

Tumors of the Liver and Biliary Tree: Review Questions

Douglas G. Adler, MD

John J. Poterucha, MD

QUESTIONS

Choose the single best answer for each question.

- 1. A 49-year-old man with cirrhosis from hepatitis C is seen for evaluation. The patient contracted hepatitis C approximately 30 years ago from a blood transfusion but had never been treated. He reports a 15-lb weight loss over 1 year. Physical examination reveals tenderness in the right upper quadrant and stigmata of chronic liver disease. Ultrasonography shows cirrhosis and a 2-cm lesion in the left hepatic lobe, indicating possible hepatocellular carcinoma (HCC). Serum α -fetoprotein (AFP) level is normal. Which of the following is the best management option?**

 - Check the patient's serum carbohydrate antigen 19-9 level
 - Obtain a computed tomography (CT) scan
 - Perform a left hepatectomy
 - Perform surgical resection of the tumor alone
 - Repeat the test for AFP in 3 to 6 months
- 2. A 22-year-old woman develops fullness of the right upper quadrant but otherwise feels well. Results on physical examination are normal. She has no history of liver disease. She takes a proton pump inhibitor for gastroesophageal reflux disease and an oral contraceptive. A CT scan reveals a 6-cm lesion in the right hepatic lobe that is initially hypodense but becomes irregularly enhancing after contrast administration. Which of the following is the lesion most likely to be?**

 - Ampullary cancer
 - Cholangiocarcinoma
 - Gallbladder cancer
 - Hepatic adenoma
 - Hepatocellular carcinoma
- 3. A 55-year-old man is evaluated because of painless jaundice and a 15-lb weight loss. He has had intermittent bloody diarrhea for several years. A magnetic resonance study suggests a mass within the common bile duct. Endoscopic biopsy indicates cholangiocarcinoma. Which of the following is the most likely cause of the patient's bloody diarrhea?**

 - Chronic duodenal ulcer
 - Hemorrhoids
 - Shigella enteritis
 - Tumor bleeding into the gastrointestinal tract
 - Ulcerative colitis
- 4. A 48-year-old woman undergoes abdominal and pelvic CT scanning during a gynecologic evaluation. The scan detects a 3.5-cm lesion in the right hepatic lobe. The lesion is hypodense on precontrast images and shows early peripheral enhancement and then complete opacification with intravenous contrast, consistent with a cavernous hemangioma. The patient has normal liver chemistries and has no other symptoms. Which of the following is the most appropriate next step in management?**

 - Measure the patient's serum AFP level
 - Perform a right hepatectomy
 - Perform chemoembolization of the tumor
 - Perform surgical enucleation of the tumor, preserving the right hepatic lobe
 - Perform no further evaluation or therapy

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Dr. Adler is a fellow in Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; and Dr. Poterucha is an Associate Professor of Medicine, Mayo Medical School, Rochester, MN.

5. A 65-year-old Chinese man who immigrated to the United States 25 years ago sees his physician because of a 2-month history of fatigue, 20-lb weight loss, and upper abdominal pain. Ultrasonography shows a 2-cm lesion in the left hepatic lobe and parenchymal changes consistent with cirrhosis. He denies consuming alcohol. His AFP level is elevated to 10 times the normal range; a diagnosis of HCC is made. Which of the following is most likely the underlying cause of his disease?

- A) Alpha₁-antitrypsin deficiency
- B) Chronic hepatitis A infection
- C) Chronic hepatitis B infection
- D) Hereditary hemochromatosis
- E) Wilson's disease

EXPLANATION OF ANSWERS

1. **(B) Obtain a computed tomography (CT) scan.** If the diagnosis of hepatocellular carcinoma (HCC) is uncertain, contrast-enhanced CT scanning is often a useful test to perform. HCC has a characteristic hypervascular/enhancing pattern that is often seen on contrast-enhanced CT scans. CT also can exclude the diagnosis of extrahepatic metastases. Carbohydrate antigen 19-9 is not usually elevated in patients with HCC. Either surgical resection of the tumor alone or hepatectomy would be too aggressive a measure until the presence of cancer has been more definitively confirmed. Additionally, transplantation may be the preferred treatment when HCC is confirmed. Repeating the test for α -fetoprotein (AFP) in 3 to 6 months might not provide any additional information, because as many as 30% of hepatocellular cancers do not produce AFP.

2. **(D) Hepatic adenoma.** Hepatic adenomas typically occur in females of reproductive age who are taking oral contraceptives. These lesions often can be large and are often seen to be irregular but well vascularized on CT scan. A patient with ampullary cancer would most likely develop pancreatitis or biliary obstruction. Gallbladder cancer is most commonly seen in patients with longstanding gallstone disease.

Hepatocellular carcinoma and cholangiocarcinoma would be unusual findings in a young person without chronic liver disease.

3. **(E) Ulcerative colitis.** Patients with ulcerative colitis have an increased risk for developing biliary diseases, including primary sclerosing cholangitis and cholangiocarcinoma. A duodenal ulcer would be characterized by abdominal pain and melena. Tumor bleeding from a cholangiocarcinoma would most likely present as iron deficiency anemia, melena, or, rarely, hematemesis. Hemorrhoids would present as bright red blood without diarrhea. Shigella enteritis could cause bloody diarrhea but would neither be intermittent nor last several years.

4. **(E) Perform no further evaluation or therapy.** Cavernous hemangiomas are the most common benign mesenchymal hepatic tumors, usually affecting females between the third and fifth decades of life. Treatment is usually conservative, unless the tumor is exceptionally large (causing pressure on adjacent organs) or painful (caused by stretching of the liver capsule and/or intermittent thrombosis). Chemoembolization is usually reserved for patients with hepatocellular cancers, as is the measurement of serum AFP levels. Right hepatectomy and surgical enucleation of the tumor would be unwarranted in a tumor of this size that is causing no symptoms.

5. **(C) Chronic hepatitis B infection.** Infection with hepatitis B virus remains the most common cause of HCC worldwide, especially in areas where there is a high incidence of chronic hepatitis B infection (eg, China). Patients often are unaware that they have chronic hepatitis. No chronic form of hepatitis A exists. Alpha₁-antitrypsin deficiency is a consideration, but it is a much less likely diagnosis for this patient than is hepatitis B. Hereditary hemochromatosis could present in the same manner as hepatitis B, but it would be far less common in a Chinese patient and also would typically be characterized by dermatologic and cardiovascular changes consistent with iron overload. Wilson's disease is extremely rare in patients age 60 years or older.

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