronic pancreatitis have an increased risk for which malignancy?

- A. Renal cell carcinoma
- B. Gastric adenocarcinoma
- C. Hepatocellular carcinoma
- D. Pancreatic cancer

24. Where in the scrotum do hydroceles, hematoceles, and pyoceles form?

- A. Within the seminiferous tubules
- B. Between the visceral and parietal layers of the tunica vaginalis
- C. Between the dartos and external spermatic fascia
- D. Within the tunica albuginea

25. Which vessel marks the start of the blood supply pathway to the nephrons?

- A. Interlobular artery
- B. Renal artery
- C. Aorta
- D. Afferent arteriole

26. Which structure receives the major calyces?

- A. Renal pelvis
- B. Ureter
- C. Minor calyces
- D. Renal papilla

27. What is the name of the outermost layer of a blood vessel wall?

- A. Tunica media
- B. Tunica adventitia
- C. Tunica intima
- D. Tunica externa serosa

28. True or False? Thyroid storm can be life-threatening due to heart failure, hyperthermia, tachycardia, and delirium.

- A. True. Thyroid storm can be life-threatening due to heart failure, hyperthermia, tachycardia, and delirium.
- B. False. Thyroid storm causes only mild and self-limited symptoms.

29. An interruption in the blood supply to an area of tissue that may lead to necrosis of that area is called:

- A. Ischemia
- B. Infarction
- C. Hemorrhage
- D. Embolism

30. By what route does Entamoeba histolytica typically reach the liver to form an amebic abscess?

- A. Via the biliary tree in retrograde fashion
- B. Via the portal vein from the colon
- C. Via direct extension from the diaphragm
- D. Via the hepatic artery from systemic circulation

31. A parathyroid adenoma is best characterized as which of the following?

- A. A reactive inflammatory lesion
- B. A congenital cystic anomaly
- C. A benign solid mass
- D. A malignant invasive tumor

32. What patient maneuver causes a dilated extrarenal pelvis to decompress, helping to distinguish it from true hydronephrosis?

- A. Having the patient void completely
- B. Having the patient drink water and rescanning after one hour
- C. Placing the patient in the Trendelenburg position
- D. Placing the patient in the prone position

33. Which vessel supplies portal venous blood to the left lobe of the liver?

- A. Left hepatic artery
- B. Right portal vein
- C. Left hepatic vein
- D. Left portal vein

34. To detect slow flow when evaluating for testicular torsion, color or power Doppler parameters should be optimized in which way?

- A. Increase only the pulse repetition frequency while keeping the wall filter unchanged
- B. Maximize the color gain only, leaving the wall filter and pulse repetition frequency unchanged
- C. Increase the wall filter and increase the pulse repetition frequency
- D. Decrease the wall filter and decrease the pulse repetition frequency (scale)

35. Other than an aortic aneurysm, which condition can produce a pulsatile abdominal mass on examination?

- A. Acute appendicitis
- B. Hepatic hemangioma
- C. Enlarged retroperitoneal lymph nodes, a fibroid uterus, or a retroperitoneal tumor lying adjacent to the aorta
- D. Cholelithiasis

36. What is the name for a large renal calculus that fills the renal collecting system in a branching pattern?

- A. Bladder diverticular stone
- B. Staghorn calculus
- C. Matrix stone
- D. Ureteral stent calculus

37. Which clinical findings are typical for a patient with an inflammatory disease of the liver?

- A. Hematemesis with caput medusae
- B. Asymptomatic with normal liver enzymes
- C. Right upper quadrant pain, fever, and elevated white blood cell count
- D. Painless jaundice with weight loss

38. Which paired small arteries arise from the lateral wall of the abdominal aorta to supply the undersurface of the diaphragm?

- A. Inferior phrenic arteries
- B. Gonadal arteries
- C. Lumbar arteries
- D. Adrenal arteries

39. Which type of aneurysm is characterized by a circumferential dilation of the vessel with gradual tapering at both ends?

- A. Fusiform aneurysm
- B. Pseudoaneurysm
- C. Saccular aneurysm
- D. Dissecting aneurysm

40. Which Doppler waveform characteristic best describes a nonresistive (low-resistance) vessel?

- A. Bidirectional pulsatile flow throughout the cardiac cycle
- B. High continuous diastolic flow supplying organs that require constant perfusion
- C. Little or reversed flow in diastole supplying organs that do not need constant perfusion
- D. Continuous low-velocity flow with no systolic peak

41. Which group of muscles is collectively known as the 'strap muscles' of the anterior neck?

- A. Mylohyoid, geniohyoid, and stylohyoid
- B. Longus colli, longus capitis, and scalene
- C. Sternocleidomastoid, platysma, and digastric
- D. Sternohyoid, sternothyroid, and omohyoid

42. Which layer of the tunica vaginalis directly surrounds the testis and epididymis?

- A. Tunica albuginea
- B. Visceral layer
- C. Parietal layer
- D. Dartos layer

43. Which artery arises from the anterior abdominal aorta inferior to the celiac axis and supplies the proximal half of the colon and the small intestine?

- A. Gastroduodenal artery
- B. Inferior mesenteric artery
- C. Superior mesenteric artery
- D. Common hepatic artery

44. True or False: Bladder carcinoma can obstruct the ureteral orifice, causing urine to back up into the ureter and renal pelvis.

- A. False
- B. True

45. The secretion of glucagon and insulin into the blood is controlled by which pancreatic function?

- A. Exocrine function
- B. Paracrine function
- C. Endocrine function
- D. Neurocrine function

46. What is the most common cause of thyroid disorders worldwide?

- A. Radiation exposure.
- B. Lithium use.
- C. Autoimmune thyroiditis.
- D. Iodine deficiency.

47. What is the echogenic linear structure seen anterior to the caudate lobe and posterior to the left lobe of the liver?

- A. Ligamentum teres
- B. Falciform ligament
- C. Main lobar fissure
- D. Ligamentum venosum

48. Which set of clinical findings is most characteristic of hemorrhagic pancreatitis?

- A. Hypotension, severe abdominal pain radiating to the back, shock, and ileus
- B. Painless jaundice and a palpable nontender gallbladder
- C. Recurrent peptic ulcers with watery diarrhea
- D. Episodic hypoglycemia with palpitations and sweating

49. Which layer is the first structure immediately adjacent to the kidney, forming a tough, fibrous covering?

- A. Renal capsule (true capsule)
- B. Renal parenchyma
- C. Perinephric fat
- D. Gerota's fascia

50. On a longitudinal (sagittal) scan of the upper abdomen, a circular anechoic structure seen coursing between the superior mesenteric artery and the aorta most likely represents:

- A. Common bile duct in cross-section
- B. Left renal vein in cross-section
- C. Splenic vein in cross-section
- D. Right renal vein in cross-section