

MULTIPLE CHOICE

ABDOMEN - MIXED EXAM - ANSWER KEY

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. Renal lipomas more commonly affect which group?

- A. Males
- B. Females**

2. True or False? Squamous cell carcinoma of the renal collecting system is a common, benign tumor.

- A. True, squamous cell carcinoma is a common, benign tumor
- B. False, squamous cell carcinoma is a rare, highly invasive malignant tumor with a poor prognosis**

3. Which small arteries arise from the lateral walls of the abdominal aorta to supply the undersurface of the diaphragm?

- A. Adrenal arteries
- B. Phrenic (inferior phrenic) arteries**
- C. Gonadal arteries
- D. Lumbar arteries

4. Which aneurysm morphology shows a spherical, focal outpouching and tends to be larger than the other major morphologic type?

- A. Saccular aneurysm**
- B. Mycotic aneurysm
- C. Dissecting aneurysm
- D. Fusiform aneurysm

5. In the DeBakey classification of aortic dissection, which statement is correct?

A. Type I involves the ascending and descending aorta and aortic arch, type II is confined to the ascending aorta, and type III involves only the descending aorta

- B. Type I involves only the arch, type II involves only the descending aorta, and type III is confined to the ascending aorta
- C. Type I is confined to the abdominal aorta, type II to the iliac arteries, and type III to the thoracic aorta
- D. Type I is confined to the ascending aorta, type II involves only the arch, and type III is confined to the abdominal aorta

6. The portosplenic confluence and the superior mesenteric vein are located in which position relative to the neck of the pancreas?

- A. Posterior**
- B. Anterior
- C. Inferior
- D. Superior

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

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

8. What is the typical sonographic appearance of an obstruction at the level of the porta hepatis?

- A. Intrahepatic ductal dilation with a normal-caliber common bile duct.**
- B. Dilated intrahepatic and extrahepatic ducts with a dilated pancreatic duct.
- C. Dilated common bile duct with normal intrahepatic ducts.

D. Normal intrahepatic ducts with a hydropic gallbladder only.

9. Which congenital renal malformation is characterized by the two kidneys being joined by an isthmus, most commonly at the lower poles?

- A. Horseshoe kidney**
- B. Renal agenesis
- C. Duplex collecting system
- D. Crossed fused renal ectopia

10. A cystlike enlargement of the distal end of the ureter as it inserts into the bladder is called:

- A. Ureterocele**
- B. Bladder diverticulum
- C. Ureteral stricture
- D. Hydroureter

11. From which vessels do the two superior thyroid arteries and the two inferior thyroid arteries arise?

A. The superior thyroid arteries arise from the external carotid arteries; the inferior thyroid arteries arise from the thyrocervical trunk of the subclavian arteries

- B. Both arise from the thyrocervical trunk of the subclavian arteries
- C. Both arise from the external carotid arteries
- D. The superior thyroid arteries arise from the subclavian arteries; the inferior thyroid arteries arise from the external carotid arteries

12. What is the most common solid renal mass seen in children?

- A. Angiomyolipoma
- B. Wilms tumor**
- C. Renal cell carcinoma
- D. Renal lymphoma

13. True or False: A hepatic cyst can only be congenital.

- A. False**
- B. True

14. True or False? A disproportional increase of alkaline phosphatase relative to bilirubin always suggests biliary obstruction.

- A. False
- B. True**

15. What is the most common structure to herniate into the scrotum through an inguinal hernia?

- A. Bowel**
- B. Mesenteric lymph nodes
- C. Omentum
- D. Bladder

16. What is the echogenic triangular-shaped structure seen within the left lobe of the liver on transverse imaging?

- A. Ligamentum teres**
- B. Ligamentum venosum
- C. Caudate lobe
- D. Main lobar fissure

17. What real-time sonographic finding confirms a scrotal hernia containing bowel?

- A. Echogenic shadowing material
- B. Peristalsing bowel within the scrotal sac**
- C. Posterior acoustic enhancement
- D. Color Doppler flow within the spermatic cord

18. Which three arterial branches arise from the superior border of the aortic arch to supply the head, neck, and upper extremities?

- A. Brachiocephalic (innominate), left common carotid, and left subclavian arteries**
- B. Right common carotid, left common carotid, and brachiocephalic arteries
- C. Right subclavian, left subclavian, and brachiocephalic arteries
- D. Right common carotid, right subclavian, and left common carotid arteries

19. What is the sonographic appearance of testicular infarction?

- A. A diffusely hypervascular testis on color Doppler
- B. A normal-sized testis with a simple intratesticular cyst
- C. A uniformly hyperechoic testis with posterior acoustic shadowing
- D. A heterogeneous testis with focal areas of infarction appearing hypoechoic relative to the surrounding parenchyma**

20. In hypothyroidism, what is the typical pattern of serum T3 and T4?

- A. T3 is decreased and T4 is elevated, with normal TSH
- B. Both T3 and T4 are decreased, with elevated TSH (in primary hypothyroidism)**
- C. Both T3 and T4 are normal, with low TSH
- D. Both T3 and T4 are elevated, with low TSH

21. Which sonographic findings are most characteristic of gangrenous cholecystitis?

- A. Layering low-level echoes that shift with patient position
- B. Multiple small wall-adherent soft-tissue projections without artifact
- C. Diffuse mural calcification with dense posterior shadowing
- D. Medium-to-coarse intraluminal echogenic membranes and debris that do not shadow, do not layer, and are not gravity-dependent**

22. Microcystic adenoma of the pancreas is also referred to as:

- A. Mucinous cystadenoma
- B. Serous cystadenoma**
- C. Intraductal papillary mucinous neoplasm
- D. Solid pseudopapillary neoplasm

23. True or False: Lymphoma and leukemia of the testis appear similar on sonography.

- A. False
- B. True**

24. Lipase is secreted primarily by which organ?

- A. Salivary glands
- B. Pancreas**
- C. Kidneys
- D. Liver

25. Which renal anomaly is defined as an additional kidney beyond the usual two?

- A. Complete duplex collecting system
- B. Horseshoe kidney
- C. Supernumerary kidney**
- D. Crossed-fused renal ectopia

26. Which congenital neck mass is most commonly located in the midline of the neck anterior to the trachea?

- A. Cystic hygroma
- B. Branchial cleft cyst
- C. Parathyroid adenoma
- D. Thyroglossal duct cyst**

27. Which sonographic appearance is most characteristic of a renal lipoma?

- A. A poorly defined hypoechoic mass within the renal sinus
- B. A complex cystic mass with irregular margins and renal vein thrombus
- C. A well-defined echogenic mass within the kidney**
- D. A bilateral pattern of multiple cysts of varying size

28. What is typically the first sonographic sign of a benign primary splenic tumor?

- A. Diffuse splenic calcifications.
- B. A peripheral wedge-shaped hypoechoic lesion.
- C. An anechoic cystic mass with posterior enhancement.
- D. Splenomegaly.**

29. Where is the superior mesenteric artery located in relation to the body of the pancreas?

- A. Anterior to the body of the pancreas

- B. Lateral to the body of the pancreas
- C. Superior to the body of the pancreas
- D. Posterior to the body of the pancreas**

30. What is the approximate length of the epididymis and width of its head?

- A. 15 to 20 cm long with a head 30 mm wide
- B. 10 to 12 cm long with a head 20 to 25 mm wide
- C. 1 to 2 cm long with a head 2 to 3 mm wide
- D. 6 to 7 cm long with a head 6 to 15 mm wide**

31. Which oxygen-binding protein is found within red blood cells?

- A. Ferritin
- B. Albumin
- C. Hemoglobin**
- D. Myoglobin

32. Which combination of clinical features is most characteristic of Letterer-Siwe disease?

- A. Painless jaundice with weight loss in older adults.
- B. Bone pain and skin pigmentation changes across all age groups.
- C. Diabetes insipidus and moderate hepatosplenomegaly in children older than 2 years.
- D. Fever, pulmonary involvement, age younger than 2 years, and a rapidly fatal course.**

33. Echinococcal cyst (hydatid disease) of the liver is most commonly encountered in regions with:

- A. Cattle dairy farming as the primary livestock industry
- B. Endemic schistosomiasis
- C. Sheep-herding populations**
- D. High rates of intravenous drug use

34. What is the term for a stone located within the kidney?

- A. Cystolithiasis
- B. Cholelithiasis
- C. Ureterolithiasis
- D. Nephrolithiasis (renal calculus)**

35. Which sonographic appearance is most characteristic of papillary necrosis?

- A. One or more round or triangular fluid-filled spaces at the corticomedullary junction**
- B. A well-defined hyperechoic cortical mass with posterior acoustic enhancement
- C. Bilateral massively enlarged echogenic kidneys with no corticomedullary differentiation
- D. Unilateral enlarged kidney composed of noncommunicating cysts of varying size

36. Which structures classically produce the sonographic 'reindeer' or 'bunny' sign on a transverse image at the level of the diaphragm?

- A. Three renal arteries entering the kidney
- B. Celiac trunk and its three branches
- C. Three portal vein branches at the porta hepatis
- D. Three hepatic veins draining into the inferior vena cava**

37. What is the normal anteroposterior measurement of the neck of the pancreas?

- A. Greater than 4 cm
- B. 3 to 4 cm
- C. 0.5 to 1 cm
- D. 1.5 to 2.5 cm**

38. What can cause the spleen to be displaced inferiorly?

- A. Left lower lobe pneumonia
- B. A mass in the left upper quadrant pushing the spleen downward**
- C. Volume loss in the left lung
- D. Paralysis of the left hemidiaphragm

39. What is the most common cause of increased renovascular impedance two weeks after renal transplantation?

- A. Cyclosporine toxicity.
- B. Renal artery stenosis.
- C. Lymphocele compression.

D. Acute rejection.

40. Which sonographic features are most characteristic of chronic hepatitis?

- A. Diffusely anechoic parenchyma with multiple cysts
- B. Hyperechoic 'starry sky' parenchyma with bright portal triads
- C. Smooth, homogeneous parenchyma indistinguishable from normal
- D. Coarse hepatic parenchyma with decreased brightness of the portal triad walls**

41. Which ultrasound technique helps demonstrate posterior shadowing behind a small renal calculus?

A. Tissue harmonic imaging

- B. M-mode imaging
- C. Power Doppler
- D. Pulsed wave Doppler

42. Where is the superior mesenteric artery located in relation to the celiac axis?

A. Inferior to the celiac axis

- B. Superior to the celiac axis
- C. Anterior to the celiac axis
- D. Lateral to the celiac axis

43. Which set of sonographic findings is most characteristic of a pancreatic abscess?

A. Poorly defined hypoechoic mass with smooth or irregular thick walls and possible internal echoes

- B. Small fibrotic gland with mixed echogenicity and a dilated duct
- C. Hyperechoic mass with posterior acoustic shadowing
- D. Well-defined anechoic mass with increased through-transmission and no internal echoes

44. What term describes diffuse calcium deposition primarily within the renal medulla (and occasionally the cortex)?

A. Nephrocalcinosis

- B. Nephrolithiasis
- C. Pyonephrosis
- D. Urolithiasis

45. Pregnancy-induced nonobstructive hydronephrosis is more commonly seen in which kidney?

- A. The left kidney
- B. Only in the lower pole of either kidney
- C. Equally in both kidneys
- D. The right kidney**

46. Where is the epididymis located in relation to the testis?

- A. Within the mediastinum testis
- B. Inferior to the seminal vesicle
- C. Anteromedial to the testis
- D. Posterolateral to the testis**

47. What are the three primary anatomic regions of extrahepatic biliary obstruction?

- A. Fundus, body, and neck of the gallbladder.
- B. Right hepatic duct, left hepatic duct, and cystic duct.
- C. Porta hepatis, suprapancreatic, and intrapancreatic.**
- D. Intrahepatic, hilar, and ampullary.

48. True or False: The cremasteric and deferential arteries, along with the testicular artery, travel within the spermatic cord to supply blood to the extratesticular structures.

- A. False
- B. True**

49. Are the papillomas seen with adenomyomatosis a precursor to gallbladder cancer?

- A. No.**
- B. Yes.

50. Which transducer is most commonly used for routine adult abdominal sonography?

- A. 12 to 18 MHz hockey-stick linear
- B. 2.5 to 5 MHz curvilinear**
- C. 1 to 2 MHz phased array
- D. 7 to 12 MHz linear