

Cholelithiasis of the Ovary After Laparoscopic Cholecystectomy

A Case Report

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BACKGROUND: Laparoscopic cholecystectomy may result in spilled bile and dropped gallstones. Although there are usually no consequences, occasionally this can lead to serious complications, including those requiring surgical procedures. Very few cases have been reported documenting the consequence of spilled biliary contents on or near the female genital tract.

CASE: A cholelith became embedded in the ovary of a 53-year-old woman and was detected >7 years after laparoscopic cholecystectomy.

CONCLUSION: The complications of cholelithiasis of the ovary may include chronic pelvic pain, dysmenorrhea, infection, adhesions, ectopic pregnancy and infertility. Ovarian choleliths may be an incidental finding or can mimic a primary ovarian tumor. (J Reprod Med 2007;52:968-970)

Keywords: cholelithiasis, laparoscopic cholecystectomy, ovarian diseases.

A gynecologic history should therefore always include prior laparoscopic cholecystectomy.

Laparoscopic cholecystectomy has become a popular means of treating uncomplicated cholelithiasis and cholecystitis. Although complications following this surgical procedure are allegedly minor, such sequelae as intraabdominal inflammation,

abscess and granulomas from spilled bile and gallstones are possible. Indeed, studies have shown that iatrogenic gallbladder perforation with resultant spillage of bile and gallstones is common (up to 40%) during laparoscopic cholecystectomy.¹ In most cases lost gallstones are clinically insignificant. Dropped

gallstones may even be detected several years later as intrapelvic calcifications.² Unlike pigment choleliths, intraperitoneal cholesterol gallstones do not become reabsorbed or decrease in size over time. Very few cases have been reported documenting the consequence of spilled biliary contents on or near the female genital tract. We report an unusual case of cholelithiasis of the ovary detected >7 years following laparoscopic cholecystectomy.

Case Report

A 53-year-old, obese woman, gravida 3, para 0, aborta 3, underwent a simple total abdominal hysterectomy with bilateral salpingo-oophorectomy for cervical glandular atypia that was detected in a cone biopsy, performed because the patient was diagnosed as having a low grade squamous intraepithelial lesion of the cervix. Her past history was significant for a laparoscopic cholecystectomy performed approximately 7 years previously for symptomatic gallstones. Although the operative note was not available for review, the gallbladder specimen was received previously. The gallbladder contained golden brown cholesterol calculi measuring 2×1×0.3 cm in aggregate. During the subsequent surgical procedure, intraoperative exploration of the abdomen and pelvis revealed unremarkable serosal surfaces and normal-appearing ovaries. Pathologic examination of the uterus and cervix identified cervical intraepithelial neoplasia grade 2, ade-

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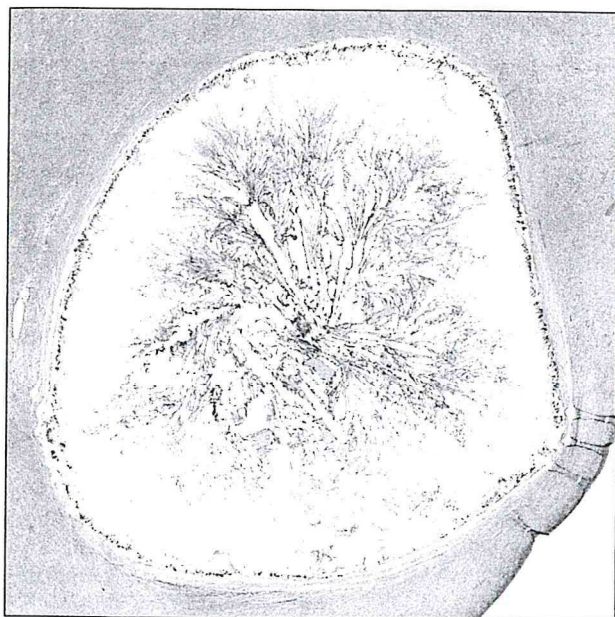


Figure 1 Histologic section demonstrating a cholelith embedded within ovarian stroma (hematoxylin-eosin, $\times 40$).

nomyosis and an intramural leiomyoma. Both ovaries contained epithelial inclusion cysts. In addition, the left ovary contained an embedded cholelith (Figure 1) measuring 10 mm in greatest dimension. The entrapped gallstone was composed of bile and cholesterol crystals and was surrounded by a foreign body giant cell response (Figure 2). The patient had an uneventful recovery from the surgery.

Discussion

Complications documented in the literature that have been associated with unretrieved gallstones include infection and abscess, inflammation, foreign body granuloma formation, fibrosis, adhesions, sinus and fistula formation, small bowel obstruction and generalized septicemia.³⁻⁶ Cultures obtained from infected, misplaced choleliths often reveal the same microorganisms isolated from the gallbladder.⁷ Infected gallstones that are dropped into the pelvis during laparoscopic cholecystectomy or that migrate into dependent areas of the pelvis may result in gynecologic symptoms or signs or evoke a fibroinflammatory tissue response that could mimic primary gynecologic disease. For example, intrapelvic gallstones should be included in the differential diagnosis in pelvic pain and dysmenorrhea in a patient with a past history of laparoscopic cholecystectomy.^{8,9} Granulomatous peritonitis from spillage of bile and gallstones has been shown to mimic endometriosis both clinically and pathologically in a 20-year-old woman, gravida 0.¹⁰ Pelvic laparoscopy in this patient reportedly showed scattered, red-brown pelvic adhesions similar to endometriosis. It is plausible that pelvic peritoneal irritation from spilled gallstones may even predispose to an increased risk of ectopic pregnancy and infertility in premenopausal women.¹¹

To our knowledge, only 5 cases have been reported in which dropped gallstones have been shown to directly involve the fe-

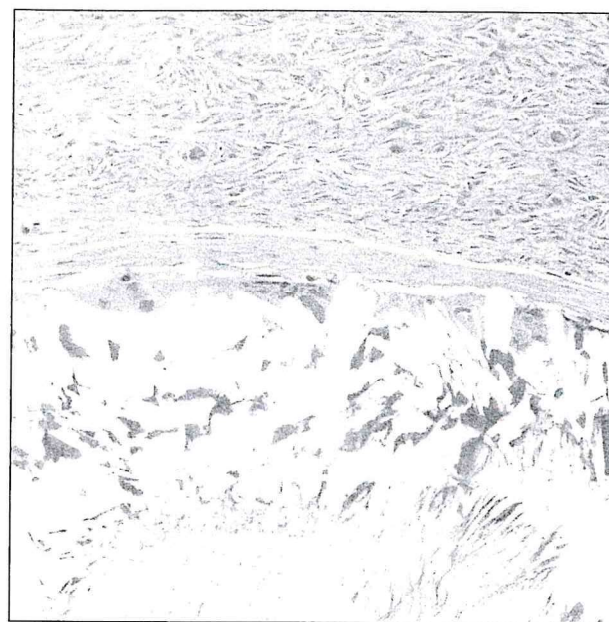


Figure 2 High-power magnification showing an implanted ovarian gallstone, composed of bile and cholesterol crystals, surrounded by a dense, fibrous capsule and foreign body giant cell reaction (hematoxylin-eosin, $\times 400$).

male genital tract (Table I). In all cases an ovary was involved. Most of these patients with adnexal choleliths also had other intrapelvic gallstones identified at the time of presentation. It is relatively easy to explain how gallstones falling on or near the uterus and adnexa (e.g., pouch of Douglas) can cause such gynecologic problems as pelvic pain.⁸⁻¹² Early on, spilled gallstones appear to elicit a mild local inflammatory response, hemorrhage and mesothelial proliferation with ensuing adhesion formation.¹¹ Encapsulated gallstones may remain attached to the ovary by dense fibrous tissue. Gallstones that elicit an inflammatory reaction may also create a tract into adjacent structures; that would explain how they become implanted within the ovarian stroma or even inside a mature cystic teratoma.⁷

Both early and late postoperative gynecologic sequelae from misplaced gallstones may range from an incidental finding, as in our case, to more serious complications. There is at least 1 reported case in which embedded ovarian gallstones were grossly misdiagnosed as tumor deposits.¹³ Symptoms related to ovarian cholelithiasis appear to occur early following cholecystectomy. Cases of chronic pelvic pain and dysmenorrhea that required lysis of adhesions have been reported,¹² and in 1 case, treatment by hysterectomy and removal of retained gallstones was necessary.⁸ In patients with acute cholecystitis, spillage of gallstones may result in distant infection. Based on the few cases published, it appears that after some time (>20 months) the inflammatory process subsides. In these cases, ovarian cholelithiasis tends to be asymptomatic and will more than likely be discovered incidentally at surgery or under the microscope.

A gynecologic history should therefore always include prior laparoscopic cholecystectomy. Also, efforts should be made to recover as many inadvertently spilled gallstones as possible dur-

Table 1 Published Case Reports of Gallstones Dropped During Laparoscopic Cholecystectomy and That Directly Involved the Female Genital Tract

Patient age (yr)	Period after cholecystectomy (mo)	Clinical presentation	Pathologic finding	Other findings	Year reported
53 ⁷	4	Fever, abdominal pain, unilateral ovarian cyst	Gallstone abscess within ovarian dermoid cyst	Gallstones in pouch of Douglas and on colonic serosa	1992
70 ¹¹	2	Abdominal pain, unilateral adnexal mass	Gallstones adherent to ovary within mesothelial cyst	Pelvic peritoneal gallstone implants	1993
39 ¹²	4	Chronic pelvic pain	Gallstone adherent to ovary with fibrosis, hyalinization, chronic inflammation	Gallstones in ovarian fossa, cul-de-sac	1996
30 ¹³	20	Infertility, suspected ovarian tumor implants	Gallstones embedded in ovarian stroma	Pelvic, rectal peritoneal gallstone implants	1997
45 ¹⁴	24	Abnormal uterine bleeding	Gallstone adherent to ovary, dense fibrous tissue	Not reported	2001

ing laparoscopic cholecystectomy (e.g., irrigation and exploration), particularly in reproductive-aged women. Finally, the loss of gallstones and their retention in the abdominal cavity should be noted in the description of the surgical procedure.

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