

IMAGES IN CLINICAL RADIOLOGY



Cholecystocolonic fistula complicated by gallstone impaction and perforation of the sigmoid

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An 88-year-old woman was referred to our department because of sudden onset of progressively increasing lower abdominal pain and clear inflammatory laboratory tests. Her medical record revealed she had suffered from an acute calculous cholecystitis two years earlier, conservatively treated with percutaneous drainage followed by antibiotic therapy (Fig. A). The recovery had been long and exhaustive to this elderly patient.

First an abdominal ultrasound was obtained, suggesting inflammatory changes of the sigmoid, possibly complicated by perforation. Additional CT imaging showed an egg-shaped, peripheral calcified structure (longest diameter 47 mm) in the lumen of the middle third of the sigmoid (Fig. B). Retrograde administration of contrast showed no passage beyond the impacted stone, the latter showing striking resemblance in size, aspect and layering with the gallstone that had been seen on the previous abdominal CT scan two years earlier. As easily depicted on CT, this unusual location of the cholelith was explained by the presence of a fistula between the gallbladder and the hepatic flexure of the colon, the former being adherent to the colon (Fig. C). There was pneumobilia and the gallbladder lumen was small, containing air and a small calculus. Other small choleliths were detected in the ascending colon.

Consequently our patient was urgently referred to the operation room and a sigmoidectomy (Hartmann procedure) was performed. During the postoperative course the patient developed acute renal failure and died of an acute cardiac infarction 6 weeks after surgery.

Comment

Cholecystenteric fistula is a rare entity, with an incidence reported in the literature as 0,4-1,9% of the patients treated for biliary tract disease. Since 1950, 231 cases of cholecystocolonic fistula (CCF) have been reported. CCF represents 8 to 26,5 % of cholecysto-enteric fistulas and is the second most common fistula after cholecysto-duodenal fistula. 0,13 % of cases of acute cholecystitis are complicated by CCF. Recurrent or chronic inflammatory processes of the gallbladder are the most commonly described pathogenic mechanism for CCF.

CCF has a very low pre-operative detection rate (less than 10% compared to 43 % for cholecysto-enteric fistulas in general). This is probably due to the inefficacy of diagnostic means but also to the non-specificity of the symptoms: non-emergency onset of CCF is characterized by a triad of diarrhea, right hypochondrium pain and cholangitis (jaundice/fever). Diarrhea is the most common symptom, due to the laxative effect of bile acids that bypass the distal ileum and reach the transverse colon unabsorbed.

Less frequently CCF presents in an acute setting with a liver abscess, massive bleeding or biliary ileus. Biliary ileus is the most common complication of proximal fistulas. In CCF, a gallstone migrating into the colon enters the bowel distally from Bauhin's valve, thus bypassing the most critical level. Nevertheless, literature reveals that in one case of five patients with CCF present with colonic obstruction, mostly located at the sigmoid colon. The acute presentation of our case was particularly interesting because the gallstone impaction in the sigmoid colon was complicated by a perforation.

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