

# One Patient With Two Potential Complications Of Stone Spillage During Laparoscopic Cholecystectomy

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## Abstract

Since the acceptance of laparoscopic cholecystectomy as the "gold standard" in the therapy of cholelithiasis, surgeons are dealing with an increasing number of "unfamiliar" and "unexpected" complications. Gallbladder perforation with bile and calculi spreading in the abdominal cavity is one of these intraoperative complications of laparoscopic cholecystectomy. When not recognized during surgery or improperly treated, especially in the presence of acute cholecystitis and infected bile, it may lead to intra-abdominal abscess and sinus formation and may require re-operation. In this paper, we present a case of "spilled gallstones" complicated and resulted in both "intraabdominal abscess" and "extraabdominal sinus" formation in the same patient in different intervals.

## INTRODUCTION

One of the uncommon complications of laparoscopic cholecystectomy is postoperative abscess formation in either in the abdominal cavity or abdominal wall. Such complications mask not only the advantages of avoiding open surgery but also causes an increase in overall cost of laparoscopic operations. In this article, we present a patient having both of these complications approximately two years after laparoscopic cholecystectomy.

## CASE REPORT

A 75-year-old woman was admitted to the surgical department for evaluation of abdominal pain, vomiting and fever. She had muscular rigidity and rebound tenderness in the right upper quadrant on physical examination. Abdominal ultrasound revealed the presence of multiple stones in a hydropic gallbladder. The diagnosis was acute cholecystitis.

The patient was operated on the same day. She underwent laparoscopic cholecystectomy with some intraoperative leakage from the gallbladder. The gangrenous and partly necrotic gallbladder was rather difficult to handle, so some bile and a few stones spilled into the abdominal cavity. The stones were collected in a bag and removed. Postoperative course was uneventful and she was discharged from the hospital on the second postoperative day.

Fifteen months later, she was hospitalized in another medical

center with the complaint of pain on a right upper quadrant mass. Abdominal examination and radiological tests revealed a 9x4 cm abscess in the right upper quadrant. She was operated via a right subcostal incision and the abscess was drained. Surprisingly, the abscess pouch also contained numerous gallstones, which were also removed. Postoperative course was uneventful again and the patient was discharged on the fourth postoperative day.

Six months later (21 months after the first operation), she was hospitalized again with a painful swelling in the right upper quadrant again as well as a purulent discharge from the abdominal wall. Her physical examination and ultrasonography revealed a well-limited 5x5 cm collection in the posterolateral abdominal wall, suggesting an abscess with a fistula tract. She underwent a final surgical exploration. Our findings were in accordance with our preoperative evaluation with a fistula originating from the anterior abdominal wall muscles with numerous retained gallstones in it. The pouch was excised completely, the abscess was drained, necrotic tissue removed as well as the stones.

Postoperative course was uneventful again and she was discharged on the postoperative third day (Figure 1). Histopathological examination reported the specimen as a pilonidal sinus with no "pilus" involvement. The stones were identical to the ones examined after the first and second operations (Figure 2).

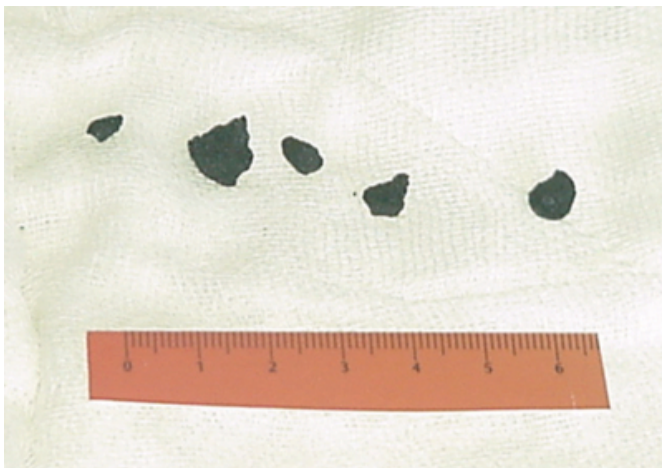
**Figure 1**

Figure 1: Skin incision of the patient after the third operation.



**Figure 2**

Figure 2: Gallstones collected from the sinus.



## DISCUSSION

Laparoscopic cholecystectomy has been one of the most popular surgical operations due to its safe and simple fame and less-complicated results. Considering the benefits of this procedure, surgeons now tend to be more willing to perform it all over the world. Better cosmetic results, closer vision and better exposure to the ductal and vascular anatomy, shorter hospital stay and earlier return to work are among the advantages of this so called “gold standard” technique (1). However, as the long-term follow-up reports come by, some unusual or surprising complications began to arise. Perforation of the gallbladder during cholecystectomy and spillage of the stones into the abdominal cavity were well-known entities before laparoscopic surgery. But the wide opening of laparotomy incision used to provide a full

exposure to “catch” these spilled stones and better mechanical cleansing of the abdominal cavity. Despite the advantages of this technique, laparoscopic interventions seem to be insufficient for the clearance of free stones in the abdomen when compared with open procedures. Some experimental studies and numerous case reports suggest a significant increase in the incidence of infectious complications due to un-retrieved stones after laparoscopic cholecystectomy (2,3,4,5). Such complications not only mask the advantages of avoiding open surgery but also causes an increase in overall cost of laparoscopic operation. It is believed that complications due to un-retrieved gallstones generally manifest themselves shortly after surgery (6). The interval between the cholecystectomy and the appearance of complications range from 4 days to 29 months, with a peak incidence at 4 months (7). But in our case, this period was as long as 15 months, which is one of the longest ones, reported, to the best of our knowledge.

Avoiding the risk of complications due to spilled stones should primarily focus on prevention. If perforation occurs, the gallbladder must be grasped from the point of perforation in order to prevent leakage. Especially in troubled cases like acute cholecystitis, the usage of endoscopic bags should be taken into consideration. After the removal of the specimen, hepatorenal fossa and right splenic space must be thoroughly examined.

In summary, spilled and un-retrieved stones during laparoscopic cholecystectomy seems to be a problem, precluding the advantages of laparoscopic intervention. A patient with a history of laparoscopic cholecystectomy and postoperative long-term abdominal pain or fistula should alert the surgeons on this infrequent complication.

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