

Clinical Image

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Gallstone ileus due to duodenal diverticulosis

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Abstract

A gallstone may form within a duodenal diverticulum, entering the bowel without the presence of a biliary enteral fistula. This can result in a small bowel obstruction known as “gallstone ileus” but characterized by a normal gallbladder and no pneumobilia. The nonspecific nature of this presentation can contribute to delayed diagnosis and hinder optimal surgical management.

Keywords: Duodenal diverticulosis; Bowel obstruction; Gallstone ileus; Computed tomography.

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Description

A 74-year-old man, with no notable medical history, presented at the emergency department with a 3-day history of cramping abdominal pain, bloating and vomiting. The physical examination was notable for diffuse abdominal tenderness, tympany and a negative Murphy's sign. Laboratory studies showed an increased level of C-reactive protein (126 mg/L; reference range <5 mg/L), a normal complete blood count and normal levels of liver-enzymes. Findings on computed tomography of the abdomen included the presence of a gastric distension, a small-bowel obstruction with an endoluminal image suggestive of a gallstone at the transition zone, a normal-shaped gallbladder, no pneumobilia and a duodenal diverticulum (Figure 1).

During exploratory surgery, the transition zone was observed in the small-bowel. Following an unsuccessful attempt to break up the gallstone and facilitate its passage into the cecum, an enterolithotomy was performed to extract a large gallstone measuring five centimeters (Figure 2). A normal gallbladder without cholecystoduodenal fistula was found and the diagnosis of gallstone ileus caused by an impaction of a duodenal gallstone was made.

Histopathological analysis of the resected mass also confirmed the presence of a gallstone. The patient recovered well postoperatively and at a follow-up visit 3 weeks later he remained well with no further abdominal symptoms.

In fact, bile deposits inside a duodenal diverticulum can lead to the development of a gallstone and, by this way, can enter the bowel without any biliary enteral fistula [1].

Duodenal diverticulosis is not a rare condition. Of little clinical significance, it can give rise to various complications such as malabsorption, hemorrhage, diverticulitis, but also obstruction [2].

More rarely, the obstruction may occur at the duodenojejunal flexure resulting in a gastric outlet obstruction defined as Bouveret's syndrome [3].

The diagnosis of a gallstone ileus due to a duodenal diverticulosis requires verifying the normalcy of the gallbladder and the presence of duodenal diverticula [1,2].

Due to this nonspecific presentation, diagnosis and management are often delayed while early surgical exploration is required for relieving bowel impaction [4]. On the other hand, cholecystectomy is not indicated, given the normal nature of the gallbladder.

Competing interests: The authors have no competing interests to declare.

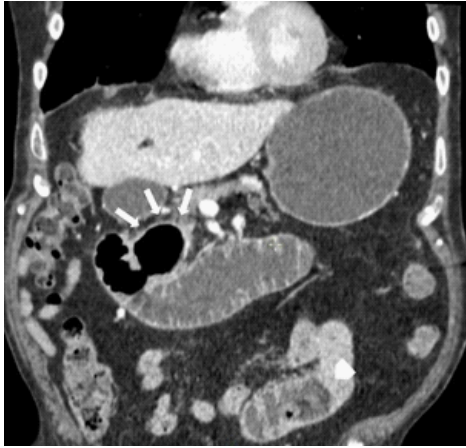


Figure 1:

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Figure 2: