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Case Report

Computed tomography demonstration of cholecystogastric fistula

*Chung Kuao Chou MD, MPH**

Department of Radiology, Yuan's General Hospital, No. 162, Cheng-Kung 1st Rd, Kaohsiung, Taiwan, Republic of China

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ABSTRACT

Cholecystogastric fistula is a rare complication of chronic cholecystitis or long-standing cholelithiasis. It results from the gradual erosion of the approximated, chronically inflamed wall of the gall bladder and stomach with fistulous tract formation. The present case describes the direct visualization of a cholecystogastric fistula by computed tomography in a patient without prior biliary system complaints.

Introduction

Cholecystoenteric fistulas include cholecystogastric, cholecystoduodenal, and cholecystocolonic fistulas with the cholecystoduodenal type being the most common [1]. The symptoms and signs of these fistulas may range from nonspecific to life-threatening [1–10]. They are usually related to chronic cholecystitis or long-standing cholelithiasis. The computed tomography (CT) manifestations of a bilioenteric fistula include pneumobilia, 2 approximated organs with an edematous wall, pericholecystic inflammatory change, a gall stone in the gastrointestinal tract, bowel dilatation, and direct visualization of the fistula [1–6]. A primary demonstration of cholecystoduodenal fistula has been reported [7–10]. In the following account, a patient without prior symptoms or signs of cholelithiasis was shown by CT to have a fistulous tract communicating the gall bladder and gastric antrum.

Case report

A 63-year-old woman was a victim of sigmoid colonic mucinous adenocarcinoma. She received a lower anterior resection with end-to-end anastomosis about 2 years ago. One year later, a regular follow-up CT examination demonstrated an air-distended channel communicating the gastric antrum and gall bladder on reformatted coronal and sagittal images (Figs. 1 and 2) with pneumobilia. A mass with a complete thick rim calcification, about 78 × 45 × 36 mm in dimension, was noted in the pancreaticoduodenal region. The fat plane between the mass and the fistula was well preserved. The patient said she underwent an operation 40 years ago, before CT was available, to determine the nature of the mass. However, the mass was thought to be a calcified lymph node and was not resected. The patient received follow-up during the 40-year period without further treatment. The gall bladder and gastric wall were not thickened. No visible peritoneal implant

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* *Corresponding author.*
E-mail address: wushungxian@kimo.com.

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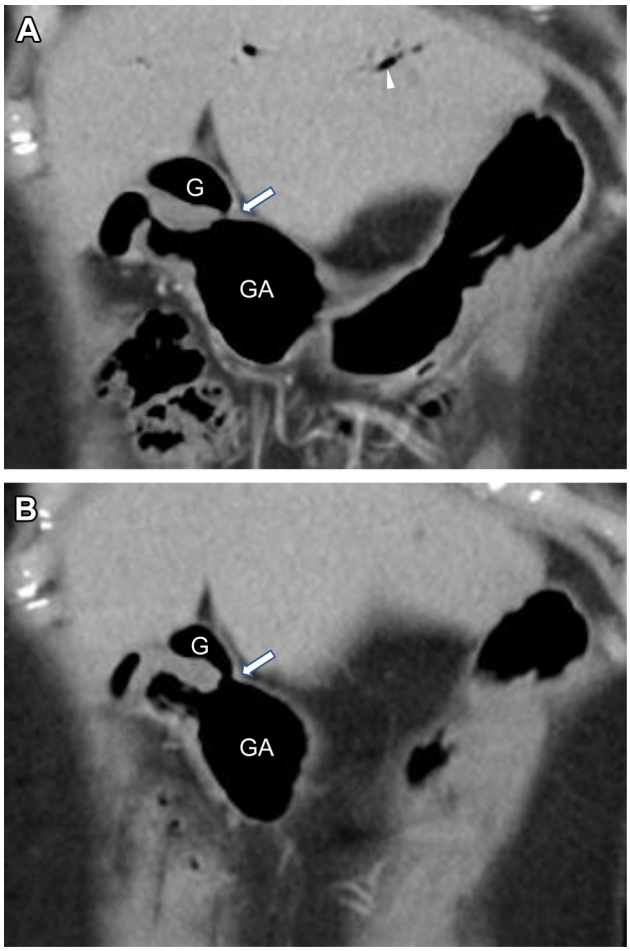

Fig. 1 – (A, B) Two contiguous reformatted coronal images on first follow-up CT examination 1-year after lower anterior resection of sigmoid colonic carcinoma showed the vertically oriented air-distended fistula (arrow) between the gall bladder (G) and gastric antrum (GA) with pneumobilia (arrowhead).

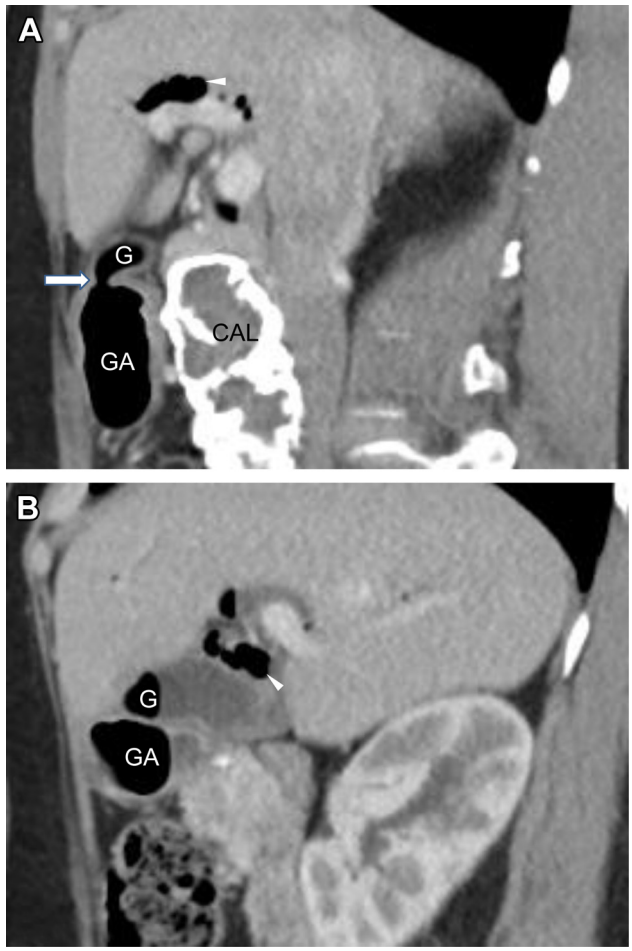

Fig. 2 – (A, B) Two contiguous reformatted sagittal images showed the vertically oriented air-distended fistula (arrow) between the gall bladder (G) and gastric antrum (GA). A calcified mass (CAL) in the pancreatioduodenal region, pneumobilia (arrowhead), and air-fluid in the gall bladder were seen. The fat plane between the calcified mass and the fistula was well preserved.

was detected. The patient denied any past complaints related to the biliary system. Neither ultrasonography nor CT showed recognizable cholelithiasis. The fistula was not described in the surgical record of the lower anterior resection 1 year ago. Because of the absence of biliary or gastrointestinal complaints, no further study was performed. This time, 1 year after the first follow-up CT examination, blood analysis detected an elevated serum CA-125 level, 362.7 U/mL (normal level is <35 U/mL). A screening ultrasonography showed ascites and pneumobilia. Subsequent abdominal cytology confirmed the presence of malignant cells. The patient received a second follow-up CT examination, which showed reticulonodular infiltrates in the greater omentum, pneumobilia, and ascites. The previously demonstrated cholecystogastric fistula was collapsed and appeared as an enhancing tubular tract (Fig. 3) without air inside. A following endoscopic examination revealed a hole on the anterior wall of the gastric antrum with mild mucosal inflammation and bile flowing out. A biopsy of the tissue around the opening showed chronic gastritis with intestinal metaplasia. Then, the patient received cytoreduction surgery and hyperthermic intraperitoneal chemotherapy with oxaliplatin. The fistula itself remained unrepaired, and the gall bladder was not resected. The calcified mass was left untouched. The pathology of multiple resected tissues on the surfaces of the liver, spleen, stomach, diaphragm, omentum, and appendix all revealed metastatic adenocarcinoma. She recovered uneventfully and received regular follow-up in the outpatient department. No specific biliary system complaint was mentioned during the follow-up period.

Discussion

Cholecystogastric fistula usually is a complication of long-term cholelithiasis or chronic cholecystitis with subsequent gall stone ileus. In the present case, the patient had not presented any biliary or epigastric complaints according to the clinical information. Ultrasonography and CT showed only