



**ABDOMINAL WALL COLLECTION AFTER LAPAROSCOPIC CHOLECYSTECTOMY:
CASE REPORT AND LITERATURE REVIEW**

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ABSTRACT

Split gallstones during laparoscopic cholecystectomy are a well known issue when the gallbladder containing the calculus is accidentally perforated during the procedure. An Australian group reviewed eight studies with over 18,000 performed laparoscopic cholecystectomies that showed and found an incidence of perforation of the gallbladder of 18.3%. Whether un-retrieved gallstones cause damage has been studied and remains somewhat controversial, since some authors found an increased risk of intra-abdominal adhesions and abscess formation, others describe no consequences unless the stones are crushed or left behind while performing surgery for acutely inflamed gallbladder.

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INTRODUCTION

Split gallstones during laparoscopic cholecystectomy are a well known issue when the gallbladder containing the calculus is accidentally perforated during the procedure. An Australian group reviewed eight studies with over 18,000 performed laparoscopic cholecystectomies that showed and found an incidence of perforation of the gallbladder of 18.3% [1]. Whether un-retrieved gallstones cause damage has been studied and remains somewhat controversial, since some authors found an increased risk of intra-abdominal adhesions and abscess formation, others describe no consequences unless the stones are crushed or left behind while performing surgery for acutely inflamed gallbladder [2, 3].

Our case of a retained stone with intra-abdominal collection several months following cholecystectomy lights up this debate.

Patient history

A 40-year-old female with a previous surgical history that includes sleeve gastrectomy for morbid obesity at the age of 35 years. 5 years following that procedure the patient underwent an uneventful Roux-Y gastric bypass revisional operation for obesity including cholecystectomy due to symptomatic cholelithiasis. 5 months following the last surgery the patient presented to the emergency department complaining of an abdominal mass and pain at the right upper quadrant.

On physical examination, the patient was afebrile with a soft, non-distended abdomen. A tender mass was present at the RUQ. Laboratory tests revealed leukocytosis of 10,600, CRP 23. Abdominal computed tomography (CT) demonstrated a 5.4*0.6*3.3-cm collection at the RUQ abdominal wall with a radio-opaque stone inside (Figure 1) located posterior to the rectus muscles and above the posterior fascia. The patient was taken to the operating room where she underwent drainage of the collection under general anesthesia, during the procedure the collection was drained and the stone retrieved. Patient was discharged home on POD 1.

Microbiology result was no growth of bacteria.

DISCUSSION

Laparoscopic cholecystectomy is one of the most frequently performed surgical interventions nowadays. While un-retrieved gallstones during the procedure represent a commonly encountered matter, there is an ongoing debate whether split gallstones need to be extracted or not.

Some studies report the frequency of retained stones range between 5.7% and 36.7% however, complications caused by retained stones are reported to occur in only 0.08% to 6% of all laparoscopic cholecystectomies.(4)

To prevent spillage, careful dissection between the wall of the gallbladder and surrounding structures should be strictly adhered to during the removal of the gallbladder from the hepatic fossa. (6) Aspiration of a distended gallbladder before dissection may help to ease tension on the wall and, thus, facilitate dissection. Stones can also

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be spilled from the gallbladder during extraction from the umbilical port site. These stones may not be noticed because often visualization of the specimen as it passes from within the abdominal cavity is inadequate. The most efficient method of preventing retained subcutaneous gallstones is to use a retrieval bag. The use of a bag avoids further contamination of the peritoneal cavity and protects the port site from stones or contaminated fluids. Further measures to prevent a retained, subcutaneous stone would be palpation of the pre-peritoneal tissue and flushing the port site with saline to dislodge any remaining stone.(7)

Risk factors for complications from retained stones are acute cholecystitis with infected bile, pigment stones, multiple stones (>15), the stone size (>1.5 cm) and old age [8]. Careful removal of as many stones as possible, intense irrigation and suction (10 mm device) and avoidance of spread into difficult accessible sites, as well as the use of intraabdominal bags and laparoscopic graspers are recommended .(9) Any suspected spillage of stones should be documented clearly in the operative report so that any future complications from such stones can be more easily diagnosed.

CONCLUSION

This case report shows the importance of extraction of gallstones during laparoscopic cholecystectomy.

Any patient with a foreign body in the subcutaneous tissues following laparoscopic cholecystectomy should be considered at risk to have a retained stone until proven otherwise. The best approach is to avoid stone spillage and its sequela during the initial procedure is by using careful dissection, copious irrigation, and a retrieval device.



Fig 1 Foreign body on computed tomography scan. The arrow highlights the contrast-enhancing abscess cavity next to a calcified foreign body.

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