

# Answer

## Cholecystocolonic Fistula

**Figure 1.** Computed tomographic scan showing a hyperdense, rounded lesion with a hypodense center in the sigmoid colon.

**Figure 2.** Specimen photograph revealing a large gallstone identified in the sigmoid colon.

**C**holecystoenteric fistula is a rare complication of biliary disease. The fistula usually results from inflammation associated with acute cholecystitis and occurs between the gallbladder and an adjacent hollow viscus. A second mechanism for fistulization is pressure necrosis from a large stone within the gallbladder lumen.<sup>1</sup> The duodenum is the most commonly involved portion of the intestinal tract, accounting for approximately 75% of these communications.<sup>2</sup> Once gallstones gain access to the small bowel, the majority are not large enough to cause an obstruction. Larger stones (>2.5 cm in diameter), however, can become impacted in the terminal ileum where there is a narrowing of the bowel lumen. The result is a gallstone ileus, which is accompanied by symptoms classic for a small-bowel obstruction.

Communication to the colon, most commonly the hepatic flexure, accounts for approximately 15% of cholecystoenteric fistulas.<sup>2</sup> In these patients, larger stones may become impacted in the sigmoid colon, which is the narrowest portion of the large intestine. In such patients, symptoms develop more slowly, and abdominal distension and pain are the predominant features.<sup>1</sup> Patients with a cholecystocolonic fistula may also develop choleric enteropathy, an infrequent complication marked by severe diarrhea.<sup>1</sup>

Like treatment of a gallstone ileus, treatment of a symptomatic cholecystocolonic fistula involves therapy of 2 distinct processes: the stone in the intestinal tract and the cholecystocolonic fistula, which may be associated with an acute phlegmon in the right upper quadrant. Frequently, as was the case with our patient, this pathologic feature is unknown at the time of operation. Our patient underwent a partial sigmoidectomy with creation of an end colostomy and Hartmann pouch, and the specimen contained a large gallstone (**Figure 2**). Inspection of the right upper quadrant at that time revealed significant inflammation; therefore, no further investigation of the gallbladder or suspected fistulous tract was undertaken.

The patient recovered uneventfully from the initial operation and across the next several months underwent an extensive workup attempting to delineate the fistula. Colonoscopy, barium enema, and hepatobiliary scintigraphy results were all negative. Spontaneous closure of a cholecystoenteric fistula occurs in many patients particularly when no distal obstruction is present, stones are no longer present in the gallbladder, and the acute inflammation has resolved.<sup>1</sup>



**Figure 2.**

In general, the decision to remove the gallbladder electively at a later date is determined by the condition of the patient. Asymptomatic patients in whom no persistent cholecystoenteric fistula is demonstrated by contrast study do not require elective cholecystectomy. Persistence of biliary symptoms or failure of fistula closure suggest additional stones in the gallbladder; therefore, exploration with cholecystectomy, division of the fistula, and closure of the colon are indicated.

Our patient returned to the operating room approximately 4 months after her initial surgery, at which time her Hartmann pouch was reversed. Inspection of the right upper quadrant at that time revealed resolution of the inflammation; therefore, cholecystectomy was performed. The patient's recovery was again uneventful.

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### REFERENCES

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2. Ibrahim IM, Wolodiger F, Saber AA, Denney B. Treatment of cholecystocolic fistula by laparoscopy. *Surg Endosc*. 1995;9:728-729.

### Submissions

Due to the overwhelmingly positive response to the "Image of the Month," the *Archives of Surgery* has temporarily discontinued accepting submissions for this feature. It is anticipated that requests for submissions will resume in mid 2004. Thank you.