A 72-year-old woman with chronic obstructive pulmonary disease (COPD) presents with abnormal liver chemistries. She denies recent abdominal pain but recalls "gallbladder problems" after childbirth approximately 40 years ago. She has not lost any weight and denies fever. There is no history of nausea or vomiting.

Her past history is significant only for advanced COPD. There is no history of hypertension or diabetes mellitus. Her medication use consists of bronchodilators. There is no surgical history. Family history is positive for heart and gallbladder disease. There is no family history of cancer. Physical examination is significant for normal temperature and vital signs. There is no evidence of jaundice or signs of chronic liver disease. Breath sounds are diffusely decreased, and there is no abdominal tenderness, mass, or organomegaly. Laboratory evaluation is pertinent for normal white blood cell count, negative stool guaiac test, and normal bilirubin level. The alkaline phosphatase level is elevated fourfold. Transaminase levels are only mildly elevated. Workup includes an abdominal CT scan (left image). The CT scout film (right image) demonstrates an ovoid calcification in the right upper quadrant.

1. The CT images reveal:
   a. Multiple filling defects in the liver
   b. An abnormal cavity with air-fluid levels
   c. Biliary ductal dilatation
   d. Calcified gallbladder
   e. Cirrhosis

2. The differential diagnosis includes:
   a. Liver metastasis
   b. Hepatic abscess
   c. Chronic cholecystitis
   d. Carcinoma of the gallbladder
   e. Choledocholithiasis
1. The correct answers are c and d. The CT scan at left reveals evidence of intrahepatic biliary dilatation. In the right image, the gallbladder with a densely calcified wall is evident. There are no filling defects or cavities suggesting metastasis or abscess formation. The contour of the liver is not typical of cirrhosis.

2. The correct answers are c, d, and e. The patient probably has chronic cholecystitis with subsequent calcification of the gallbladder. This is also termed "porcelain gallbladder." Porcelain gallbladder describes the calcification, blue discoloration, and brittle nature of the wall of the gallbladder. Chronic inflammation along with the presence of gallstones predisposes to this calcification. The calcification is usually asymptomatic, but patients may present with right upper quadrant pain.

Studies have shown that patients with porcelain gallbladder have an increased incidence of gallbladder cancer ranging from 15% to 25%. Other studies suggest that these estimates may be high but argument for prophylactic cholecystectomy has gone uncontested. Gallbladder carcinoma is the most common biliary tract malignancy and the fifth most common cancer of the gastrointestinal tract. The disease is four times more likely in females, with 6,500 deaths per year within the United States. The average age of onset is in the 6th decade of life. Overall prognosis of gallbladder cancer is poor with the mainstay of treatment being surgery. In this patient, there is evidence of partial biliary obstruction that requires further evaluation. Choledocholithiasis and nodal metastasis from gallbladder carcinoma are prime considerations in this case. Her management is hindered by the advanced status of her pulmonary condition.

References:

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