LETTER / Gastrointestinal imaging

Gallbladder volvulus: A rare case of acute cholecystitis

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Case report

A 78-year-old female patient was admitted to the emergency department with severe hypochondrial and right flank pain present for 48 hours. She had a past history of an episode of atrial fibrillation, hypertension and kyphoscoliosis. Clinical examination revealed guarding in the right hypochondrium and a painful resistant mass in the right flank. She was aphyrexial. Laboratory tests showed an acute phase reaction with a leukocytosis of 23,000/mm\textsuperscript{3} and raised CRP of 323 mg/L (N < 5 mg/L). In view of the clinical and laboratory findings, she had contrast-enhanced abdominal and pelvic CT scan with an injection of iodinated contrast agent which showed severe distension of the gallbladder with defective local wall uptake, a liquid effusion around the gallbladder and cystic duct volvulus (Fig. 1). A diagnosis of gangrenous cholecystitis as a result of gallbladder volvulus was made and she had an urgent cholecystectomy. Intra-operative findings confirmed a necrotic gallbladder with 180$^\circ$ torsion of the cystic pedicle confirming the volvulus (Fig. 2). The patient improved and she left the department of gastrointestinal surgery seven days later.

Discussion

Gallbladder volvulus is a rare cause of atraumatic, acute abdomen which is often very difficult to diagnose pre-operatively. It occurs predominantly in older people with a female to male sex ratio of 3:1. A few cases have been reported in children [1–3]. The pathophysiology involves torsion of the gallbladder around the cystic pedicle. Gallbladder torsion is...
predisposed to by two types of congenital abnormalities according to the Gross classification [4]: type A is a long wide mesocyst and type B is an incomplete mesocyst. These two anatomical variations produce a floating gallbladder appearance. Loss of fatty tissue and elasticity causing visceroptosis in the elderly, increased peristalsis in the neighboring gastrointestinal organs and kyphoscoliosis are also acquired risk factors. In our case, the patient had pronounced kyphoscoliosis with gallbladder ptosis associated with a long wide mesocyst intra-operatively. The volvulus may be complete (360°) or incomplete (180°) and may be complicated by gangrenous cholecystitis and then peritonitis if it ruptures.

The clinical presentation is a combination of severe hypochondrial and right flank pain, abdominal guarding and
Gallbladder volvulus is a rare cause of acute cholecystitis, which is occasionally difficult to diagnose pre-operatively. Ultrasound and particularly CT scans can visualize an abnormally low gallbladder position, torsion of the gallbladder pedicle and the wall abnormalities associated with gangrenous cholecystitis.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

References