Retroperitoneal abscess due to dropped gallstones after laparoscopic cholecystectomy

Farah Adel, Jose M Ramia, Roberto De la Plaza, Jose Quilñones, Vladimir Arteaga, Jorge García-Parreño
Hepato-Pancreato-Biliary Surgical Unit, Department of Surgery, Hospital Universitario de Guadalajara, Guadalajara, Spain

Abstract

Complications of dropped gallstones after laparoscopic cholecystectomy are infrequent but retroperitoneal abscess is extremely rare. We present a new case, discuss causes, diagnostic methods, preventive measures and therapeutical options.

Introduction

The treatment of choice for symptomatic cholelithiasis is laparoscopic cholecystectomy (LC). Iatrogenic lesion of the biliary tract and intra-abdominal infection due to stones left in the peritoneal cavity after gallbladder perforation, known as dropped gallstones, are more common in LC.1 A new case of retroperitoneal abscess due to dropped gallstones (RADGs) that occurred 3 years after laparoscopic cholecystectomy is presented.

Case Report

A 42-year-old woman presented to the Emergency Department with mild pain in right upper quadrant. Her past medical history was: fibromyalgia and a laparoscopic cholecystectomy 3 years ago. During LC, accidental perforation of gallbladder occurred. Blood analysis showed these remarkable findings: 19,000/μL leukocytes (83% neutrophils), C reactive protein: 150 mg/L, amylase 48 IU/L, AST 45 IU/L, GGT 39 IU/L and a normal coagulation test. On physical examination, the abdomen was soft but slightly tender to palpation in right upper quadrant; there was not palpable hernia or visceralomegalias and no signs of peritoneal irritation. No fever, nausea or vomiting was present. Abdominal computed tomography (CT) was performed which showed an abscess located in the right flank with a stone of 4 cm diameter inside. The abscess pushed forwards right colon and extended into the retroperitoneum and psoas muscle (Figure 1). We operated on the patient and performed a midline laparotomy, opened the attachment between colon and peritoneum, and gained access to retroperitoneal space. We found a retroperitoneal abscess with two stones inside (Figures 2 and 3). We made an exhaustive cleaning of retroperitoneum and removed stones. The patient received first empirical antibiotic (gentamicin and metronidazole) and then selectively to Klebsiella pneumonia that grown in the culture of the abscess. The postoperative course was uneventful. During 18 months follow-up, no problems related to RADG have been observed.

Accidental opening of the gallbladder occurs in 15-40% of the LC, and dropping gallstones to the peritoneal cavity after gallbladder perforation occurs between 16-66% of the patients.2,3 These abandoned stones only cause complications in 4-10% of cases.2 Risk factors for the occurrence of these complications are: mixed pigmented stones, male gender, advanced age, peripheral location, the number of gallstones higher than 15 and greater than 1.5 cm.4

The most common complication caused by dropped gallstones is the formation of abscesses in different locations. They are located intra-peritoneally (56%), usually in sub-hepatic region, abdominal wall (20%), thoracic (13%) and retroperitoneal (11%).5 The unusual location of lost gallstones in retroperitoneum occurs because after dropping from gallbladder, they located behind the liver (segment VI) and right colon and gained access to retroperitoneum. The second most common complication caused by dropped gallstones is the surgical wound infection, especially in the umbilical trocar.5,6 Other reported complications are fistulas, adhesions, perforation and intestinal obstruction.5,7

Focusing on the abscess due to dropped gallstones; it is remarkable that they do not always cause symptoms. The most common clinical symptoms are abdominal or back pain, if they are located in retroperitoneum, and fever that occurs in 25% of patients. The median time to onset of symptoms is approximately one year after the LC, although it has been reported in the literature some exceptional cases up to 20 years after cholecystectomy.1 Differential diagnoses of abscesses due to dropped gallstones are benign or malignant hepatic lesions including hepatocellular carcinoma or liver metastases. Escherichia coli and Klebsiella pneumoniae are the microorganisms that grow more frequently in the RADGs.4 Thoraco-abdominal CT is the best diagnostic method for abscesses caused by dropped gallstones.2

A careful surgical technique and the withdrawal of every dropped stone when the gallbladder breaks is the best way to avoid this complication.2 A strict follow-up of these patients can avoid more serious consequences, because there is not any delay in diagnosis and a quick treatment of every possible complication is possible.1 The placement of drains and prophylactic antibiotics during LC are controversial issues that have not demonstrated significant efficacy in preventing complications.8 It is important to reflect on the sur-

Figure 1. Abdominal computed tomography: A) axial view (arrow: gallstone inside abscess); B) coronal view (arrow: gallstone inside abscess); C) retroperitoneal abscess.
In the surgical operative sheet and in the medical report, the fact of dropped gallstones during the LC as it will facilitate earlier diagnosis when complications happen. Once abscess occur surgical approach is the best treatment that could be offered. Percutaneous drainage of the abscess does not solve definitively the problem because it will not eliminate the real problem.

References


Figure 2. Operative surgical field: A) mobilization of right colon B) opening of the retroperitoneum.

Figure 3. Gallstone.