



Case Report

Dropped gallstones mimicking intraabdominal implants or tumor: A report of two cases



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ABSTRACT

Introduction and importance: Dropped gallstones are an uncommon complication of laparoscopic cholecystectomy. Few reports have described dropped gallstones that were found accidentally. Here, we encountered two cases of dropped gallstones that were unexpectedly found during surgery.

Case presentation: Case 1 involved a 54-year-old woman who has undergone a total abdominal hysterectomy with bilateral salpingo-oophorectomy for endometrioid cancer in the right ovary which was confirmed by histology. During surgery, a small firm nodule was seen in the omentum. An omentectomy is done for histological evaluation. Case 2 involved a 29-year-old woman admitted for an elective Caesarean section. During surgery, a firm nodule in the vesicouterine pouch was found. The nodule was carefully removed and sent to the pathology department. Microscopically, both cases revealed a fibrous wall enclosing gallstone associated with a foreign body-type granulomatous reaction.

Clinical discussion: Dropped gallstones (DGs), also referred to as spilled gallstones, into the peritoneal cavity are an uncommon complication of laparoscopic cholecystectomy. Clinically spilled gallstones usually remain silent for months or years after laparoscopic cholecystectomy and can be found during imaging or surgery.

Conclusion: Clinicians should keep in mind that mass-forming lesions within the peritoneal cavity, due to dropped gallstones, may mimic neoplasia.

1. Introduction

Dropped gallstones, into the abdominal cavity, are an infrequent complication of laparoscopic cholecystectomy [1]. In most cases, dropped stones remain clinically asymptomatic [1,2], but may be present as an abscess, which is the most common complication, even months or years after surgery [3]. Although it is an unexpected entity, clinicians should be aware of it because it may be confused with neoplasia. Here, we describe 2 cases of dropped gallstones that were unexpectedly found during surgery.

This case report has been reported in line with the SCARE criteria 2020 [4].

2. Case presentations

2.1. Case 1

A 54-year-old woman was admitted to Tishreen University Hospital in 2022 for a total hysterectomy with bilateral salpingo-oophorectomy. Endometrioid cancer in the right ovarian is confirmed by histology. Prior to surgery, no abnormal changes were seen on ultrasonography except for an enlarged right ovary with a heterogeneous cystic tumor. Other abdominal organs are normal. A routine complete blood count was within normal limits. During surgery, a small firm nodule was seen in the omentum. It was expected to represent an omental implant from her ovarian cancer. An omentectomy is done for histological evaluation. The patient does not smoke or drink alcohol. She had no history of

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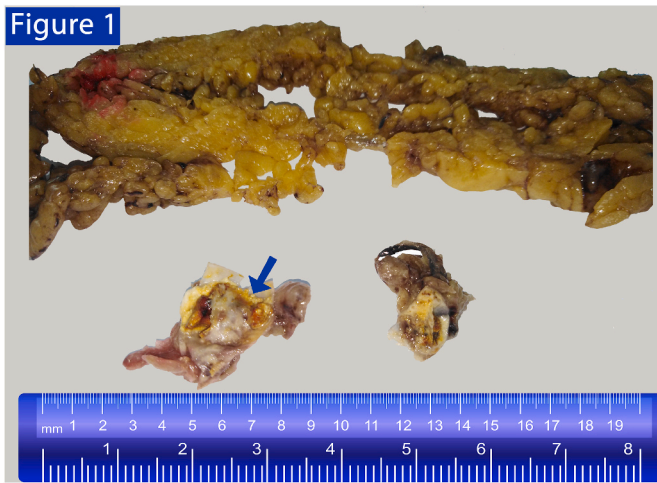


Fig. 1. Gross image of omentum showing nodule measuring 2.5 × 2 × 1.7 cm. Cut section reveals a yellow-orange periphery (blue arrow) and yellow-blackened center. It was “firm but friable”.

allergies. Reviewing her medical history shows, that she underwent laparoscopic cholecystectomy ten years ago for cholecystitis. The patient was discharged on her fifth postoperative day. On pathological examination, the nodule was oval-shaped, measuring 2.5 × 2 × 1.7 cm. The nodule felt quite firm, yet crumbles readily once pressure/sectioning is applied. It has a yellow-orange periphery and a yellow-blackened center reminiscent of gallbladder stones. [Fig. 1]. The H&E-stained sections showed fibrous wall surrounding deposits of bile-stained material, cholesterol clefts, foamy cells, and multinucleated giant cells [Fig. 2]. The histological findings are consistent with bile granuloma due to spilled gallstones.

2.2. Case 2

A 29-year-old woman was admitted at 39 weeks of gestation for an

elective Caesarean section. At the time of operation, a firm nodule in the vesicouterine pouch was found. The ovaries, uterus, and other abdominal organs appeared normal. Laboratory values were within normal ranges. The nodule was carefully removed and sent for histological examination. The patient does not smoke or drink alcohol. She had no history of allergies. She underwent laparoscopic cholecystectomy three years ago for acute cholecystitis. The patient was discharged on her third postoperative day. On gross examination, the nodule consists of a partially opened irregular, rubbery, tan-grayish piece of tissue, measuring 22 × 18 × 9 mm. There is attached little amount of fibro-fatty tissue. Serial sectioning reveals a wall enclosing multiple yellow-orange rounded relatively hard stone-like materials measuring between 1 and 5 mm in greatest dimension each [Fig. 3]. Microscopically, there were deposits of bile-stained material surrounded by fibrosis, macrophages, and multinucleated giant cells [Fig. 4]. There was no evidence of neoplasia. The histological features are compatible with foreign body-type granulomatous reaction due to dropped gallstones.

3. Discussion

Dropped gallstones (DGs), also referred to as spilled gallstones, retained gallstones, or abandoned gallstones, into the peritoneal cavity are a rare complication of laparoscopic cholecystectomy [1]. Few cases have been reported in the medical literature [5]. Laparoscopic cholecystectomy (LC) has become a more preferable choice for patients with symptomatic cholelithiasis [6]. This technique is less invasive with rare post-operational complications [6]. Although complications of LC are infrequent, there is an increased risk of gallbladder perforation causing spilling gallstones into the intraperitoneal cavity [7]. Most patients with DGs remain asymptomatic and can be accidentally found during CT scan imaging or surgery on the abdominal or pelvic region for another reason [3,5]. On the other hand, DGs may lead to intra-abdominal abscess formation around it or fistula formation [3,8]. DGs are often confused with peritoneal metastatic implants or lymph nodes enlargement. A wide spectrum of infectious and noninfectious causes including tuberculosis, sarcoidosis, and Crohn’s disease, need to be ruled out [5,9]. The differential diagnosis for vesicouterine pouch mass-like lesions includes

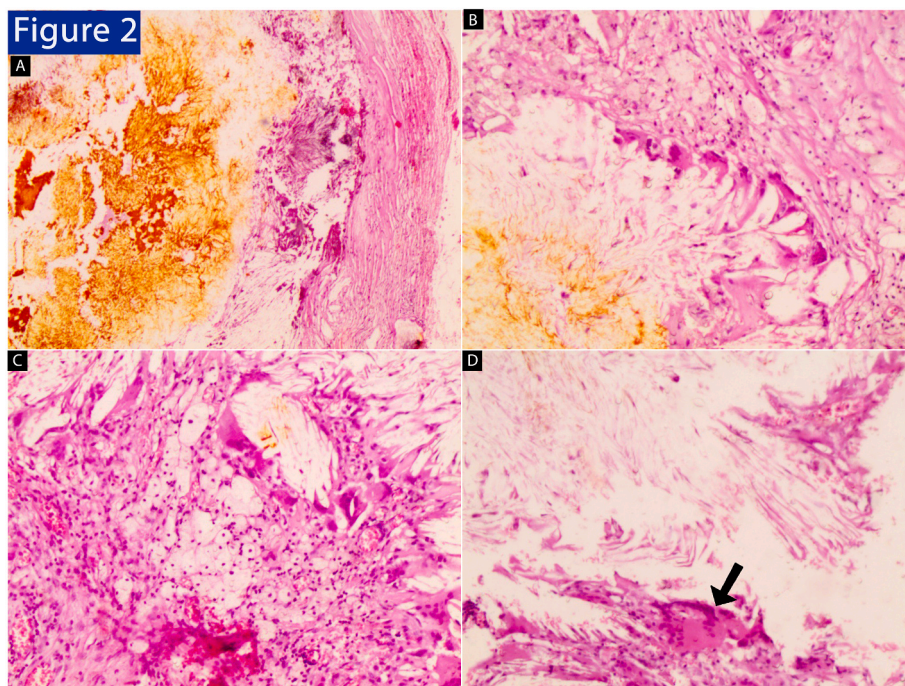


Fig. 2. H&E stain (A–D): Microscopic images of the Bile granuloma. (A) Yellow crystalline material enclosed by fibrous wall (x 40). (B) Foamy cells surrounding the bile pigment (x 100). (C) Cholesterol clefts and foamy cells are seen (x 100). (D) Multinucleated giant cell (black arrow) (x 200).

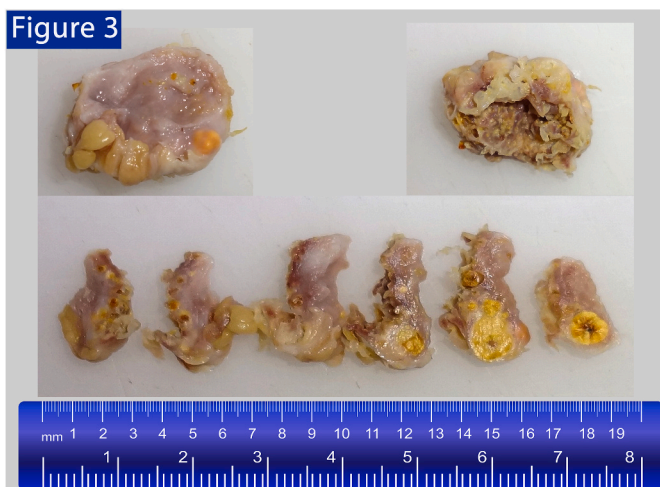


Fig. 3. Gross image of the specimen showing nodule measuring $22 \times 18 \times 9$ mm. Serial sectioning reveals tan-grayish wall and yellow-orange “firm but friable” stones.

endometriosis, tumors, or metastases [10]. In our cases, the first impression was omental implants in the context of right ovarian carcinoma in the first case. Uterine and urinary bladder neoplasia are suspected in the second case. By histological study, abscess, neoplasia, and tuberculosis were excluded in both cases. However, the histopathological findings of deposits of bile-stained material (DGs), surrounded by a granulomatous reaction and a history of laparoscopic cholecystectomy, supported the diagnosis of bile granulomas due to DGs.

4. Conclusion

Dropped gallstones are an infrequent complication of laparoscopic cholecystectomy. Spilling of gallstones into the abdominal cavity can be prevented using bags during the removal of gallbladders, however, this is not accessible in limited resources countries. Clinicians should

carefully check the history of LC in patients presenting with a mass-forming lesion in the peritoneal cavity.

Ethical approval

No ethical approval was needed for this case report.

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Author contributions

Moatasem Hussein Al-janabi: study design, data collections, data analysis, and writing.

Raghad Ghaleb Aslan and Alissar Mehzen Hasan: study design and writing.

Marah Doarah, Raghad Daoud, and Ali Wassouf: study design, data analysis, and writing.

Mohammad Adib Houreih: in reviewing the manuscript.

Registration of research studies

Not applicable.

Guarantor

Mohammad Adib Houreih.

Consent for publication

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

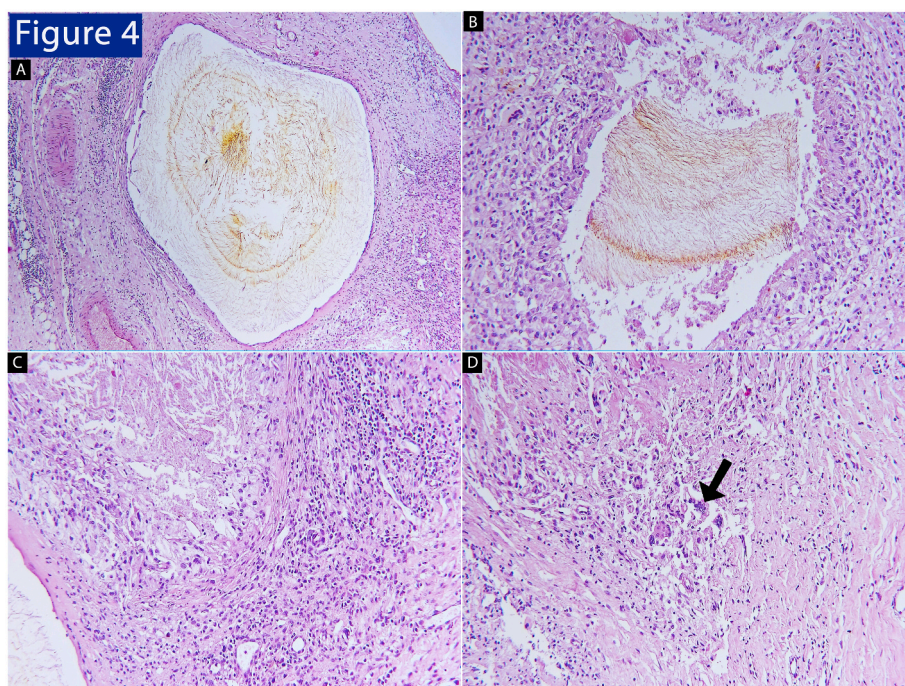


Fig. 4. H&E stain (A–D): Microscopic images of the Bile granuloma. (A) Yellow crystalline material in the center surrounded by a fibrous wall (x 40). (B) Granulomatous reaction to bile (x 40). (C) Cholesterol clefts and foamy histiocytes are seen (x 100). (D) Multinucleated giant cell (black arrow) (x 100).

Provenance and peer review

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Declaration of competing interest

The authors have no conflicts of interest to declare.

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