

Gallstone Granuloma: A Rare Complication of Laparoscopic Cholecystectomy

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ABSTRACT

Gallstone spillage during laparoscopic cholecystectomy is a relatively common occurrence. These intraperitoneal stones rarely give rise to complications. We present the case of a 68 female who presented with a 5 cm diameter epigastric mass two years after a laparoscopic cholecystectomy for acute-on-chronic cholecystitis with gallbladder stones. CT abdomen demonstrated an inflammatory mass with central calcification. Laparotomy and excision of the mass revealed the diagnosis as a gallstone granuloma.

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CASE REPORT

A 66-year-old Chinese female presented in July 1996 with a 3-day history of right hypochondrial pain and yellowing of her sclera. She admitted to having a history of gallstones but had previously declined surgery. On clinical examination, the patient was slightly jaundiced with mild right hypochondrial tenderness.

Ultrasound of the hepatobiliary system revealed dilatation of the common bile duct and the intrahepatic ducts. Endoscopic retrograde cholangiopancreatography (ERCP) confirmed the above findings and displayed the presence of several gallstones within both the common bile duct and the gallbladder. Endoscopic sphincterotomy was performed and the pigmented common bile duct stones were extracted via a Dormia basket.

The patient underwent subsequent laparoscopic cholecystectomy. Operative findings were that of a chronically inflamed gallbladder containing multiple black pigmented stones. During extraction of the gallbladder, several stones were inadvertently spilled; almost all were recovered. Pathological diagnosis was that of acute-on-chronic cholecystitis.

Postoperative recovery was uncomplicated and consequently, the patient was discharged from follow-up.

The patient presented again in October 1998 with a 2-month history of epigastric pain. On clinical examination, she had a 5 cm diameter midline epigastric

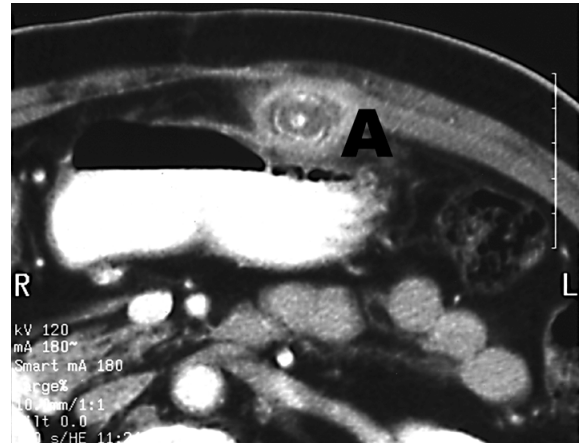


Fig.1 CT scan of the upper abdomen demonstrating the Gallstone Granuloma (A).

mass; firm and mobile. Oesophagogastroduodenoscopy (OGD) detected no abnormalities. CT abdomen (Fig. 1) demonstrated an inflammatory mass with calcification within it measuring 1.5 cm in diameter lying between the anterior abdominal wall and the anterior wall of the stomach.

The patient subsequently underwent laparotomy and excision of the mass. On gross examination, the mass had a fibrotic wall which when incised, revealed a pigmented gallstone surrounded by necrotic material. The findings were consistent with that of a gallstone granuloma. Postoperative recovery was uncomplicated.

DISCUSSION

Gallstone spillage during laparoscopic cholecystectomy is not uncommon, the incidence being 6-40%^(1,2). In the vast majority of cases, these intraperitoneal gallstones pursue a benign course, remaining clinically silent. Rarely, as illustrated by the preceding case report, they may give rise to complications. In addition to granuloma formation⁽³⁾, other reported complications of intraperitoneal gallstones include intra-abdominal abscess formation⁽⁴⁾, peritoneal-cutaneous sinus tract formation⁽⁵⁾, cholelithoptysis⁽⁶⁾ (expectoration of gallstones) and rarely, gallstone implantation into the ovary⁽⁷⁾ or other viscera. Presentation ranges from the early post-operative period to two years after surgery, the mean time to presentation being quoted as 27

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weeks⁽⁸⁾. The most common complication is intra-abdominal abscess formation with incidences reported at 0.08 - 0.3% by different authors^(1,4).

In studies conducted in rat models^(9,10), it has been shown that the chemical composition and number of the stones and the presence of infection have a significant influence on the fate of intra-abdominal gallstones. The incidence of granuloma formation and of the other aforementioned complications was found to be highest with multiple, infected pigment stones. Cholesterol stones did not evoke the severe local inflammatory reactions that were seen with pigmented stones.

In view of the low rate of complications, it is the view of most authors that there is no indication for conversion to an open cholecystectomy for retrieval of spilled gallstones. However, every effort should be made during laparoscopy to locate and extract the spilled stones. Failing which, detailed documentation of the intraoperative spillage, the nature, number and volume of the intraperitoneal gallstones must be made

to ensure post-operative vigilance, enabling the early detection of complications.

REFERENCES

1. Schafer M, et al. Spilled gallstones after laparoscopic cholecystectomy. A relevant problem? A retrospective analysis of 10,174 laparoscopic cholecystectomies. *Surg Endosc* 1998; 12(4):305-9.
2. McDonald MP, et al. Consequences of lost gallstone. *Surg Endosc* 1997; 11(7):774-7.
3. Warren CW, Wyatt JI. Gallstones spilt at laparoscopic cholecystectomy: a new cause of intraperitoneal granulomas. *J Clin Pathol* 1996; 49(1):84-5.
4. Horton M, Florence MG. Unusual abscess patterns following dropped gallstones during laparoscopic cholecystectomy. *Am J Surg* 1998; 175(5): 375-9.
5. Steerman PH. Delayed peritoneal-cutaneous sinus from unretrieved gallstones. *Surg Laparosc Endosc* 1994; 4(6):452-3.
6. Lee VS, et al. Cholelithoptysis and cholelithorrhoea: rare complications of laparoscopic cholecystectomy. *Gastroenterology* 1993; 105(6):1877-81.
7. Vadlamudi G. Gallstones implanting in the ovary. A complication of laparoscopic cholecystectomy. *Arch Pathol Lab Med* 1997; 121(2):155-8.
8. Chin PT, Boland S, Percy JP. "Gallstone hip" and other sequelae of retained gallstones. *HPB Surg* 1997; 10(3):165-8.
9. Gurleyik E, et al. Does chemical composition have an influence on the fat of intraperitoneal gallstones in rats? *Surg Laparosc Endosc* 1998; 8(2):113-6.
10. Zorluoglu A, et al. Is it necessary to retrieve dropped gallstones during laparoscopic cholecystectomy? *Surg Endosc* 1997; Jan 11(1):64-6.

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