The postcholecystectomy syndrome in morbid obesity

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ABSTRACT

Choledocholithiasis has been found in about 5% to 20% of the approximately 20 million Americans with cholelithiasis who have undergone cholecystectomy. We report a case of a 64-year-old woman who developed gallstones after undergoing a cholecystectomy >40 years earlier. The potential of retained gallstones, incomplete gallbladder removal, or regeneration of gallstones in the gallbladder remnant or cystic duct remnant after a long time following cholecystectomy is discussed.

KEYWORDS Cholecystectomy; choledocholithiasis; cholelithiasis; gallbladder disease; gallstones; postcholecystectomy syndrome

Choledocholithiasis, occurring secondary to the passage of gallstones from the gallbladder into the common bile duct, has been found in about 5% to 20% of the approximately 20 million Americans with cholelithiasis who have undergone cholecystectomy.^{1–5} Postcholecystectomy choledocholithiasis typically occurs a few years after the surgery. Occurrence after many decades of surgery is rare, such as reported herein.

CASE DESCRIPTION

A 64-year-old woman with a body mass index of 50.9 kg/m² presented to the emergency room with complaints of worsening epigastric and right upper quadrant pain with radiation to her back over the prior 2 days. Her temperature was 100.2°F. She had chills, nausea, and vomiting, and her pain was aggravated by deep inspiration. Pertinent positive review of systems included fatigue, malaise, palpitations, headache, joint pain, nervousness, and anxiety. She reported that her last bowel movement occurred the morning prior to arrival. She had no chest pain, dyspnea, or dysuria. Her past medical history included hypothyroidism, hypertension, anxiety, asthma, morbid obesity, and arthropathy. Her surgical history included a cholecystectomy in the 1970s. Current medications included levothyroxine, budesonide/formoterol, albuterol inhaler, and alprazolam taken as needed. Physical exam was significant for scleral icterus and moist mucus membranes. Abdominal exam revealed right upper quadrant tenderness but was otherwise soft and not distended with

normoactive bowel sounds. There was no guarding or rebound tenderness, and no masses or organomegaly was palpated.

The completed workup was consistent with the presentation of acute cholangitis. She met sepsis criteria (leukocytosis and tachycardia), and two-site peripheral blood cultures were obtained before administering intravenous ciprofloxacin and metronidazole. Based on computed tomography findings, an emergent endoscopic retrograde cholangiopancreatography (ERCP) was performed that revealed choledocholithiasis (*Figure 1*) and cholangitis with pus draining from the bile duct. Biliary sphincterotomy was performed, along with balloon extraction of a 10 mm stone from the distal bile duct. Upper endoscopy was unremarkable.

She was admitted for sepsis from acute cholangitis. Her lipase levels before and after ERCP were normal. Intravenous ciprofloxacin and metronidazole were continued, along with morphine when needed and scheduled ondansetron and fluid hydration with normal saline. Blood cultures returned positive for *Enterococcus* and *Klebsiella*. Ciprofloxacin/metronidazole was transitioned to intravenous piperacillin/tazobactam. She was monitored closely and exhibited no signs of endocarditis. Repeat blood cultures were negative and bilirubin down-trended with significant symptomatic improvement. She continued to improve clinically and became stable for discharge with a 12-day course of oral linezolid and levofloxacin.

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Figure 1. Endoscopic retrograde cholangiopancreatography revealing distal common bile duct stone (10 mm).

DISCUSSION

Based on the clinical presentation, including the reported epigastric pain radiating to the back, the morbid obesity, and the surgical history, one would suspect acute pancreatitis in this case. However, the actual diagnosis was choledocholithiasis and acute cholangitis in the setting of a cholecystectomy some 40 years prior to presentation.

Cholelithiasis and/or choledocholithiasis are possible sequelae following gallbladder removal. Residual gallbladder from an incomplete cholecystectomy is a possible etiology, due to retained or regenerated stones.^{2,3,6} Symptoms may present as right upper quadrant abdominal pain or most commonly dyspepsia and may or may not include jaundice. This phenomenon can be referred to as postcholecystectomy syndrome, which occurs in 5% to 40% of patients, with onset ranging from 2 days to 40 years after a cholecystectomy.^{7–9} Gender-specific risk factors may contribute to the development of these symptoms.¹⁰ Biliary factors include choledocholithiasis, biliary stricture, and sphincter of Oddi dysfunction.^{5,6} Nonbiliary factors include pancreatic disorders, peptic ulcer, liver disease, irritable bowel syndrome, coronary artery disease, and gastroesophageal reflux.^{2,4}

Postcholecystectomy syndrome, also called cystic duct stump syndrome, can be an easily forgotten occurrence. Cystic duct remnants, found in about 17.6% patients,¹⁰ are reported internationally as the most common cause of postcholecystectomy syndrome. Stones are traditionally classified as retained or recurrent if found before or after 2 years following surgery. Occluding stones left in the stump of the cystic duct may account for 17% to 25% of the cases of postcholecystectomy syndrome.¹¹ In our patient, postcholecystectomy syndrome was diagnosed only after focused labs and imaging. Workup

was negative for pancreatitis and other suspected causes. Computed tomography of the abdomen/pelvis was remarkable for an absent gallbladder, filling defects in the distal common bile duct dilated to 19 mm, and hyperdense material, which prompted concern for acute cholangitis.

The significant size of the visualized common bile duct in this case (19 mm) may parallel the chronicity of the stone in the duct, making cystic duct stump syndrome more likely. ERCP verified the suspected cholangitis and exhibited pus draining from the bile duct with choledocholithiasis. After biliary sphincterotomy and balloon extraction of a 10 mm stone from the distal bile duct, the patient's symptoms abated and she promptly recovered. This probable but unlikely diagnosis of choledocholithiasis and acute cholangitis demonstrates that certain diagnoses cannot be ruled out simply based on the absence of a precipitating organ, especially when risk factors remain. Also exemplified in this case is that these occurrences are not necessarily time sensitive. The range of onset of postcholecystectomy syndrome is just that—simply a range based on average periods of recurrence.

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