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Bouveret Syndrome: Uncommon Form of Gallstone Ileus

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Abstract: A rare complication of cholelithiasis usually presents with signs and symptoms of gastric outlet obstruction, secondary to an acquired fistula between gallbladder and either the duodenum or stomach. Its diagnosis is often delayed or overlooked. Despite medical advances over the last 350 years, gallstone ileus is still associated with high rates of morbidity and mortality. A 65-year-old diabetic woman was presented to the emergency with an acute proximal small bowel obstruction with upper gastrointestinal bleeding (one melenas episode). Abdominal CT Scan led to diagnosis of stasis stomach upstream to a large gallstone obstruction in the third portion of the duodenum due to cholecysto-duodena fistula as the origin of gallstone migration. Surgical treatment was removed through duodenotomy since the stone milking from duodenum to jejunum was not possible (the calculus was stuck into the treitz angulus); No attempt was made neither to repair the choledocho-duodenal fistula. The patient passed away three days after, following an ketoacidotic coma which escaped resuscitation measures.

Key words: Old woman, diabetic, gallstone ileus, Bouveret syndrome.

1. Background

A Rare complication of cholelithiasis usually presents with signs and symptoms of gastric outlet obstruction, secondary to an acquired fistula between gallbladder and either the duodenum or stomach. Its diagnosis is often delayed or overlooked. Despite medical advances over the last 350 years, gallstone ileus is still associated with high rates of morbidity and mortality. Barnard syndrome occurs when stones obstruct the ileocaecal valve [1]. Bouveret syndrome is caused by gastric outlet obstruction due to duodenal obstruction and appears in only 3% of patients [2]. Less than 5% of patients have obstruction at the level of the colon. The diagnosis is a challenge because the symptoms are not unique. Endoscopy can take place of diagnosis & treatment of Bouveret syndrome. The surgery usually performed as a result of preoperative diagnosis or fortuitous surgical finding with enterotomy usually without other procedure.

2. Case Report

A 65-year-old diabetic woman was presented to the emergency with an acute proximal small bowel obstruction with upper gastrointestinal bleeding (one melenas episode). Abdominal CT Scan (Fig. 1) led to diagnosis of pneumobilia, stasis stomach upstream to a large gallstone obstruction in the third portion of the duodenum due to cholecystoduodena fistula as the origin of gallstone migration. Surgical treatment (Figs. 2a and b) was removed through duodenotomy since the stone milking from duodenum to jejunum was not possible (the calculus was stuck into the treitz angulus); No attempt was made neither to repair the choledocho-duodenal fistula. The patient passed away three days after, following an ketoacidotic coma which escaped resuscitation measures.

3. Discussion

Gallstone ileus is an unusual and peculiar

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complication of biliary lithiasis. Less than 1% of gallstones migrate into the gut, causing 25% of non-strangulated small bowel obstructions in elderly population [2]. Bouveret syndrome is a rare form of gallstone ileus secondary to an acquired fistula between

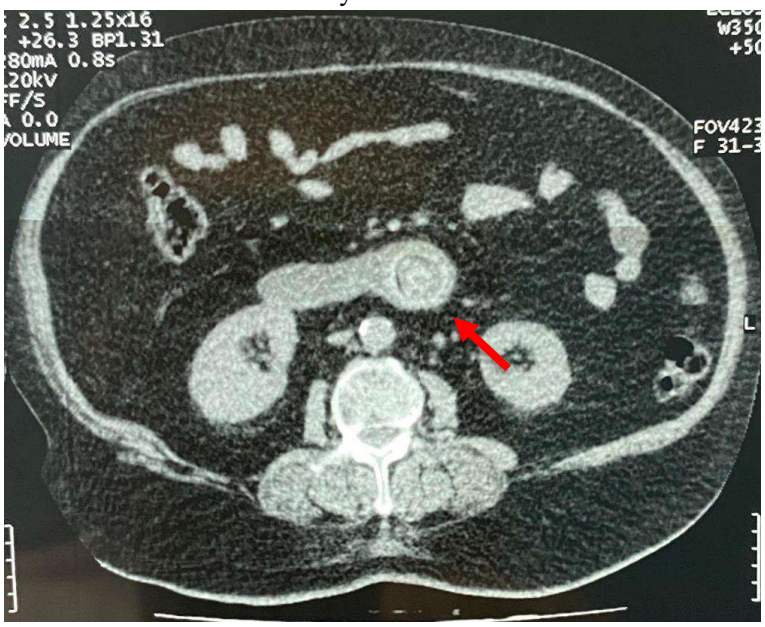
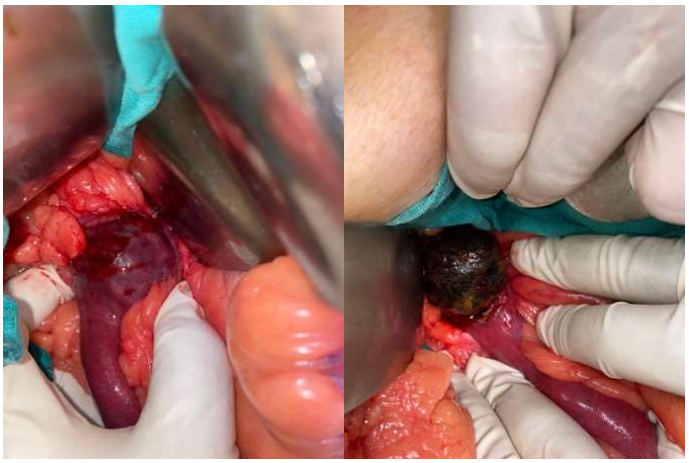
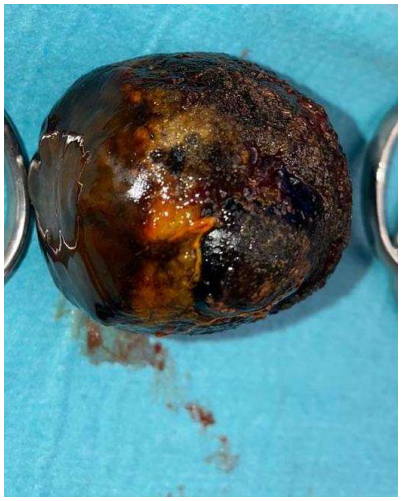


Fig. 1 Large gallstone obstruction in the third portion of the duodenum.



(a)



(b)

Fig. 2 (a) & (b) The gallstone was stuck into the Treitz Angulus.

the gallbladder and either the duodenum or stomach. The first cases of this rare disease were reported by Leon Bouveret (1896). Symptoms or physic signs may be subtle to make a diagnosis. The key to diagnosing patients with Bouveret syndrome is maintaining a high level of suspicion in patients with a history of cholelithiasis and symptoms of gastric outlet obstruction [5]. The typical patient is an older woman with multiple comorbidities, including a history of cholelithiasis, presenting with symptoms of bowel obstruction and/or gastric outlet obstruction. Small stones pass spontaneously without producing complications. Stones get stuck in the digestive tract are usually more than 2 cm. The obstruction occurs in terminal ileum and in decreasing order of frequency: distal jejunal, colon & duodenum gastric outlet. To get a diagnosis, all paraclinic exams were done to search Rigler's Triad: a dilated stomach, pneumobilia, radio opaque shadow [3]. However, Esophagogastroduodenoscopy may be performed to check for gastrointestinal bleeding workup. Given the relative rarity of this pathology, there are no standarized guidelines for its management, including endoscopic, laparoscopic or open surgical options. Surgical management remains the management of choice because with medical treatment, the mortality rate increases to 26.5%. The preoperative situation and intraoperative findings are relevant for deciding the surgical technique. Endoscopy, although it seems evident that it can play an important role in patients with duodenal lithiasis and a very poor baseline clinical situation with high surgical risk and in patients with colonic biliary lithiasis [6, 7].

4. Conclusion

Bouveret syndrome is an uncommon diagnosis, it affects under 0.5% of patient with gallstones. The larger the stone, the more proximal obstruction. Diagnosis is difficult, leading to late operation. There is a lot of dispute regarding the best approach.

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