Robbin’s pathology McQ

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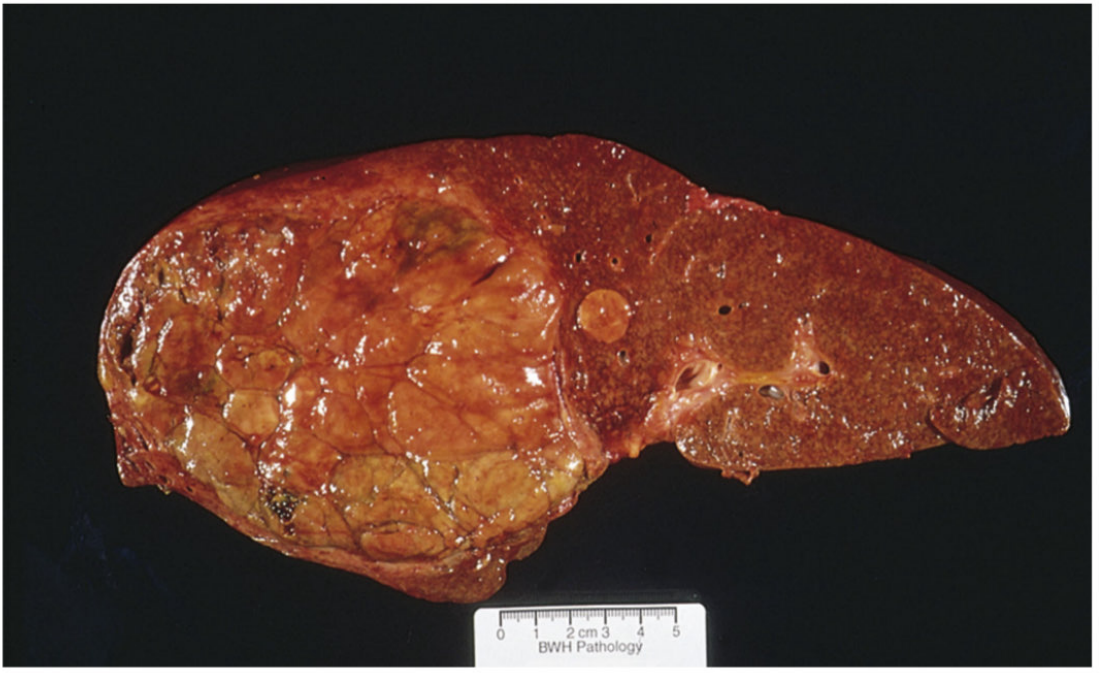
1) A 39-year-old woman has had increasing abdominal girth for a month, then pain for the past day. On physical examination there is hepatomegaly and caput medusae. Laboratory studies show Hgb, 20.5 g/dL; Hct, 61.7%; platelet count, 411,000/mm^3; AST, 333 U/L; and ALT, 358 U/L. What is ultrasonography of her abdomen most likely to show?

A Choledocholithiasis
B Cirrhosis
C Hepatic vein thrombosis
D Hepatocellular carcinoma
E Macrovesicular steatosis
F Subphrenic abscess



2) A 41-year-old woman experienced increasing malaise and a 10-kg weight loss in the past year. She becomes increasingly obtunded and lapses into a coma. Her serum α-fetoprotein is increased. The representative gross appearance of her liver is shown in the figure. Ingestion of which of the following substances is most likely to have played a role in the development of this condition?

A Acetaminophen
B Aflatoxin
C Aspirin
D Ferrous sulfate
E Nitrites
F Raw oysters

3) A 55-year-old man has developed abdominal pain and jaundice over 5 weeks. On physical examination, there is right upper quadrant pain, but no abdominal distention. Abdominal CT scan shows a markedly thickened gallbladder wall. A cholecystectomy is performed, and sectioning shows an enlarged gallbladder containing a fungating, 4 × 7 cm firm, lobulated, tan mass. Which of the following risk factors is most likely associated with this mass?

A Alcohol abuse
B Cholelithiasis
C *Clonorchis sinensis* infection
D Primary sclerosing cholangitis
E Ulcerative colitis

4) A 31-year-old woman has experienced increasing malaise for the past 4 months. Physical examination yields no remarkable findings. Laboratory studies show total serum protein of 6.4 g/dL, albumin of 3.6 g/dL, total bilirubin of 1.4 mg/dL, AST of 67 U/L, ALT of 91 U/L, and alkaline phosphatase of 99 U/L. Results of serologic testing for HAV, HBV, and HCV are negative. Test results for ANA, anti-liver kidney microsome-1, and anti–smooth muscle antibody are positive. A liver biopsy is done; microscopically, there are minimal portal mononuclear cell infiltrates with minimal interface hepatitis and mild portal fibrosis. What is the most likely diagnosis?

A α_1-Antitrypsin deficiency
B Autoimmune hepatitis
C Chronic alcoholism
D HDV infection
E Isoniazid ingestion
F Primary biliary cirrhosis

5) A study of hepatic injury is undertaken. Patients with fulminant hepatic failure are found to have microscopic evidence in biopsies for ballooning hepatocyte degeneration, canalicular bile plugs, bridging necrosis, and minimal inflammation. Which of the following is most likely to cause this pattern of hepatic damage?

A α_1-Antitrypsin deficiency
B Chronic alcohol abuse
C Hepatitis C virus infection
D Isoniazid toxicity
E Wilson disease

6) A 30-year-old man had a 2-week episode of malaise, fever, and jaundice 7 years ago. On physical examination, there were needle tracks in the left antecubital fossa. Serologic test results were positive for HBsAg, HBV DNA, and IgG anti-HBc. Two years later, he was seen in the emergency department because of hematemesis and ascites. Serologic test results were similar to those reported earlier. Five years after this episode, he now has a 5-kg weight loss, worsening abdominal pain, and rapid enlargement of the abdomen over the past month. Physical examination shows an increased liver span. An increase in which of the following is most likely to be diagnostic of this end stage of his disease?

A Serum alanine aminotransferase (ALT) level
B Serum alkaline phosphatase level
C Serum α-fetoprotein level
D Serum ammonia level
E Serum ferritin level
F Prothrombin time

7) A 36-year-old woman is in the sixth month of her first pregnancy, but she is unsure of her dates because she was taking oral contraceptives at the time she became pregnant. She experiences sudden onset of severe abdominal pain. On physical examination, she is afebrile and normotensive. There is right upper quadrant tenderness on palpation. An ultrasound scan of the abdomen shows a well-circumscribed, 7-cm subcapsular hepatic mass. Paracentesis yields bloody fluid. At laparotomy, the mass in the right hepatic lower lobe, which has ruptured through the liver capsule, is removed. The remaining liver parenchyma appears to be of uniform consistency, and the liver capsule is otherwise smooth. Which of the following is the most likely diagnosis?

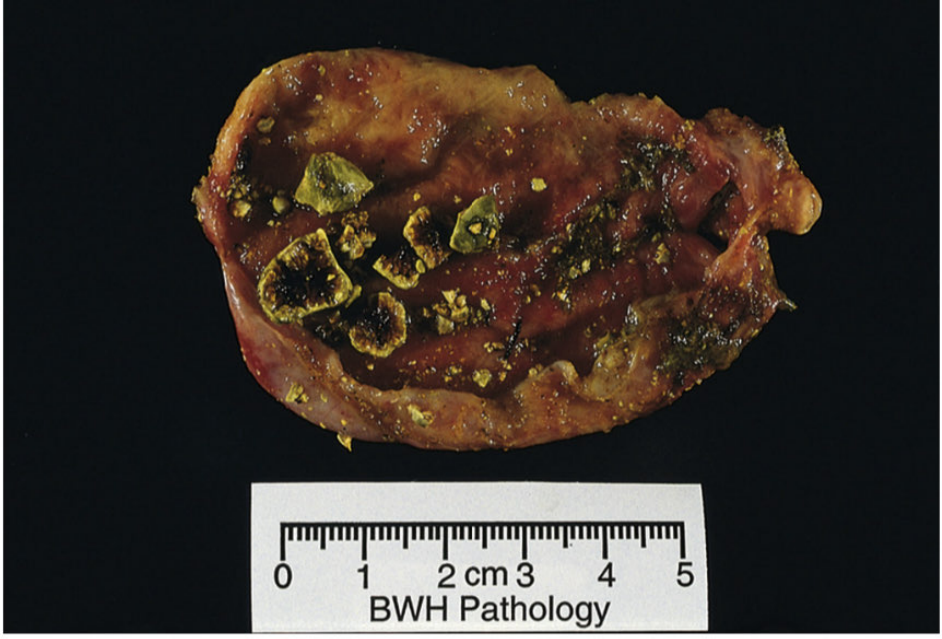
A Cholangiocarcinoma
B Choledochal cyst
C Choriocarcinoma
D Focal nodular hyperplasia
E Hepatic adenoma
F Hepatoblastoma
G Hepatocellular carcinoma

8) A 28-year-old man has had increasing shortness of breath for the past year. On physical examination, he is afebrile and normotensive. Breath sounds are decreased in all lung fields. His medical history indicates that he developed marked icterus as a neonate, but he has been healthy since then. There is a family history of liver disease. A liver biopsy is performed, and the figure shows the microscopic appearance stained with PAS. This patient is most likely at a very high risk for development of which of the following conditions?

A Acute fulminant hepatitis
B Diabetes mellitus
C Pulmonary emphysema
D Systemic lupus erythematosus
E Ulcerative colitis

9) A 41-year-old, previously healthy woman has noted abdominal discomfort for the past month. Laboratory studies show normal serum total protein, albumin, AST, ALT, and bilirubin, but her alkaline phosphatase level is elevated. Serologic testing for hepatitis A, B, and C viruses is negative. Abdominal CT scan shows a 9-cm right hepatic lobe mass with irregular borders. The lesion is resected, and gross inspection reveals a central stellate scar with radiating fibrous septa that merge into surrounding hepatic parenchyma. On microscopic examination, the mass has prominent arteries in dense connective tissue along with lymphocytic infiltrates and bile duct proliferation. What is the most likely diagnosis?

A Cholangiocarcinoma
B Focal nodular hyperplasia
C Hepatic adenoma
D Hepatocellular carcinoma
E Macronodular cirrhosis
F Metastatic adenocarcinoma



10) A 54-year-old First Nations woman has had colicky right upper quadrant pain for the past week. She has nausea, but no vomiting or diarrhea. On physical examination, she is afebrile. There is marked tenderness of the right upper quadrant. The liver span is normal. Her height is 160 cm (5 feet 3 inches), and her weight is 90 kg (body mass index 33). An abdominal ultrasound scan shows calculi within the lumen of the gallbladder, and the gallbladder wall appears thickened. Intrahepatic and extrahepatic bile ducts appear normal. The patient's gallbladder is removed by laparoscopic cholecystectomy; it has the appearance shown in the figure. Which of the following mechanisms is most likely to play the greatest role in development of her disease?

A Antibody-mediated RBC lysis
B *Ascaris lumbricoides* within bile ducts
C Biliary hypersecretion of cholesterol
D Decreased renal excretion of phosphate
E Hepatocyte infection by HBV
F Ingestion of foods rich in fat
G Involvement of the terminal ileum by Crohn disease

11) A 43-year-old man has experienced progressive fatigue, pruritus, and icterus for 4 months. A colectomy was performed 5 years ago for treatment of ulcerative colitis. On physical examination, he now has generalized jaundice. The abdomen is not distended; on palpation, there is no abdominal pain and there are no masses. Laboratory studies show a serum alkaline phosphatase level of 285 U/L and an elevated titer of anti–neutrophil cytoplasmic antibodies. Cholangiography shows widespread intrahepatic biliary tree obliteration and a beaded appearance in the remaining ducts. Which of the following morphologic features is most likely to be present in his liver?

A Concentric "onion-skin" ductular fibrosis
B Copper deposition in hepatocytes
C Granulomatous bile duct destruction
D Interface hepatitis
E Periportal PAS-positive globules
F Portal bridging fibrosis

1) C

2) B

3) B

4) B

5) D

6) C

7) E

8) C

9) B

10) C

11) A