超音波測驗

Ultrasonography

2024年8月24日星期六

- 1. 除題意不清楚或是圖片有問題,禁止詢問與試題有關的問題。
- 2. 應答時禁止使用任何文件。
- 3. 請在電腦答案卡上圈選作答

| 項目 | 填寫內容 |
|--------|----------------------------------|
| 姓名 | 您的中文與英文姓名 |
| 試題名稱 | US Test |
| 項目 | 不用填寫 |
| 科目 | 不用填寫 |
| 受試者識別代 | 您的准考證號碼 24XXX |
| 碼 | 請填寫准考證後5碼,將您選定之數字的圓圈塗滿。 |
| 科目代碼 | 不用填寫 |
| 地點代碼 | 不用填寫 |
| 作答方式 | 本測驗共有 90 題問題。請使用 1 到 90 作答欄位。 |
| | 請將測驗卷 Q1 的答案填入答案卷的答案選擇 1。Q2 |
| | = 答案選擇 2, Q3 = 答案選擇 3…Q90 = 答案選擇 |
| | 90 • |

- Q1. What is the diagnostic criterion for an abdominal aortic aneurysm (AAA)?
 - A. Dilatation of the abdominal aorta measuring > 3.0 cm
 - B. Dilatation of the abdominal aorta measuring > 2.5 cm
 - C. Dilatation of the abdominal aorta measuring > 2.0 cm
 - D. Color Doppler shows aliasing artifact
 - E. Use Power to detect flow direction
- Q2. Which of the following statements is true?
 - A. Artifacts are inherent in the scanning process.
 - B. Artifacts may be caused by improper operation of equipment.
 - C. The finite size of the ultrasound beam prevents artifact formation.
 - D. Ultrasonic echoed originate from the main beam only.
 - E. Ultrasonic echoed originate from the most recent transmitted pulse only.
- Q3. Which is not possible artifact in Color Doppler?
 - A. Color flash
 - B. Color banding
 - C. Mirror image
 - D. Aliasing artifact
 - E. Range ambiguity
- Q4. What shape does free fluid present in the abdominal cavity?
 - A. Sharp and angular
 - B. Rounded
 - C. Spherical
 - D. All of the above
 - E. None of the above
- Q5. While obtaining a transverse view of the abdominal aorta, using low frequency curvilinear transducer, what should the probe orientation marker should be pointing towards?
 - A. The patient's right side
 - B. The patient's toes
 - C. The patient's left side
 - D. The patient's head
 - E. None of the above
- Q6. Which of the following is associated with the twinkling artifact?
 - A. Renal stone
 - B. Bladder mass
 - C. Renal cyst
 - D. Renal abscess
 - E. RCC

- Q7. Anechoic fluid anterior to the descending aorta in the parasternal long-axis (PLAX) view is consistent with which of the following diagnoses?
 - A. Ascites
 - B. Pericardial effusion
 - C. Pleural effusion
 - D. Pericarditis
 - E. None of the above
- Q8. When visualized with sonography, what is the initial presentation of a splenic infarct?
 - A. Wedge-shaped and hypoechoic
 - B. Circular-shaped and hyperechoic
 - C. Square-shaped and hyperechoic
 - D. Round-shaped and hypoechoic
 - E. Irregular-shape and
- Q9. Which ultrasound finding is indicative of hepatic steatosis?
 - A. Increased echogenicity
 - B. Isoechoic echogenicity
 - C. Decreased echogenicity
 - D. All of the above
 - E. None of the above
- Q10. A 45-year-old Asian male was brought to the Emergency Department after being involved in a motorcycle accident. Multiple bruises were observed over his trunk and extremities. What is the most probable diagnosis? (Fig 1).



Fig.1

- A. Liver cyst
- B. Small pleural effusion
- C. Free intraperitoneal fluid
- D. Retroperitoneal hematoma
- E. Liver abscess

- Q11. Which of the following is not a factor determining spatial resolution?
 - A. Frequency (wavelength)
 - B. Transmit intensity
 - C. Pulse interval
 - D. Acquisition
 - E. All of the above
- Q12. The maximum diameter of the common bile duct in young adult is:
 - A. 9 mm
 - B. 5 mm
 - C. 3 mm
 - D. 2 cm
 - E. 5 cm
- Q13. A 50-year-old obese male presented to the Emergency Department with right upper quadrant (RUQ) pain radiating to the right shoulder along with nausea and decreased appetite. Fig 2 was one of the images obtained during the scan. What is the possible diagnosis?

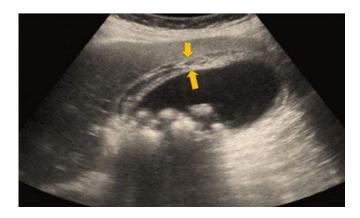


Fig 2

- A. Acute calculous cholecystitis
- B. Porcelain gallbladder
- C. Gallbladder polyps
- D. Abscess
- E. Gallbladder carcinoma

Q14. A 50-year-old female complained of digestive disorders and dyspepsia. She related occasional pain in the right upper quadrant of the abdomen. An ultrasound exam was performed (Fig 3). The possible diagnosis might be



Fig 3

- A. Acute Cholecystitis
- B. Gallbladder Carcinoma
- C. Gallbladder Adenomyomatosis
- D. Chronic Cholecystitis
- E. Multiple gallstones
- Q15. Which of the following cannot find in the region of cyst?
 - A. Echo-free
 - B. Acoustic shadowing
 - C. Well-defined margin
 - D. Acoustic enhancement
 - E. All of the above

Q16. The arrow (Fig 4) indicates:



Fig.4

- A. Portal vein
- B. IVC
- C. Left hepatic vein
- D. hepatic artery
- E. Right hepatic vein

Q17. Fig 5 was obtained in the right lower abdomen in a 35-year-old female using a high frequency linear transducer. The patient complained of right lower quadrant (RLQ) and periumbilical pain along with nausea, vomiting, and fever for the past 2 days. What is the most likely diagnosis?



Fig.5

- A. Appendicitis
- B. Small bowel obstruction
- C. Diverticulitis
- D. Polyp
- E. None of the above

- Q18. Which of the following properties of ultrasound forms the basis for elastic imaging?
- A. Harmonic scattering from microbubbles
- B. Tissue-dependent attenuation
- C. Nonlinear propagation
- D. Stress/strain of tissue
- E. Doppler effect
- Q19. The OB first trimester preset was selected. The image (Fig 6) shows two acoustic parameters displayed on the image. They are MI and TI. What do TI and MI stand for?



Fig 6

- A. TI = Thermal Index; MI = Motion Index
- B. TI = Temporal Index; MI = Motion index
- C. TI = Temporal Index; MI = Mechanical Index
- D. TI = Thermal Index; MI = Mechanical Index
- E. None of the above
- Q20. An increased resistivity index (RI) in the common carotid artery may indicate:
- A. stenotic disease proximal to the sample size
- B. stenotic disease distal to the sample size
- C. disease at the sample site
- D. sample volume placement too close to the arterial wall
- E. All of the above

Q21. What does this image demonstrate (Fig 7)?



Fig 7

- A. Renal cyst
- B. Mild hydronephrosis
- C. Renal abscess
- D. Moderate-severe hydronephrosis
- E. Ascites

Q22. What do A and B correspond to (Fig 8)?

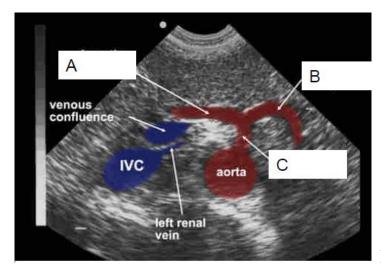


Fig 8

- A. A = celiac axis (trunk), B = splenic artery
- B. A = portal vein, B = splenic vein
- C. A = common hepatic artery, B = splenic artery
- D. A = SMA, B = SMV
- E. A = common hepatic artery, B = SMA

Q23. What structures do 7 and 8 correspond to Fig 9?

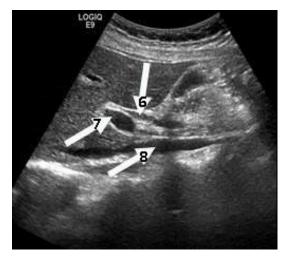


Fig.9

- A. 7 =liver, 8 =renal parenchyma
- B. 7 = portal vein, 8 = SMV
- C. 7 = portal vein, 8 = IVC
- D. 7 = liver, 8 = aorta
- E. 7 = CBD, 8 = IVC
- Q24. As the supervisor, what should you do in response to complaints of poor clinical image quality by a single sonographer?
- A. Call for service
- B. Purchase a new scanner
- C. Investigation if the problem is associated with a particular transducer or sonographer
- D. Providing skills course to sonographer
- E. Fire the staff
- Q25. An abscess may appear sonographically:
- A. Echo free with well-defined borders
- B. Solid with smooth borders
- C. A variable echo texture with irregular borders
- D. Hyperechoic with well-defined borders
- E. Hyperechoic with ill-defined borders

Q26. What are the artifacts shown in figure 10?

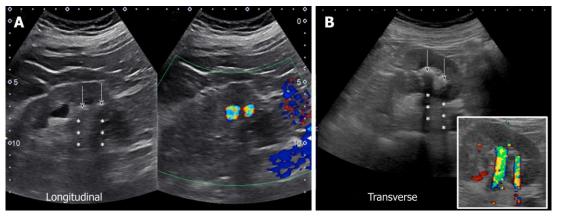


Fig.10

- A. Grating lobe
- B. Side lobe
- C. Comet tail artifact
- D. Mirror artifact
- E. Twinkling artifact
- Q27. The possible diagnosis in Fig 10 (Q26) might be
 - A. Acute nephritis
 - B. Renal cyst
 - C. Hydronephrosis
 - D. Renal stone
 - E. RCC

Q28. What are the artifacts shown in the figure 11?



Fig.11

- A. Comet tail artifact
- B. Side lobe
- C. Acoustic shadowing
- D. Mirror artifact
- E. Multiple reflection

- Q29. Obstructive jaundice may be diagnosed sonographically by demonstrating:
 - A. A mass on the head of the pancreas with a dilated common bile duct
 - B. An enlarged liver
 - C. A fibrotic and shrunken liver
 - D. Cholangitis
 - E. Solid mass
- Q30. A breast US examination was performed. What structures do 7 and 8 correspond to Fig 12.

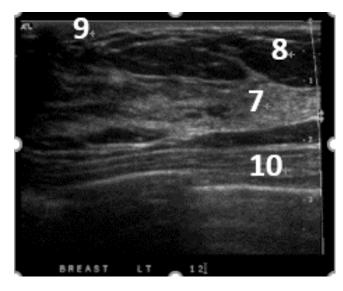


Fig.12

- A. 7 = glandular tissue, 8 = subcutaneous fat
- B. 7 = glandular tissue, 8 = superficial fascial layer
- C. 7 = Cooper ligament, 8 = glandular tissue
- D. 7 = retromammary fat, 8 = pectoralis major muscle
- E. 7 = Cooper ligament, 8 = subcutaneous fat
- Q31. Which if the following is not a spectral Doppler artifact?
 - A. Crosstalk
 - B. Aliasing
 - C. Reverberation
 - D. Clutter
 - E. Spectral mirror
- Q32. Which of the following phantoms is used for sonographic quality assurance performance?
 - A. Sensitometry wedge phantom
 - B. Tissue equivalent phantom
 - C. Constancy test phantom
 - D. Axis alignment phantom
 - E. All of the above

- Q33. Hepatomegaly is diagnosed when the measurement of the right liver lobe (RLL) length by two-dimensional (2D) ultrasound is greater than:
 - A. 11 cm
 - B. 9 cm
 - C. 15 cm
 - D. 7 cm
 - E. 17 cm
- Q34. The sonographer has adjusted system settings, increasing output power. Which of the following occurs?
- A. Overall gain increases
- B. The displayed image darkens
- C. Voltage decreases
- D. Penetration decreases
- E. All of the above
- Q35. Which of the following tissue absorbs sound the most?
- A. A renal cyst
- B. A fatty liver
- C. Gut filled with air
- D. Bony tissue
- E. Gallbladder
- Q36. All of the following will help to distinguish the aorta from the inferior vena cava EXCEPT
- A. The aorta lies more in the midline
- B. The inferior vena cava is normally to the left of the aorta
- C. The inferior vena cava is normally compressible while the aorta is not
- D. The aorta has branches arising anteriorly
- E. The aorta is round shape
- Q37. Compare the echogenicity's of the following structures and place them in decreasing echogenic order.
- A. Renal sinus > liver > spleen > gallbladder
- B. Pancreas > liver > renal sinus > gallbladder
- C. Renal parenchyma > spleen > liver > pancreas
- D. Gallbladder > pancreas > spleen > renal medullar
- E. Liver > pancreas > spleen > renal sinus
- Q38. All of the following are features of portal hypertension EXCEPT:
- A. Collaterals
- B. Splenomegaly
- C. Ascites
- D. Hepatic artery thrombosis
- E. Portal vein dilation

Q39. The possible diagnosis (halo sign) in Fig 13 might be?

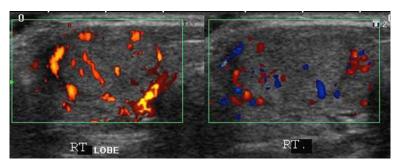


Fig.13

- A. Thyroid cyst
- B. Adenoma
- C. Thyroid abscess
- D. Thyroiditis
- E. Goiter
- Q40. What three structures comprise the portal triad?
 - A. Portal vein, bile duct, hepatic artery
 - B. Portal vein, bile duct, hepatic vein
 - C. Bile duct, hepatic vein, hepatic artery
 - D. Hepatic vein, hepatic artery, lymph node
 - E. Hepatic vein, hepatic artery, portal vein
- Q41. During ultrasound evaluation of the liver, a bull's eye or target lesion is identified in the anterior right lobe. The most likely etiology of this mass is:
- A. Liver abscess
- B. Hepatic adenoma
- C. Focal nodular hyperplasia
- D. Hepatocellular carcinoma
- E. Liver metastasis

Q42. Fig 14 is the "Barrel shotgun sign". What is the most likely diagnosis?

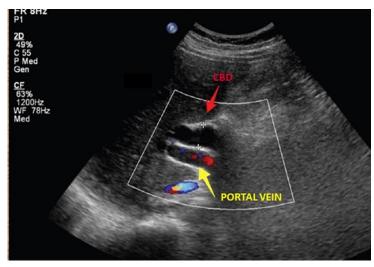


Fig.14

- A. Gallbladder carcinoma
- B. Gallstone
- C. Acute cholectstitis
- D. Dilated common bile duct
- E. HCC
- Q43. You have detected compensatory hypertrophy of the right kidney in a 35-year-old male. This finding is associated with which of the following?
- A. Nephrectomy
- B. Renal agenesis
- C. Renal hypoplasia
- D. Renal atrophy
- E. All of the above
- Q44. This bidirectional, turbulent, swirling blood-flow pattern known as the "yin-yang" or "Pepsi" sign is characteristic of:
- A. AVF thrombosis
- B. Aliasing
- C. Pseudoaneurysm
- D. Outflow stenosis
- E. Arteriovenous malformation

Q45. A normal hepatic vein Doppler waveform is shown (Fig 15). Identify the waveforms labeled 1, 2, 3 & 4.

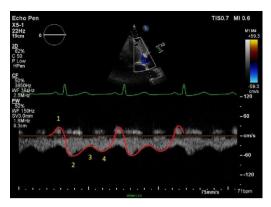


Fig 15

- A. 1 = A (atrial contraction), 2 = D (early diastole), 3 = V (end-systole), 4 = S (ventricular systole)
- B. 1 = A (atrial contraction), 2 = S (ventricular systole), 3 = V (end-systole), 4 = D (early diastole)
- C. 1 = A (atrial contraction), 2 = S (ventricular systole), 3 = D (early diastole), 4 = V (end-systole)
- D. 1 = S (ventricular systole), 2 = A (atrial contraction), 3 = V (end-systole), 4 = D (early diastole)
- E. 1 = D (early diastole), 2 = A (atrial contraction), 3 = V (end-systole), 4 = S (ventricular systole)

Q46. What is possible diagnosis on the sonography image (Fig 16)?

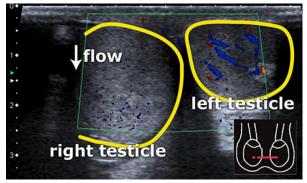


Fig.16

- A. Testicular torsion
- B. Testicular carcinoma
- C. Varicocele
- D. Hydrocele
- E. None of the above

Q47. The maximum inner diameter of the pancreatic duct in young adult is:

- A. 1 cm
- B. 2 mm
- C. 4 mm
- D. 1 mm
- E. above 3 cm

Q48. Color map baselines are always represented by:

- A. White
- B. Black
- C. Red
- D. Blue
- E. Green

Q49. This spleen ultrasound image of arrowhead (Fig 17) demonstrates



Fig.17

- A. Metastasis
- B. Splenomegaly
- C. Accessory spleen
- D. Splenic abscess
- E. Lymphoma

Q50. Which of the following is the incorrect description for the image (Fig 18)?



Fig.18

- A. IVC can be observed
- B. Severe fatty liver image
- C. Hepatic artery cannot be observed
- D. Middle hepatic vein is observed
- E. Portal vein wall appears bright echo

Q51. What is possible diagnosis on the sonography image (Fig 19)?

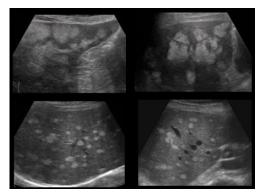


Fig 19

- A. Liver Steatosis (fatty liver)
- B. Cyst
- C. Stone
- D. Calcification
- E. HCC

Q52. What is possible diagnosis on the sonography image (Fig 20)?



Fig.20

- A. Dilation of splenic vein
- B. Splenomegaly
- C. Acute nephritis
- D. Lymphoma
- E. 1 and 3

Q53. Which area of liver is showed on this sonogram of A (Fig 21)?



Fig.21

- A. 1
- B. 2
- C. 4
- D. 7
- E. 8

Q54. What is possible diagnosis on the sonography image (Fig 22)?



Fig.22

- A. Bladder stone
- B. Prostatitis
- C. Prostatic carcinoma
- D. Ureteric stone
- E. BPH
- Q55. The resistive index (RI) in the renal arteries should not exceed
- A. 0.2
- B. 0.5
- C. 0.7
- D. 1.0
- E. 1.2

Q56. What is possible diagnosis on the sonography image (Fig 23)?



Fig. 23

- A. HCC
- B. Hemangioma
- C. Liver cyst
- D. Liver abscess
- E. Acute hepatitis
- Q57. A patient comes into the ER experiencing flu-like symptoms. An ultrasound was performed and the liver parenchyma appeared more echogenic and slightly enlarged. The gallbladder wall was thickened. The most likely diagnosis is:
- A. Biliary Obstruction
- B. Acute Hepatitis
- C. Chronic Hepatitis
- D. Diffuse Hepatocellular disease
- E. Hepatic cyst

Q58. Fig 24 is the thyroid elastography. What is possible diagnosis?

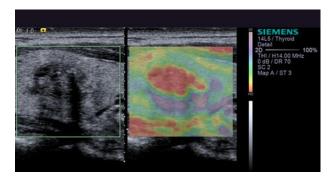


Fig.24

- A. Hemorrhagic cyst
- B. Thyroid carcinoma
- C. Goiter
- D. Thyroiditis
- E. Adenoma

Q59. Monophasic flows are seen in:

- A. Hepatic veins
- B. Portal veins
- C. Hepatic artery
- D. Superior mesentery Artery
- E. Aorta

Q60. The below image is TCD (Fig 25). What should be written in 21?

Trans-squamous Scanning

21

Fig.25

- A. ACA (anterior cerebral artery)
- B. VA (vertebral artery)
- C. MCA (middle cerebral artery)
- D. PCA (posterior cerebral artery)
- E. None of the above

Q61. A patient with abdominal ascites due to cirrhosis of the liver is most likely to have fluid visualized on ultrasound in which of the following areas?

- A. Pouch of Douglas
- B. Morison's pouch
- C. Hesselbach triangle
- D. Kiesselbach plexus
- E. None of the above

Q62. Carotid intima-media thickness (IMT) has been shown to predict cardiovascular (CV) risk. However, the normal IMT is dependent upon age and gender. In general, the normal IMT is < A mm and abnormal is > B mm. A and B are:

- A. 0.2; 0.5
- B. 0.5; 0.8
- C. 0.8; 1.1
- D. 1.0; 1.5
- E. 1.5; 2.0.

Q63 It shows numerous cysts and renal hyperplasia with disappearance of renal parenchyma with the autosomal dominant trait. Which disease of the following has the highest possibility with cyst of liver, pancreas and spleen?

- A. Hydronephrosis
- B. Parapelvic cyst
- C. Wilms's tumor
- D. Polycystic kidney
- E. Renal stone

Q64. Which of the following is related to autoimmunity of thyroid gland?

- A. Hashimoto's thyroiditis
- B. Follicular carcinoma
- C. Lymphoma
- D. Colloid cyst
- E. Adenoma

Q65. What are the malignant tumors and ultrasound aspects that occur mostly in the pancreas?

- A. Islet cell tumor, hypoechoic
- B. Islet cell tumor, hyperechoic
- C. Adenocarcinoma, hyperechoic
- D. Adenocarcinoma, hypoechoic
- E. None of the above

Q66. Which of the following is true about Sonographic character of late chronic pancreatitis?

- A. Echo of pancreas increase
- B. The boundaries of the pancreas clearly shows
- C. Pancreatic duct dilatation due to pancreatic duct stone
- D. There is no change in the size of the pancreas
- E. All of the above

Q67. Which of the following is incorrect about carotid ultrasound image (Fig 26)?

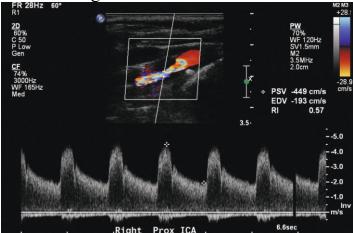


Fig 26

- A. Spectral waveform shows a severe internal carotid artery (ICA) occulsion.
- B. Color Doppler image shows a severe internal carotid artery (ICA) stenosis
- C. The color shifts indicate a high velocity jet and the spectral waveform shows an increased peak systolic velocity (PSV) of 449 cm/s and markedly elevated end-diastolic velocity (EDV) of 193 cm/s.
- D. RI is less than 0.7
- E. Spectral broadening disappears

Q68. Which of the following is incorrect about carotid ultrasound image?

- A. Normally uses linear transducer
- B. ECA RI is less than ICA
- C. The pulsed Doppler sample volume size should be kept as small as possible
- D. The normal vertebral artery waveform is similar to that of the ICA, with PSV in the range of 20 to 40 cm/s
- E. Patient's position is normally on supine position

Q69. Which of the following is incorrect about pancreas ultrasound?

- A. Located in the anterior pararenal space, anterior to the aorta and IVC
- B. Pancreatic head lies anterior to the IVC, CBD & LRV, inferior to the caudate lobe and MPV, medial to 2nd portion of duodenum
- C. The uncinate process lies anterior to the SMV
- D. The tail of the pancreas lies splenic vein is the posterior body of the tail
- E. It is more echogenic with age

Q70. What are the landmarks to identify when scanning the pancreas?

- A. SMA
- B. Splenic vein
- C. Portal vein
- D. Aorta
- E. All of the above

- Q71. What are the sonographic findings for acute pancreatitis EXCEPT?
- A. Normal size to enlargement,
- B. Hyperechoic texture
- C. Irregular borders,
- D. Enlarged head causing IVC depression,
- E. Pseudocyst may appear
- Q72. What is the folding of fundus over the body when we performed the gallbladder scanning?
- A. Phrygian Cap
- B. Micky mouse sign
- C. Hartman's Pouch
- D. Target sign
- E. None of the above

Q73. According to Fig 27, What is possible diagnosis?





Fig 27

- A. Normal aorta
- B. AAA
- C. Renal tumor
- D. Aortic dissection
- E. None of the above
- Q74. What is it called when a clinician presses over the gallbladder and the person has pain?
- A. Micky mouse sign
- B. Sololucent sign
- C. Target sign
- D. Positive Murphy's sign
- E. Kawasaki

Q75. The sonographic image of parathyroid carcinoma EXCEPT:

- A. Irregular mass
- B. Lobulated
- C. More homogeneous than benign adenoma
- D. Internal cystic components
- E. Asymmetric enlargement of the INFERIOR thyroidal artery on side of the lesion

Q76. Which of the following is true based on Fig 28?

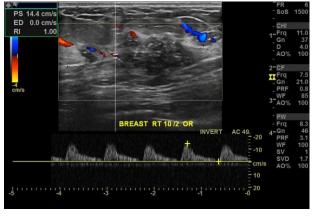


Fig 28

- A. Horseshoe kidney
- B. Hydronephrosis
- C. Nephritis
- D. Renal
- E. None of the above

Q77. According to Fig 29, the classification of BIRADS is:





(Fig 29)

- A. 0
- B. 1
- C. 2
- D. 3
- E. 5

Q78. What is the normal GB wall measurement in a fasting patient?

- A. < 0.5 mm
- B. < 1 mm
- C. < 3 mm
- D. < 1 cm
- E. < 2 cm

Q79. According to Fig 30, what is possible diagnosis?

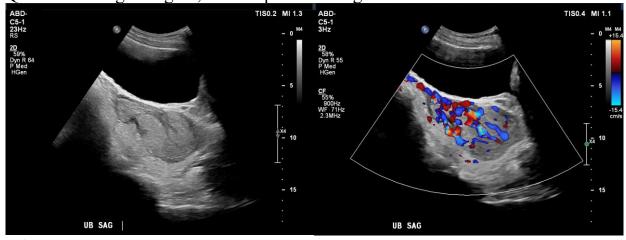




(Fig 30)

- A. Normal kidney
- B. Renal stone
- C. Renal stone
- D. Renal abscess
- E. Angiomylipoma (AML)

Q80. According to Fig 31, what is possible diagnosis?

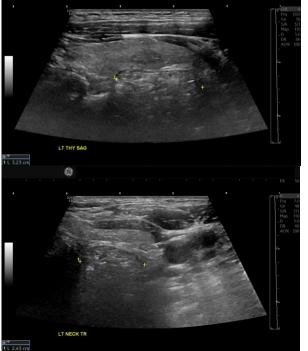


(Fig31)

- A. Rectal carcinoma
- B. Ascites
- C. Bladder stone
- D. BPH
- E. Bladder carcinoma

Q81. According to Fig 32, what is possible diagnosis? (Hint: Mimicking a Thyroid

Nodule)



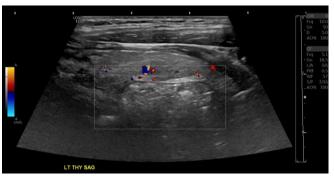


Fig 32

- A. Killian-Jamieson diverticulum (KJD)
- Adenoma В.
- C. Thyroid cyst
- D. Lymph node
- None of the above

Q82. What is the most probable diagnosis? (Fig 33)?





Fig 33

- A. Hepatic cyst
- Hemangioma B.
- Ascites C.
- D. Fatty liver
- Liver metastasis

Q83. Fig 34 demonstrates:





Fig 34

- A. Portovenous shunt
- B. Hepatic vein confluence
- C. Seagull sign
- D. Portal triad
- E. None of the above

Q 84. The sonogram appearance of parathyroid adenomas EXCEPT:

- A. Small masses, may be larger than 1cm before detected
- B. Usually uniformly solid, internal cystic changes and calcification possible
- C. Usually 1-3 cm and may have vascular component
- D. Hyperplasia and adenomas look similar
- E. Hyperechoic compared to thyroid tissue

Q85. Sonographic appearance of epididymitis:

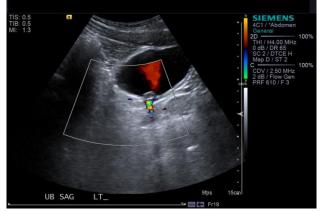
- A. Acute epididymitis appears hypoechoic.
- B. Acute epididymitis Doppler shows increased blood flow.
- C. Chronic epididymis appears with enlargement.
- D. Chronic epididymis appears hyperechoic.
- E. All of the above

Q86. On breast scanning, how do ligaments appear on U/S

- A. Echo-free
- B. Isoechoic
- C. Hypoechoic
- D. Hyperechoic
- E. Variant

Q87. According to Fig 35, what is possible diagnosis?





- A. UVJ stone
- B. UP stone
- C. Bladder carcinoma
- D. Foley catheter
- E. None of the above

Q88. The MOST degenerative process with eosinophilic, fibrillar and mucoid degeneration and characterized by heterogeneous, ill-defined hypoechoic area w/o defect on shoulder sonogram is:

- A. Rotator cuff tear
- B. Rotator cuff cyst
- C. Tendinosis
- D. Osteoporosis
- E. Abscess

Q89. What does a liver abscess look like EXCEPT?

- A. Complex collections with debris echo
- B. Septation (septum)
- C. Gas
- D. Irregular borders
- E. Hyperechoic

Q90. Which portion of the liver recieve both right and left portal branches?

- A. Caudate lobe
- B. Left Lobe
- C. Right lobe
- D. Quadrant lobe
- E. None of the above