

## CASE REPORTS

### RETROPERITONEAL ABSCESS WITH RETAINED GALL-STONES AS A LATE COMPLICATION OF LAPAROSCOPIC CHOLECYSTECTOMY

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Laparoscopic cholecystectomy is the golden standard, considering treatment of cholelithiasis. During the laparoscopic procedure one may often observe damage to the gall-bladder wall, as well as presence of gall-stones in the peritoneal cavity, as compared to classical surgery. These gall-stones may be associated with the occurrence of various complications following surgery. The study presented a rare case of a retroperitoneal abscess, as a consequence of retained gall-stones, in a female patient who was subject to laparoscopic cholecystectomy two years earlier.

**Key words:** cholelithiasis, laparoscopic cholecystectomy, retroperitoneal abscess, late complications

Laparoscopic cholecystectomy is one of the most common surgical procedures. During surgery one may observe gall-bladder wall perforation with spilling of gall-stones to the peritoneal cavity. The study presented a rare case of a retroperitoneal abscess, as a complication of retained gall-stones, in a female patient who was subject to laparoscopic cholecystectomy two years earlier.

#### CASE REPORT

A 60-year old female patient was admitted to the ER, due to significant, right lower abdominal pain. The pain had intensified during the past two weeks, being reported for the past three months. Fever, nausea or vomiting were absent. The patient had a history of laparoscopic cholecystectomy performed two years earlier, and naval hernia alloplasty performed last year. The physical examination showed significant right abdominal pain upon palpation without peritoneal signs. Laboratory results were as follows: WBC-11.9 G/L and CRP-24.15 mg/L. The ultrasound examination

showed an irregular, thick-walled fluid mass, 6cm in diameter, located retroperitoneally. Abdominal CT showed a right-sided peritoneal fusiform thickening with 3 mm calcifications, which could account for a fluid compartment, as well as blurring of muscular integument layers with a visible 68x20x72 mm mass, probably corresponding to an abscess (fig. 1).



Fig. 1. Retroperitoneal abscess CT image with visible gall-stone

The patient was subject to surgery. Following an incision in the right iliac fossa the abscess was reached and 50 ml of purulent fluid was evacuated, being subject to sampling. The retroperitoneal space was opened towards the costal arch, where a purulent compartment was evacuated, containing three small gall-stones. The abscess cavity was subject to lavage, and penetration to the peritoneal cavity was not observed. Due to the lack of peritoneal signs and absence of fluid compartments upon CT, laparotomy was not performed. Since admission, the patient received ciprofloxacin. The postoperative culture revealed the presence of *Staphylococcus aureus* sensitive to ciprofloxacin. The patient was discharged from the hospital in good general condition seven days after surgery.

## DISCUSSION

Laparoscopic cholecystectomy is the golden standard, considering treatment of symptomatic cholelithiasis. As compared to classical surgery one may observe the following two complications more often: damage to the common biliary duct, and complications associated with retained peritoneal cavity gall-stones (1).

Intraoperative gall-bladder perforation is observed in 18.3% of operated patients with 40% incidence of gall-stones spillage to the peritoneal cavity. Not all of the stones are removed. Risk factors of gall-bladder perforation include little experience of the operating surgeon, acute cholecystitis, right upper abdominal adhesions, preoperative pain exceeding 96 hours, and palpable gall-bladder (2). Perforation is possible during gall-bladder pulling by the assisting surgeon, preparation

and gall-bladder removal through a too small abdominal incision (3). Complications associated with gall-stone spillage are observed in approximately 1.7/1000 laparoscopic cholecystectomies (2). The above-mentioned occur more often in elderly, male patients, in case of multiple spilled gall-stones (>15), their diameter exceeding >15 mm, as well as dyed and bile infected stones (4). Considering diagnostics the most sensitive in retained gall-stones detection include abdominal CT (70.2%), abdominal ultrasound (63.2%), and abdominal X-ray (42.9%) (4).

The most common complications, include abdominal wall and intraperitoneal abscess presence (1). Retroperitoneal abscess is a rare complication, although should be considered during differential diagnostics of right upper abdominal pain in patients after laparoscopic cholecystectomy (5). In literature data we found 14 cases of a retroperitoneal abscess, associated with the presence of biliary gall-stones after laparoscopic cholecystectomy (3, 5-15). The above-mentioned occurred 6 months to 7 years after laparoscopic cholecystectomy. They were subject to drainage by means of the percutaneous or classical method. In 5 cases abscess cultures showed *Klebsiella pneumoniae* species (3, 8, 13, 14, 15), in 4 – *E. coli* (6, 8, 10, 15), in two – *Enterobacter cloacae* (5, 8), and in one – *Bacteroides fragilis* (8).

In case of intraoperative gall-stone spillage one should carefully collect all scattered stones, perform intensive peritoneal cavity lavage, and initiate antibiotic prophylaxis. Only the early studies recommended conversion to open surgery (5). In case of abscess development the most effective therapeutic method consists in the incision and drainage of the abscess, followed by antibiotic administration. Percutaneous drainage might not evacuate all gall-stones and leads towards symptom recurrence.

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