**Introduction**

Gallstone ileus is an uncommon condition of mechanical bowel obstruction caused by the passage of a gallstone into the bowel. It accounts for 1-3% of cases of mechanical obstruction of the small intestine, but it is quite an important disease especially in patients older than 65 years. It shares 25% of all small bowel obstructions, with a female to male ratio of 3.5-6.0:1 (1). Inflammation and pressure effect of the gallstone causes erosion through the gallbladder wall, leading to a biliary-enteric fistula formation (2, 3). It allows gallstone passage from the gallbladder to the bowel (4) and air introduction into the biliary tree. The corresponding radiologic evidence of pneumobilia, ectopic gallstone and bowel obstruction constitutes Rigler’s triad – the pathognomonic features of gallstone ileus. Less commonly, a gallstone may enter the intestinal lumen through the common bile duct, after endoscopic retrograde cholangiopancreatography (ERCP) and sphincterotomy through papilla of Vater, without a biliary-enteric fistula, causing gallstone ileus. If the patient is cholecistectomized, gallstone removal alone is required.

**Case report.** A 92-year old cholecistectomized male patient was admitted to our unit for the clinical suspicion of bowel obstruction. He was also submitted to ERCP seven months before. Physical examination revealed tenderness in the lower abdomen and CT showed intrahepatic and extrahepatic biliary dilatation and small bowel obstruction with a hyperdense formation in right iliac fossa as gallstone ileus. It was performed an emergency laparotomy with enterotomy and a 5x3 cm gallstone removal. There were no post-operative complications and the patient was discharged 8 days after surgery.

**Discussion.** Cholecysto-duodenal fistulas are most frequently described in worldwide-reports. There are only few cases in literature of gallstone which enter the gastrointestinal tract following endoscopic retrograde cholangiopancreatography (ERCP) and sphincterotomy through papilla of Vater, without a biliary-enteric fistula, causing gallstone ileus. If the patient is cholecistectomized, gallstone removal alone is required.

**Conclusion.** The differential diagnosis in case of small bowel obstruction should always include gallstone ileus, even if the patient previously underwent a cholecystectomy.

**Key words:** Gallstone ileus - Small bowel obstruction - Rigler’s triad - Cholecistectomized patient - Endoscopic biliary sphincterotomy.

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Diabetes mellitus was admitted to the Emergency Department for a 2 day history of progressive severe abdominal pain, acute constipation and fever. Past surgical history consisted in appendectomy and open cholecystectomy for cholecystitis 30 years before. He had been admitted several times for cholestatic jaundice after cholecystectomy and underwent ERCP with sphincterotomy. Last ERCP with removal of gallstones from CBD was performed seven months before the admission in our Unit. Therefore he came to our attention for the clinical suspicion of bowel obstruction. Physical examination revealed tenderness in the lower abdomen with normoactive bowel sounds. Laboratory blood tests demonstrated high levels of C-reactive protein (PCR) and White Blood Cells (WBC) especially neutrophil, renal dysfunction and increased level of bilirubin and cholestatic enzymes. Plain film x-rays showed multiple gas-fluid levels and pneumobilia. Computed tomography (CT) revealed intrahepatic and extrahepatic biliary dilatation (3.3 cm diameter) and small bowel obstruction (SBO) with a hyperdense image in right iliac fossa as gallstone ileus. The following emergency surgical procedure was performed: 1) laparotomy which revealed distended small bowel loops up to the terminal ileum where a hard, mobile mass was found at 25 cm from ileocecal valve; 2) enterotomy (Figure 1), removal of a 5x3 cm gallstone (Figure 2); 3) closure of enterotomy in two layers using continuous suture. The patient started antibi...
Gallstone ileus in a ninety-two years old colecistectomized patient after endoscopic biliary sphincterotomy: a case report

Gallstone ileus is a surgical emergency caused by the obstruction of the intestinal tract due to impacted gallstones. It can occur in patients with a history of gallstones or gallbladder disease. In this case report, a 92-year-old patient presented with symptoms of bowel obstruction after a previously performed cholecystectomy. The patient was admitted to the hospital due to persistent abdominal pain and vomiting.

On physical examination, the patient was found to have a palpable mass in the right upper quadrant and a distended abdomen. laboratory tests revealed a high white blood cell count and elevated inflammatory markers. An abdominal computed tomography scan was performed, which showed a large gallstone impacted at the ileum. The differential diagnosis includes other causes of bowel obstruction, such as tumors or adhesions, but the history of previous gallbladder surgery and the presence of a gallstone on imaging confirmed the diagnosis of gallstone ileus.

The patient underwent an urgent surgical intervention, which consisted of enterolithotomy via a laparotomy. Stone impaction was observed and collapsed bowel (15) was present. Impacted gallstones ranged in size from 2 to 5 cm may be obstructive. Gallstones smaller than 2 cm may pass spontaneously through intestinal lumen (2, 3, 11) instead (12) of fistula formation, causing gallstone ileus. It may be immediately after ERPC (8) or months after (7).

The differential diagnosis in case of small bowel obstruction should always include also gallstone ileus, even if the patient previously underwent a cholecystectomy. Enterolithotomy with gallstone extraction is considered as the best surgical procedure in these cases.

Discussion

The pathogenesis of gallstone ileus is based on complicated cholelithiasis with acute or chronic cholecystitis and adhesion to alimentary tracts, leading to biliary-enteric fistula. The size of the gallstone, the site of fistula formation and bowel lumen will determine whether an obstruction will occur. Gallstones smaller than 2 cm may pass spontaneously through intestinal lumen (2, 3, 11) instead (12) of fistula formation, causing gallstone ileus. It may be immediately after ERPC (8) or months after (7).

Although clinical symptoms are not specific, patients with gallstone ileus present with abdominal pain and vomiting which may have partial and temporary remissions depending on the possibility to disimpact the gallstone to be disimpacted. Typical radiological images may include pneumobilia, signs of small bowel obstruction, and ectopic calcified gallstone (less than 15% of gallstones are radiopaque). CT is useful for estimating the size and number of impacted gallstones and the transition point between dilated and collapsed bowel (15).

Conclusions

The differential diagnosis in case of small bowel obstruction should always include also gallstone ileus, even if the patient previously underwent a cholecystectomy. Enterolithotomy with gallstone extraction is considered as the best surgical procedure in these cases.

References


