

BOUVERET Syndrome : Case Report

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Abstract: *Bouveret syndrome is a rare complication of gallstone disease secondary to a cholecystoduodenal fistula with the passage of a large stone into the duodenum or even the small intestine. Diagnosis is challenging and often delayed. Computed tomography allows early diagnosis by revealing a fistula, stone, and pneumobilia. Surgical treatment involves stone extraction with cholecystectomy and, if necessary, closure of the fistula.*

INTRODUCTION:

Biliary ileus is an intestinal obstruction related to the migration of a gallstone into the intestinal lumen. It is most commonly caused by the presence of a biliodigestive fistula, secondary to successive episodes of cholecystitis. This case presentation discusses the diagnostic and therapeutic modalities of this rare condition.

CASE PRESENTATION:

Mr. B.M., an 88-year-old man who underwent inguinal hernia surgery 60 years ago, was admitted to the emergency department for acute abdominal pain associated with postprandial vomiting. The patient reported a history of biliary colic for several years, self-treated without other associated symptoms, particularly no jaundice or fever.

Clinical examination revealed a generally stable patient with normal vital signs and epigastric tenderness and tympany.

Laboratory tests showed a mild inflammatory syndrome with a white blood cell count of 13,000/mm³ and a CRP of 30. Abdominal CT scan revealed high digestive obstruction due to gallstone migration into the duodenum through a cholecystoduodenal fistula, consistent with Bouveret syndrome.

The decision was made for emergency surgery, The patient underwent a midline laparotomy, revealing a large stone lodged in the first portion of the duodenum. The stone was pushed into the stomach before performing a gastrotomy (fig 1-2), extracting a 4cm diameter stone (fig 3), and closing the gastrotomy. The gallbladder was not addressed in this initial procedure. Postoperative recovery was uneventful, and the patient was discharged on postoperative day 5.

DISCUSSION:

Biliary ileus accounts for 2% of all small bowel obstructions, but beyond the age of 70, it could be responsible for 25% of obstructions (1). It is more prevalent in women (reported sex ratios ranging from 4 to 16/1) (2,3). Pathophysiologically, repetitive episodes of gallstone cholecystitis led to peri-vesicular inflammation, resulting in the formation of a cholecysto-enteric fistula and the migration of gallstones into the digestive tract. In 10 to 20% of cases, these gallstones become lodged, most commonly in the small intestine, causing varying degrees of mechanical obstruction. The obstruction often affects the terminal ileum, but can also involve the duodenum (Bouveret's syndrome) and, less frequently, the colon. This obstruction may be exacerbated by the presence of inflammatory or tumor-related strictures, as well as postoperative adhesions (4). The most common site for the stone is the ileocecal valve (60% of cases), followed by the proximal ileum (25% of cases) and the distal jejunum (9%) (1). In the vast majority of cases, the migration of one or more gallstones into the digestive lumen occurs as a result of a biliary-enteric fistula complicating cholecystitis (5)

The treatment of biliary ileus is most often surgical, involving the extraction of the stone through a simple enterotomy, with or without the resection of a necrotic digestive segment.

Cholecystectomy and fistula repair are considered and can be summarized in three situations:

-Not performed, as some authors have reported the frequent and spontaneous closure of the biliary-enteric fistula with a gallbladder empty of stones, as was the case with our patient (8).

-Primary relief of intestinal obstruction followed by fistula treatment and cholecystectomy in a second surgical procedure after the regression of inflammatory phenomena and better patient preparation (8).

-Simultaneous treatment of obstruction, fistula repair, and cholecystectomy in a single surgical procedure (8).

Some authors use laparoscopy-assisted surgery, while others have reported stone fragmentation through extracorporeal lithotripsy or colonoscopy, especially in cases of operative contraindications. Stone extraction through enterotomy without cholecystectomy appears to be a simple, effective, and low-morbidity method (9). Spontaneous stone expulsion is very rare (8/112 and 3/211 in two studies) (10,11). The indication also depends on the age and general condition of the patient, but the published series are insufficient to establish a precise consensus (11).

The mortality of biliary ileus ranges from 8 to 20%, with an average of 14%. The operative mortality is 13%. Complications are frequent (50%): postoperative infections are found in 11 to 75% of cases, with an average of 40%. Recurrence of biliary ileus occurs in 5 to 9% of cases in patients where cholecystectomy has not been performed (3,9).

CONCLUSION:

Biliary ileus predominantly affects elderly women, and its clinical presentation is often atypical. Abdominal CT scan is diagnostically valuable for visualizing the obstruction. Surgical treatment involves enterolithotomy or gastrotomy, with or without fistula closure and cholecystectomy.

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Fig 1: Showing the lodged stone in the duodenum after gastrotomy and having pushed it into the stomach



Fig 2: The size of the stone measures 4 cm



Fig 3 : The appearance of the stone after extraction.