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# The Clinical Picture

## Dropped gallstones disguised as a liver abscess



**FIGURE 1.** Computed tomography scan of the abdomen with contrast shows a possible hepatic lesion (arrow).



**FIGURE 2.** Computed tomography scan of the pelvis with contrast shows a possible hepatic lesion (arrow).

**A** 67-YEAR-OLD RETIRED MAN presents to his internist with a 3-month history of abdominal discomfort in the right upper quadrant on deep breathing. He has no other abdominal complaints, but he mentions that he underwent laparoscopic cholecystectomy 3 months ago for gallstone pancreatitis.

A physical examination and preliminary laboratory work are inconclusive, but the internist, concerned about the ongoing symptoms, orders a computed tomographic (CT) study of the abdomen (**FIGURE 1**) and pelvis (**FIGURE 2**), with contrast, and the resulting CT report mentions a possible hepatic lesion, which in turn raises the possibility of a hepatic abscess. However, on further review of the

scans with a radiologist, the lesion appears perihepatic rather than intrahepatic.

The surgeon who had performed the laparoscopic cholecystectomy is consulted and says that he had noted no hepatic or perihepatic lesion at the time of the operation. He adds, however, that the operation had been technically difficult because of inflammation, and that gallstones were dropped during retraction of the gallbladder and could not be retrieved, despite every effort. The presence of dropped gallstones therefore raises suspicion of abscess.

A biopsy specimen obtained with CT guidance shows chronic inflammation but is sterile on aerobic culture. There is no evidence of malignancy. Because of concern for



**FIGURE 3.** Pus was noted after incision of the abscess cavity.



**FIGURE 4.** The gallstone (arrow) was seen in the abscess cavity after evacuation of pus.

underlying infection, the infectious disease staff recommends empirical treatment with a 4-week course of ampicillin-sulbactam (Unasyn). At completion of the antibiotic course, the patient's symptoms have resolved.

In another case, a 66-year-old woman presented to the infectious disease department with a persistent subdiaphragmatic abscess 2 years after undergoing laparoscopic cholecystectomy. Despite CT-guided drainage of the abscess followed by several courses of antibiotics, the abscess did not resolve. The patient was then evaluated by a general surgeon who, considering the recurrent nature of her abscess, suspected that the inflammation might be a foreign-body reaction to a dropped gallstone. The patient was taken for surgical evacuation, during which a chronic abscess was found and was unroofed and drained of pus (FIGURE 3). A gallstone was found in the abscess cavity (FIGURE 4).

#### ■ LAPAROSCOPY'S DRAWBACKS

In the United States, more than 700,000 laparoscopic cholecystectomies are performed each year,<sup>1</sup> and the number is growing. The key advantages of laparoscopic cholecystectomy over the open procedure are smaller incisions, less postoperative pain, and a shorter recovery time. On the other hand, limited visualization, pneumoperitoneum, and other technical challenges of laparoscopy increase the risk of

bile duct injury and dropped gallstones. As many as a third of all laparoscopic cholecystectomies are complicated by dropped gallstones.<sup>1-4</sup> Gallstones may also be dropped during open cholecystectomy, but the larger operating field makes them easier to retrieve.<sup>5</sup>

Complications of dropped stones, though rare, can include localized or systemic infection, inflammation, fibrosis, adhesion, cutaneous sinus formation, ileus, and abscess.<sup>1,6</sup> Lohan et al<sup>1</sup> estimated that dropped stones produce an intra-abdominal abscess in 0.6% to 2.9% of cases of dropped stones and bile spillage, based on reports by Rice et al<sup>4</sup> and Morrin et al.<sup>7</sup> Dropped stones should be recognized as a potential cause of intra-abdominal abscess in any cholecystectomy patient months or even years after the surgery. Also, these abscesses are not necessarily confined to the right upper quadrant: they can occur anywhere in the abdominal cavity.<sup>5,7</sup>

Given the ever-increasing popularity of laparoscopic cholecystectomy, the problem of intra-abdominal abscess due to dropped gallstones will only become a more common problem. Early diagnosis is the key to avoiding long and unnecessary treatment.

If dropped gallstones do become infected and eventually cause symptoms, they may require surgical or percutaneous removal in conjunction with antimicrobial therapy.<sup>8</sup>

**Infected  
dropped  
gallstones may  
need surgical  
removal plus  
antibiotics**

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