

超音波測驗

Ultrasonography

2015 年 8 月 30 日星期日

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
受試者識別代碼	您的准考證號碼 1”000**” 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解答番號 1。Q2 = 解答番號 2，Q3 = 解答番號 3...Q90 = 解答番號 90。

Q1. Membranous obstruction of the IVC, hypercoagulation states, compression of Hepatic Veins (liver tumors and cirrhosis) or tumor invasion. These are all causes of what syndrome?

- 1) Turner Syndrome
- 2) Portal Hypertension
- 3) Budd-Chiari syndrome
- 4) Kaposi's sarcoma

Q2. If the physical size of a cyst is 3 cm in diameter, what is the depicted size in the image? Assume that the acoustic velocity in the cyst is 1000 m/s?

- 1) 1.3 cm
- 2) 2 cm
- 3) 3.1 cm
- 4) 4.6 cm

Q3. As the supervisor, what should you do in response to complaints of poor clinical image quality by a single sonographer?

- 1) Call for service
- 2) Purchase a new scanner
- 3) Investigation if the problem is associated with a particular transducer or sonographer
- 4) Providing skills course to sonographer

Q4. Steering the color window to the right or left produces a(n) _____ frame rate.

- 1) doubled
- 2) halved
- 3) unchanged
- 4) quartered

Q5. The upper limits of the normal intraluminal diameter of the CBD should not exceed

- 1) 4 mm
- 2) 7 cm
- 3) 7 mm
- 4) 10 mm

Q6. A benign mass composed of a tangle of blood vessels in the liver is called?

- 1) Adenoma
- 2) Hamartoma
- 3) Ewing's angioma
- 4) Hemangioma

Q7. Using Ultrasound Harmonics what change do we see in the wavelength?

- 1) It is doubled
- 2) It is quadrupled
- 3) It is quartered
- 4) It is halved

Q8. What structure may cause the IVC to be pushed anteriorly?

- 1) Renal Artery
- 2) Spine
- 3) Lymph Nodes
- 4) Small Bowel

Q9. Hyperechoic structures are? An example of a hyperechoic tissue is?

- 1) More reflective and bright, fat
- 2) More reflective and bright, fluid
- 3) Less reflective and dark, fat
- 4) Less reflective and dark, fluid

Q10. A patient with a known mass in the left medial segment of the liver. What anatomical landmark can you use to identify the left medial segment separate from the right anterior segment of the liver?

- 1) Left portal vein
- 2) Ligamentum teres
- 3) Ligamentum venosum
- 4) Middle hepatic vein

Q11. What differentiates the hepatic veins from the portal veins?

- 1) Hepatic veins converge toward the porta hepatis
- 2) Hepatic veins have brightly echogenic walls
- 3) Portal veins normally exhibit a triphasic flow pattern
- 4) Portal veins are accompanied by branches of the biliary tree and hepatic artery

Q12. A 57 yr old male presents to the doctor with a hx. of cirrhosis, increased serum bilirubin, and hepatic encephalopathy. After his ultrasound you saw that the liver is coarse and echogenic, there is reversal of the normal portal venous blood flow, the spleen is enlarged measuring 15 cm, there are multiple varices in the splenic hilum, and very prominent vasculature is seen in the left renal hilum. What is the most likely Diagnosis?

- 1) Hepatocellular Carcinoma secondary to cirrhosis
- 2) Metastatic Disease
- 3) Splenorenal shunt secondary to cirrhosis and portal venous hypertension
- 4) Intrahepatic Biliary cirrhosis accompanied by portal hypertension

Q13. Which of the following is not visualized during an ultrasound exam if normal scrotum?

- 1) mediastinum testis
- 2) head of epi
- 3) body of epi
- 4) spermatic cord

Q14. All of the following are associated with cirrhosis except

- 1) ascites
- 2) splenomegaly
- 3) jaundice
- 4) hepatomegaly

Q15. High-resistance Doppler spectral waveforms recorded throughout the renal medulla and cortex would suggest

- 1) proximal renal artery stenosis
- 2) flow-limiting disease in the distal renal artery
- 3) intrinsic medial renal disease
- 4) the presence of accessory renal arteries

Q16. Splenomegaly is diagnosed when the spleen is greater than

- 1) 8 cm
- 2) 11 cm
- 3) 13 cm
- 4) 15 cm

Q17. The resistive index (RI) in the renal arteries should not exceed

- 1) 0.2 2) 0.5 3) 0.7 4) 1.00

Q18. A 35 yr. Old male with a history of steroid use presents for a RUQ ultrasound to evaluate a palpable mass. Lab work shows normal LFTs. During your scan you find a hyperechoic mass in the Right lobe. Your differential diagnosis should include all of the following, EXCEPT

- 1) cavernous hemangioma 3) hepatic adenoma
2) focal nodular hyperplasia 4) hepatoblastoma

Q19. Most common benign tumor of the gallbladder is:

- 1) Klatskin tumor 3) adenoma
2) adenomyomatosis 4) gallbladder carcinoma

Q20. Chronic renal disease is associated with:

- 1) an enlarged kidney with a small contralateral kidney
2) unilateral hydronephrosis
3) small echogenic kidneys
4) large echogenic kidneys

Q21. Splenomegaly may be caused by all of the following, except:

- 1) a left subphrenic abscess 3) portal vein thrombus
2) an inflammatory process 4) polycythemia vera

Q22. The portal veins can be differentiated from the hepatic veins by all of the following except:

- 1) portal veins become larger as they approach the diaphragm
2) portal veins have echogenic borders
3) portal veins bifurcate into the right and left branches
4) the main portal vein is part of the portal triad

Q23. A benign, non-shadowing tumor attached to the inner lumen of the GB is known as:

- 1) cholesterol polyp 3) sludge ball
2) junctional fold 4) cholelithiasis

Q24. The most common tumor in children is

- 1) renal cell carcinoma 3) simple cyst
2) Wilm's tumor 4) angiomyolipoma

Q25. The portion of the pancreas that lies posterior to the posterior mesenteric artery and vein is the

- 1) head
- 2) uncinated process
- 3) body
- 4) tail

Q26. In the fasting patient, what is a common cause for sonographic nonvisualization of the gallbladder?

- 1) contraction of the gallbladder due to chronic cholecystitis
- 2) biliary sludge
- 3) mobile stone
- 4) the ingestion of oral contrast medium used in x-rays of the gallbladder prior to sonographic examination

Q27. A rare malignancy that occurs in the spleen. Most patients present with anemia. S/A is similar to a cavernous hemangioma. Frequently metastasizes to the liver.

- 1) Hamartoma
- 2) Cavernous Lymphangioma
- 3) Epidermoid cyst
- 4) Hemangiosarcoma

Q28. Dilation of the intrahepatic bile ducts maybe seen with all the following except

- 1) Intrahepatic mass in area of the portal hepatitis
- 2) Polyp in the fundus of the gallbladder
- 3) Obstructive stone in the cystic duct
- 4) Lymphadenopathy in the portal hepatitis

Q29. Triphasic flows are seen in

- 1) hepatic veins
- 2) portal veins
- 3) hepatic artery
- 4) Superior mesentery Artery

Q30. Which of the following pathology is common to be identified in the spleen?

- 1) True cysts
- 2) Splenic abscess
- 3) Hemangiosarcoma
- 4) Cavernous hemangioma

Q31. 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:

- 1) Biliary Obstruction
- 2) Acute Hepatitis
- 3) Chronic Hepatitis
- 4) Diffuse Hepatocellular disease

Q32. A 52 yr. old female presents with fever and chills. She is complaining of flank pain. She recently passed stones but is still experiencing pain. She has blood in her urine. On the ultrasound exam, low-level echoes with fluid-debris were seen in the kidneys. The most likely diagnosis is:

- 1) Acute Tubular Necrosis
- 2) Lupus Nephritis
- 3) Emphysematous Pyelonephritis
- 4) Pyonephrosis

Q33. Pain on palpation over the area of the gallbladder is called

- 1) Hump sign
- 2) Murphy's sign
- 3) Target's sign
- 4) pseudokidney sign

Q34. Which of the following causes mirror image artifact?

- 1) Refraction
- 2) Reflection
- 3) Attenuation
- 4) Propagation speed error

Q35. If you remove a focal zone your frame rate will?

- 1) Stay the same
- 2) Be 1/2
- 3) Improve
- 4) Decrease

Q36. 2 small structures are 2.4 mm apart. A line connecting them is perpendicular to the main axis of an US beam. what will determine whether these areas will appear as two distinct images on the systems display?

- 1) PRF
- 2) Beam width
- 3) Pulse length
- 4) PRP (Pulse Repetition Period)

Q37. Comet tail artifact is similar to ring down artifact. What characteristic causes the traditional "comet tail"?

- 1) Increasing strength of the return echo reverberations.
- 2) Closely spaced reverberations that merge together.
- 3) Gas trapped within the structure.
- 4) Cavitation within the originating echogenic reflector.

Q38. This type of artifact causes an ultrasound reflection to be placed at an incorrect depth.

- 1) Longitudinal resolution
- 2) Shadowing
- 3) Range ambiguity
- 4) Lateral uncertainty

Q39. The gallbladder wall should be less than ____ mm in thickness.

- 1) 5
- 2) 3
- 3) 4
- 4) 2

Q48. If a patient presents with weight loss and jaundice, one would expect to find all of the below *except*

- 1) liver metastasis
- 2) dilated CBD
- 3) hemangioma
- 4) hepatoma

Q49. Which of the following properties of ultrasound forms the basis for intermittent imaging with contrast agents?

- 1) Harmonic scattering from microbubbles
- 2) Tissue-dependent attenuation
- 3) Nonlinear propagation
- 4) Stress/strain of tissue

Q50. What are the dimensions of the normal appendix as seen on ultrasound?

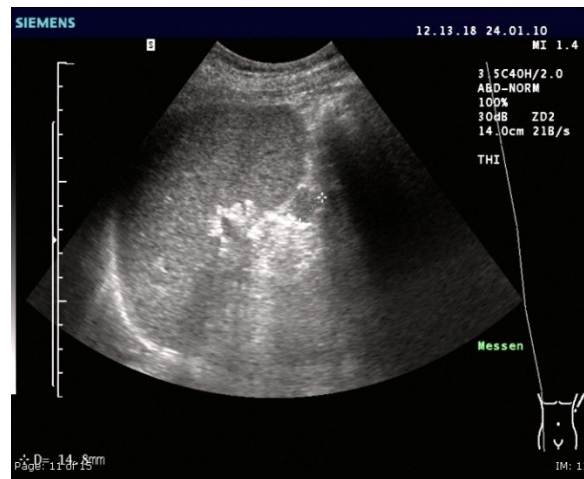
- 1) 7 cm x 2 cm
- 2) 7 mm x 2 mm
- 3) 7 in x 2 in
- 4) The normal appendix cannot be visualized on ultrasound

Q51. The maximum inner diameter of the pancreatic duct in young adults is

- 1) 5 mm
- 2) 4 mm
- 3) 3 mm
- 4) 2 mm

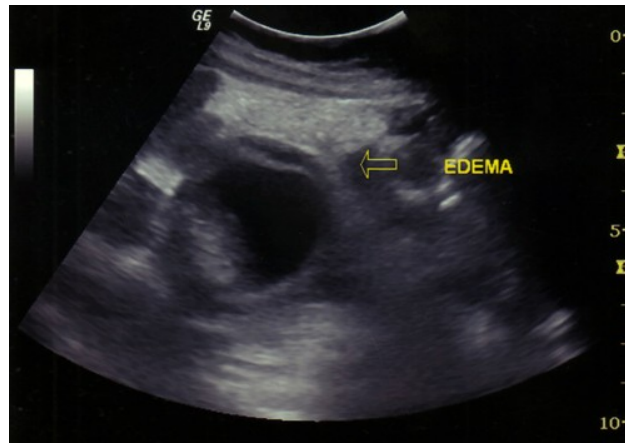
Q52. The below image indicates 14.8 mm _____ at spleen. What should be written in the blank?

- 1) accessory spleen
- 2) lymphoma
- 3) splenomegaly
- 4) splenic abscess



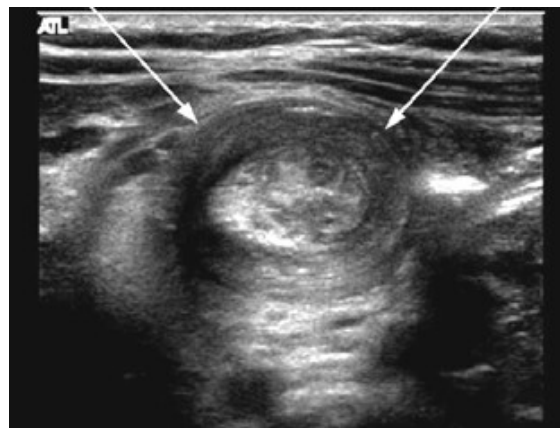
Q53. A female patient presents sonographically with a long, slender projection off of the right lobe of the liver. The BEST choice for this is most likely what?

- 1) Reidel's lobe
- 2) Hepatitis
- 3) Malignant tumor
- 4) Cirrhosis



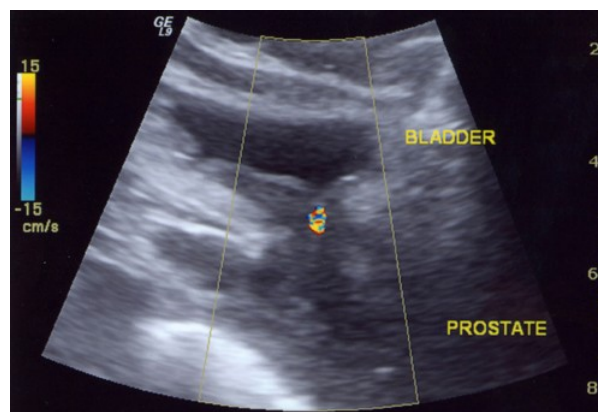
Q54. This 11 months infant had right abdominal ultrasound examination. The possible diagnosis in this image is

- 1) intussusception
- 2) lymphoma
- 3) lymph node
- 4) appendicitis



Q55. Name the pathology seen here.

- 1) Kidney Stone
- 2) Ureteral Stone
- 3) Urethral Stone
- 4) Foley Catheter *Hint:
Color flow shows classic Twinkle artifact



Q56. Name the pathology seen here.

- 1) appendicitis
- 2) hernia
- 3) tumor
- 4) abscess



Q57. What normal variant is seen on this image?

- 1) Renal Artery Stenosis
- 2) Hyperemic Kidney
- 3) Duplicated Collecting System
- 4) Duplicated Renal Vein



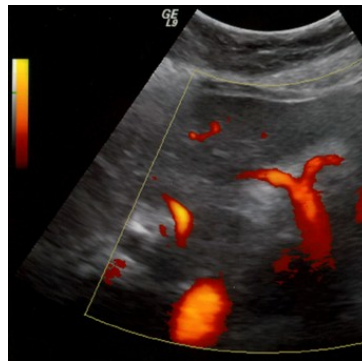
Q58. The possible diagnosis might be

- 1) polyp
- 2) diverticulosis
- 3) sigmoid cancer
- 4) calcification



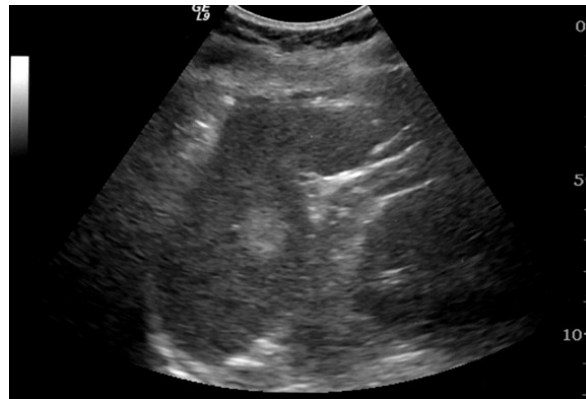
Q59. This image shows this branch of the Aorta.

- 1) Celiac Access
- 2) Splenic Artery
- 3) Left Gastric Artery
- 4) Common Hepatic Artery



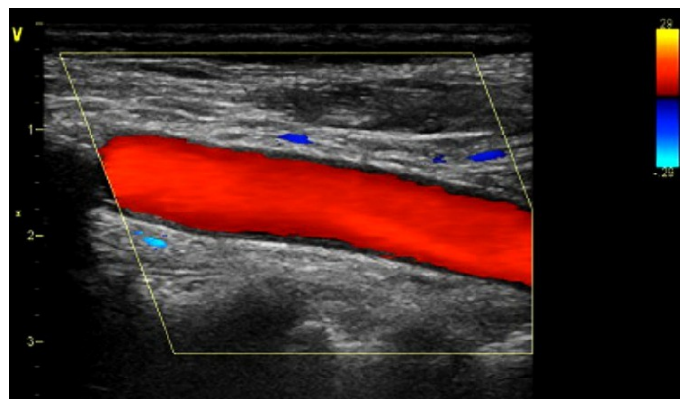
Q60. Though a rare finding in and of itself the pathology seen in this image is the most common benign neoplasm of the spleen.

- 1) Lymphangioma
- 2) Granuloma
- 3) Hamartoma
- 4) Hemangioma



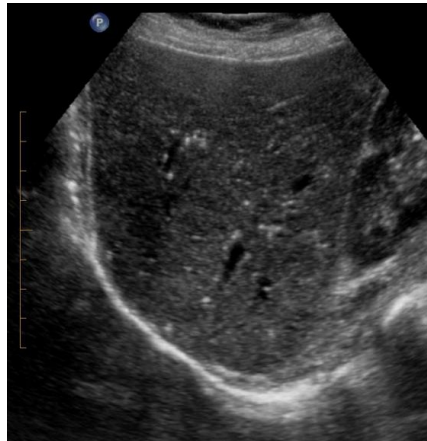
Q61. In this image what is the direction of flow?

- 1) Cannot be determined from this image
- 2) Away from the Transducer
- 3) Towards the Transducer
- 4) Flow is Laminar



Q62. A “starry night” appearance is a sonographic finding with what pathology?

- 1) Budd- Chari Syndrome
- 2) Cirrhosis
- 3) Acute Hepatitis
- 4) Hepatoma



Q63. Name the "sign" associated with a dilated common bile duct. Dilated Common Bile Duct

- 1) Trademark
- 2) Too many tubes
- 3) Murphy's
- 4) Shotgun



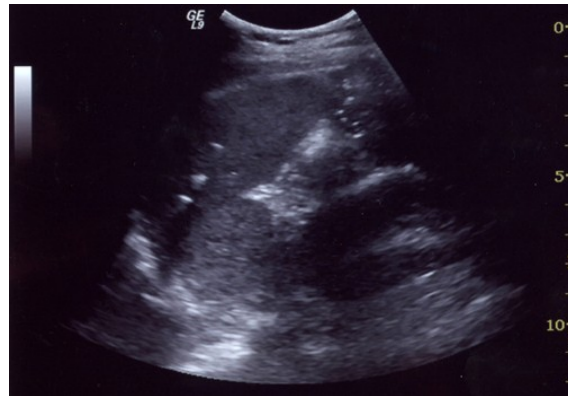
Q64. This sign seen in the liver at the confluence of the middle and right hepatic vein is typically called what?

- 1) Velveteen Rabbit sign
- 2) Playboy Bunny sign
- 3) Morrison's sign
- 4) Shotgun sign



Q65. These small, usually benign, splenic calcifications are called what?

- 1) Microlithiasis
- 2) Granulomas
- 3) Splenic pearls
- 4) Lymphomas



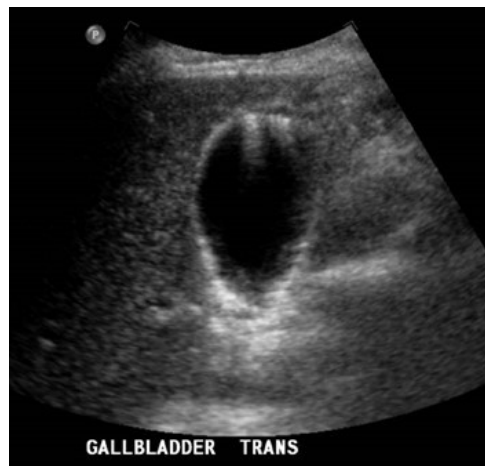
Q66. What is the arrow showed at the bottom image?

- 1) hemangioma
- 2) HCC
- 3) metastasis
- 4) mirror image



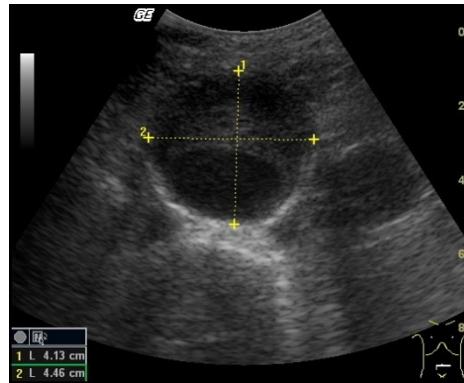
Q67. This image demonstrates numerous ring down artifacts (comet tail artifact) from the gallbladder wall. What is the mostly diagnosis

- 1) gallstone
- 2) adenomyomatosis
- 3) carcinoma
- 4) cyst



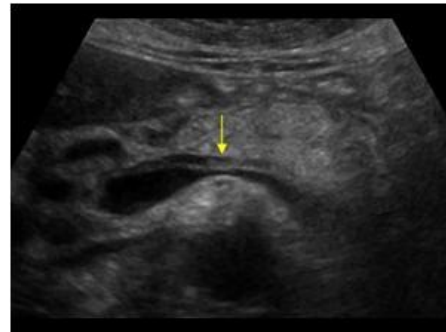
Q68. The possible diagnosis of this patient is

- 1) congestive liver
- 2) CBD stone
- 3) HCC
- 4) abdominal aortic aneurysm



Q69. A 50-year-old male presents abdominal pain radiating to the back. The ultrasound image demonstrate all of the following *except*

- 1) edema between the pancreas and splenic vein
- 2) chronic pancreatitis
- 3) acute pancreatitis
- 4) dilated pancreatic duct



Q70. The arrow in this image indicates:

- 1) left main branch
- 2) right main branch
- 3) segment-3 branch
- 4) segment-2 branch



Q71. The ultrasound image performed at below 3 cm of umbilicus. The arrow in this figure indicates:

- 1) renal artery
- 2) renal vein
- 3) SMA
- 4) SMV



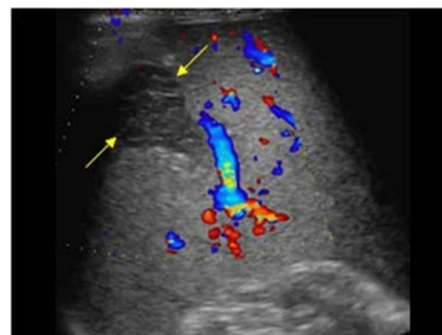
Q72. This ultrasound image shows increased echogenicity of the renal medulla (the pyramids are normally hypoechoic to cortex). What is the possible diagnosis?

- 1) renal stone
- 2) RCC
- 3) medullary nephrocalcinosis
- 4) renal abscess



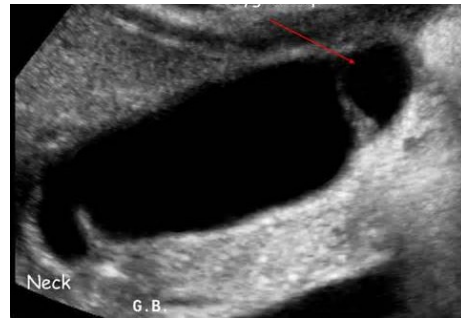
Q73. What is the possible diagnosis (arrow)?

- 1) splenomegaly
- 2) splenic infarct
- 3) splenic calcification
- 4) splenic abscess



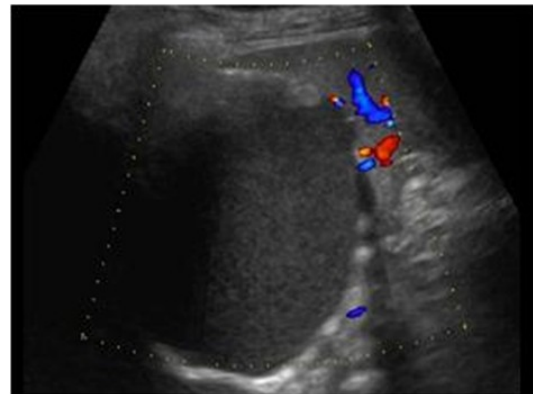
Q74. When the gallbladder fundus is folded over on itself, this is referred to as a

- 1) junctional fold
- 2) Hartmann's pouch
- 3) phrygian cap
- 4) all of the above



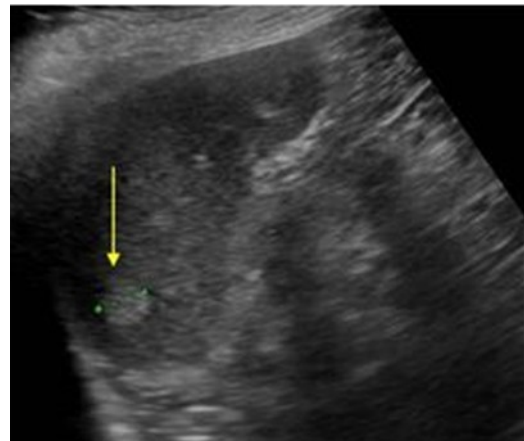
Q75. Which of the following is *correct*?

- 1) This image demonstrates splenic infarcts
- 2) This image demonstrates some calcifications in the wall
- 3) This is a lymphoma case
- 4) All of the above



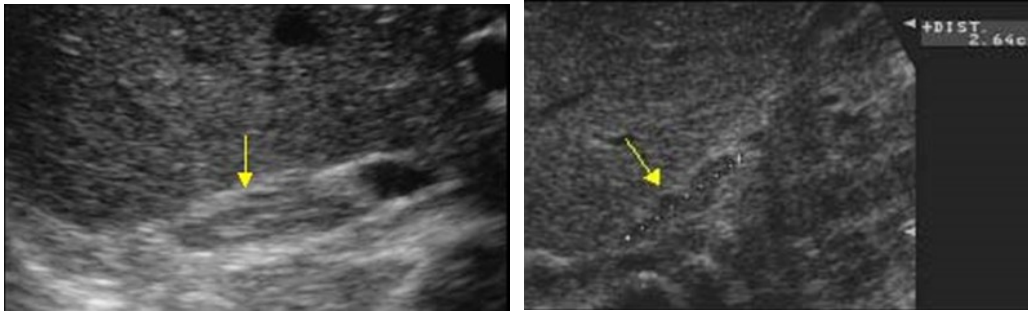
Q76. Which of the following is *correct*?

- 1) This image demonstrates hypoechoic lesion
- 2) This image demonstrates heterogeneous lesion
- 3) This is a hemangioma case
- 4) All of the above



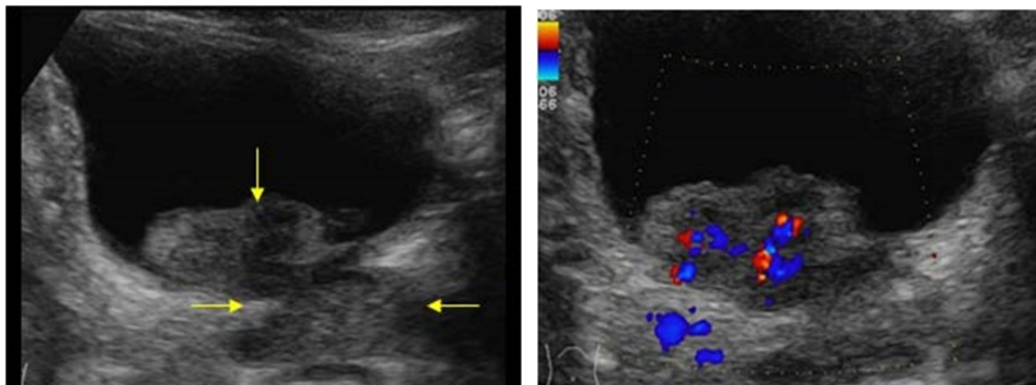
Q77. The yellow arrows indicate

- 1) right adrenal gland
- 2) angiomyolipoma
- 3) Wilm's tumor
- 4) RCC



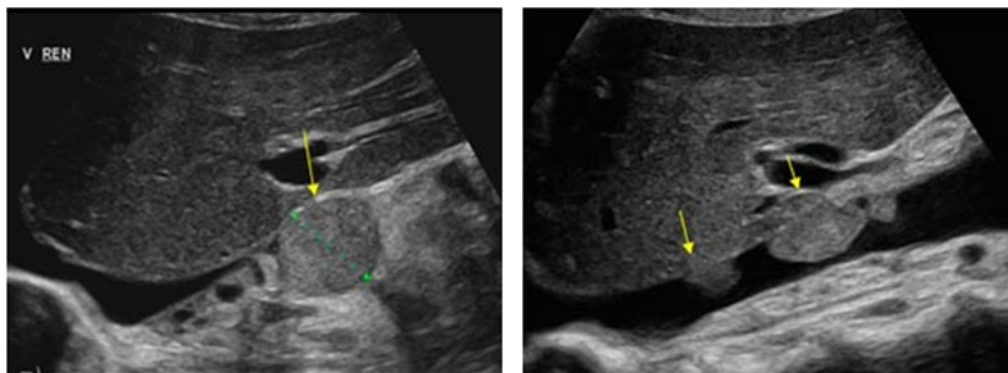
Q78. Regarding these ultrasound images, which statement is *incorrect*?

- 1) Lesion infiltrating the prostate
- 2) These images demonstrate highly vascular
- 3) This patient is bladder cancer
- 4) The bladder wall appears thickening and regular



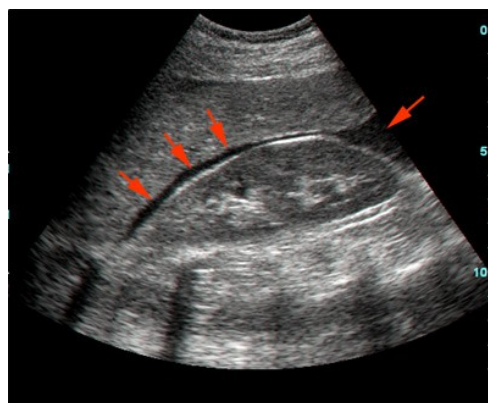
Q79.Regarding these ultrasound images, which statement is *incorrect*?

- 1) This patient is HCC case
- 2) Tumor in the right renal vein
- 3) Tumor invaded the inferior vena cava
- 4) Tumor thrombus in the vena cava



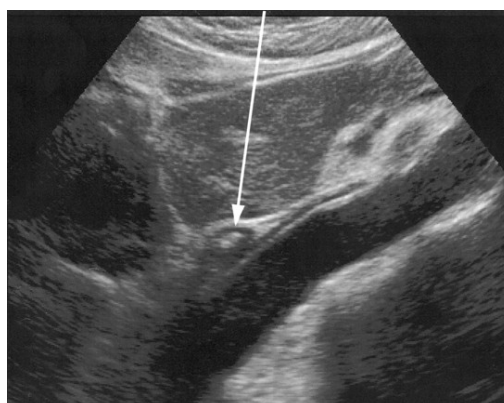
Q80.A red arrow indicates

- 1) abscess
- 2) ascites
- 3) cyst
- 4) artifact



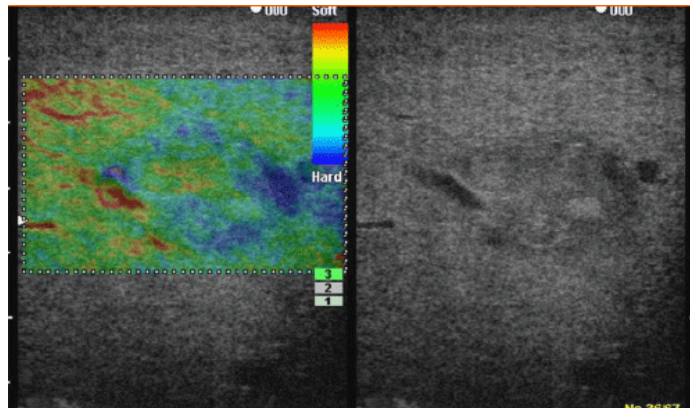
Q81.The arrow indicates

- 1) esophagus
- 2) left gastric artery
- 3) crus
- 4) left renal vein



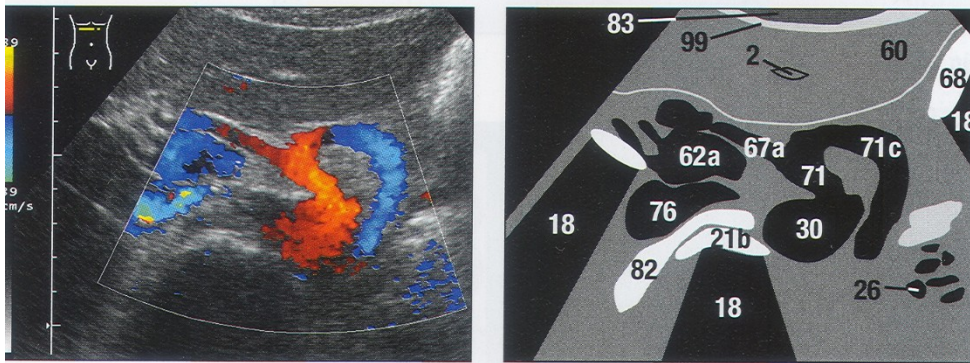
Q82. A 55-year-old man with type B elasticity (elasticity score of 2). The lesion shows a *mosaic* pattern with dominant green areas. What is the possible diagnosis?

- 1) hepatocellular carcinoma
- 2) hemangioma
- 3) hepatic cyst
- 4) hepatic abscess



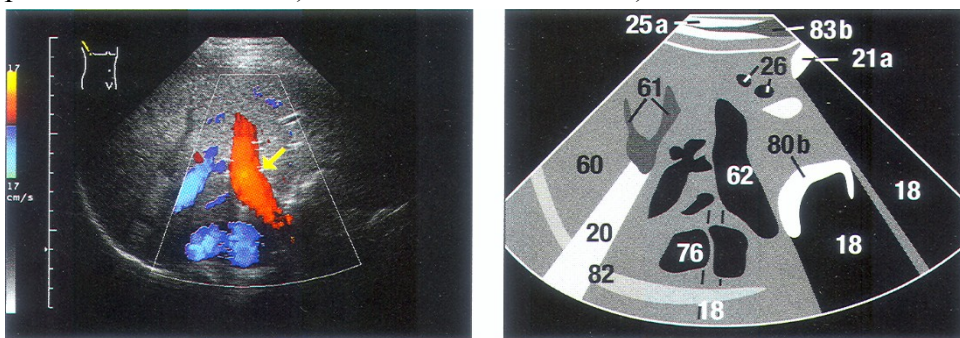
Q83. What is the vessel (71c)?

- 1) splenic vein
- 2) left gastric artery
- 3) left renal vein
- 4) splenic artery



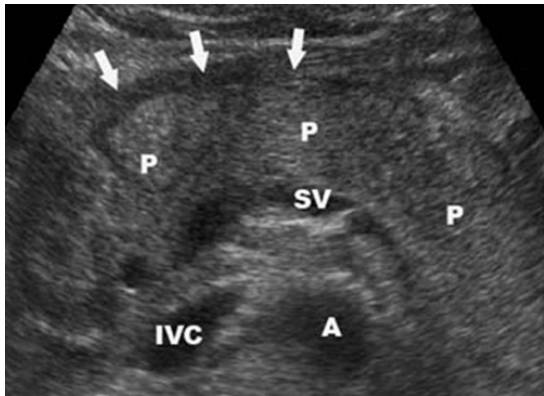
Q84. What is the vessel (62)?

- 1) portal vein
- 2) aorta
- 3) IVC
- 4) hepatic vein



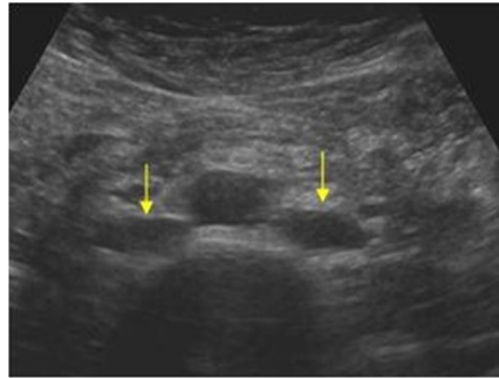
Q85. All of the following are correct about this image *except*

- 1) The possible diagnosis is acute pancreatitis.
- 2) The tissue becomes swollen.
- 3) The tissue worse bordered from nearby tissues.
- 4) This chronic pancreatitis patients had hyperechoic pancreas.



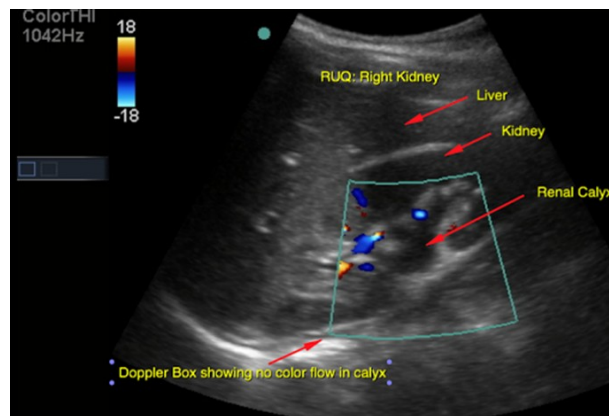
Q86. What are the arrows meaning?

- | | |
|---------------------|---------------------|
| 1) the double aorta | 3) lymph node |
| 2) the double IVC | 4) pleural effusion |



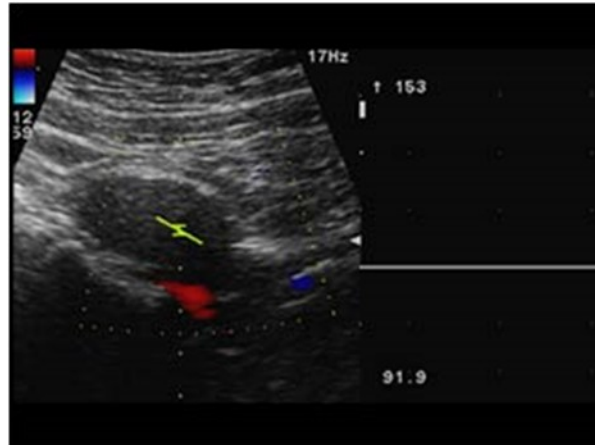
Q87. What is the possible diagnosis in this image?

- 1) normal kidney
- 2) fatty liver
- 3) hydronephrosis
- 4) renal stone



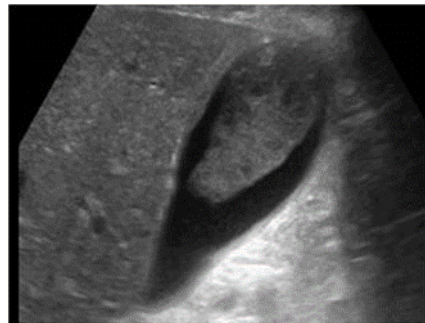
Q88. What is the possible diagnosis in this image?

- 1) abdominal aorta aneurysm
- 2) Aortic dissection
- 3) renal tumor
- 4) aorta totally occluded



Q89. What is the possible diagnosis in this image?

- 1) gallbladder sludge
- 2) polyp
- 3) gallstone
- 4) acute cholecystitis



Q90. Which statement is *correct*?

- 1) This is an acute pancreatitis case.
- 2) Pancreatitis of the pancreatic tail.
- 3) This is an abnormal fatty change.
- 4) All of the above.

