Liver Masses – Pretext Staging
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1. Which of the following choices represents the correct PRETEXT group for this tumor?

A. PRETEXT 1
B. PRETEXT 2
C. PRETEXT 3
D. PRETEXT 4

Correct Answer: C
Rationale: The tumor involves the right anterior and left medial sections of the liver. Three sections would have to be resected (either via an extended right hepatectomy or an extended left hepatectomy) in order to completely excise the tumor. Thus, this represents a PRETEXT 3 tumor, and answers A, B, and D are incorrect.
Reference:

2. Which of the following statements represents a venous positive (V+) annotation factor according to the 2017 PRETEXT staging system?

A. Tumor touching the right hepatic vein
B. Tumor encasing the right hepatic vein
C. Tumor encasing the right and the middle hepatic veins
D. Tumor thrombus in the left hepatic vein

Correct Answer: D
Rationale: According to the 2017 version of PRETEXT, a tumor is said to be V+ if it meets any of the following criteria: 1) The tumor obliterates all three first-order hepatic veins or the intrahepatic inferior vena cava; 2) The tumor encases (by more than 50% or 180°) all three first-order hepatic veins or the intrahepatic inferior vena cava; 3) There is tumor thrombus in any one (or more) first-order hepatic vein or the intrahepatic inferior vena cava.
Budd-Chiari/Veno-Occlusive Disease

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3. The Best Sonographic indicator to diagnose VOD/SOS is?

A. Hepatomegaly
B. Gallbladder wall thickening less than 4 mm
C. Narrowing of Portal Vein
D. Ascites, gallbladder wall thickening, hepatomegaly, and slowed/reversed portal flow, but US findings alone are not diagnostic.

Correct Answer: D

Rationale: Ultrasound findings that can be seen with VOD/SOS include hepatomegaly, ascites, marked gallbladder wall thickening, HA RI >0.75, and reversal of portal venous blood flow. However, ultrasound findings may be absent or nonspecific, and the diagnosis relies heavily on clinical diagnostic criteria.

Reference:

4. Budd-Chiari syndrome can be distinguished from VOD/SOS on US based on which of the following?

A. Thrombosis of the hepatic veins and/or inferior vena cava
B. Absent intrahepatic collateral pathways
C. Slow hepatofugal blood flow in the portal vein
D. Clinical triad of hepatomegaly, abdominal pain, and ascites

Correct Answer: A

Rationale: VOD/SOS resembles Budd-Chiari syndrome clinically but the obstruction in Budd-Chiari syndrome is due to thrombosis of the hepatic veins or IVC, while in VOD it is due to occlusion of the terminal hepatic venules and sinusoids.

Reference:
Iron and Fat Deposition
Shreyas S. Vasawala, MD, PhD
Robert C. Orth, MD, PhD

5. Which of the following are methods of quantifying liver steatosis?

   A. Single voxel spectroscopy
   B. Proton density multi-echo gradient echo
   C. Biopsy
   D. All of the above

Correct Answer: D
Rationale: All listed methods can quantify hepatic fat.
Reference:

6. The following gradient-echo images were obtained on the same 1.5T scanner. Which of the following best explains the change between 8/19/15 and 2/24/17?

   A. Worsening liver disease
   B. Therapeutic phlebotomy
   C. Increased LIC
   D. Transfusion therapy

Correct Answer: B
Rationale: Phlebotomy decreases total body iron and liver iron concentration explaining the increased signal intensity between the two exams.
Reference:
7. Which of the following statements is true about blood flow in a pediatric liver transplant?

A. Flow within a pediatric liver transplant on post-operative day 1 is hyperdynamic compared to an adult liver transplant
B. An hepatic artery resistive index (RI) of 0.3 is a normal finding 1 year after transplant
C. Patients with portal vein stenosis will often show pre-stenotic dilation of the portal vein
D. Normal hepatic vein flow is monophasic

Correct Answer: A
Rationale: Compared to an adult liver transplant, blood flow within a pediatric liver transplant on post-operative day 1 is commonly hyperdynamic.
Reference:

8. Which of the following is TRUE regarding liver transplant ultrasound in the immediate/early postoperative period?

A. Hepatic vein stenosis is the most common early postoperative vascular complication
B. Hepatic artery parvus tardus waveforms can be a normal finding
C. Pulsatile main portal vein with increased velocity is abnormal
D. Hepatic infarction and biliary dilatation can be seen in the early postoperative period most commonly due to decreased portal venous blood flow

Correct Answer: B
Rationale: Hepatic artery parvus tardus waveforms can be a normal finding in the early postoperative setting due to hepatic artery/anastomotic narrowing from post-surgical edema.
Reference: