A rare case of proximal gastric outlet obstruction misdiagnosed as pancreatic invasive tumor, case report

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1. Introduction

Bouveret’s syndrome is a rare entity which take part of the gallstone ileus entities. It is defined as an obstacle at the duodenal level influencing the gastric content evacuation, caused by a stuck large gallstone migrating from the gallbladder through a fistulae formation [1]. We present in this report a case of Bouveret syndrome misdiagnosed as pancreatic tumor with duodenal invasion treated surgically.

This case was reported in line with Scare 2018 criteria [2].

2. Case description

A case of 88 year-old lady, non-smoker, no alcohol consumer, no known food or drug allergy, with a medical history of type 2 diabetes mellitus (On Metformin 1000 mg daily), without previous surgical history and no relevant family history.

Presented to the outpatient clinics for three days history of post-prandial coffee ground vomiting, associated with obstipation. Patient denied abdominal pain. Review of system otherwise was negative. On physical examination, she was normotensive, afebrile and with a regular heart rate. Abdominal exam was only remarkable for distention. The patient laboratory studies showed leukocytosis with left neutrophil shift and a high CRP, associated with acute kidney injury most probably due to dehydration.

An EGD performed showing a bulky gastric liquid content of more than five liters, suctioned and followed by advancement to duodenum, where distorted appearance of the duodenal bulb and duodenum were noted, with deep and necrotic ulcerations in place as well as a budding aspect of the wall (Fig. A and B). Multiple biopsies taken to rule out pancreatic neoplasia with duodenal invasion, but resulted in bulbar ulceration with dystrophic and inflammatory changes in the adjacent mucosa. No sign of malignancy (Fig. C).

Naso-Gastric tube was inserted, An Oral-enhanced abdominal CT Scan was done and showed the presence of aerobilia with air inside the gallbladder and a fistulous tract between the gallbladder and the duodenal bulb associated with a calculi of 17 mm (Fig. A–C). No other abnormal findings were noted. KUB X-ray was also performed showing colic opacification and the presence of the aerobilia (Fig. 3).

https://doi.org/10.1016/j.jscr.2020.07.087
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Patient was prepared for surgery. Under general anesthesia, patient in supine position, a right subcostal incision extended to the left was done by the primary digestive surgeon. Adhesiolysis with meticulous dissection. Identification and opening of the fistulous tract between the gallbladder and the duodenum D1 and palpation of the impacted stones in second part of duodenum (Fig. 4). Fundus first cholecystectomy done, intraoperative cholangiography revealed patent common bile duct with contrast reaching the jejunum. Kocher maneuver done, followed by duodenotomy that widen the fistulae opening (Fig. 5). Identification and removal by proximal milking of the first 2 x 2 x 1 cm gallstone, followed by the removal of another bigger one of 6 x 3.5 x 3 cm (Fig. 6). Running of all bowels to rule out any synchronous lesion or obstruction. Resection of duodenal edges done followed by closure of the duodenal opening. Gastrojejunal anterograde mechanical anastomosis done using GIA stapler 4.8 mm at thirty cm from the Treitz angle (Fig. 7) and selective vagotomy performed. This surgical approach was described in literature without changes.

The surgery was well tolerated by the patient and done without intraoperative complications or adverse outcomes. Following the operation, the patient was transferred to the recovery room.

The pathological report revealed a chronic cholecystitis and Chronic inflammatory changes related to a duodenal ulcer. The patient convalesced post operation and was discharged home on day ten.

We are reporting this case after patient’s discharge, therefore no further follow up for outcomes can be reported.

3. Discussion

Bouveret Syndrome consists of only 3% of the gallstone ileus patients, which in turn consists of only 0.5% of cholelithiasis cases [1]. The majority of fistulas through which the gallstone migrates are cholecystoduodenal in 60% of cases. Less commonly they are choledochoduodenal or cholecystogastric [3].

The first cases were reported in 1896 by Léon Bouveret and since then a few hundreds of cases were reported [1]. Unfortunately, there are no standardized recommendations for workup and management, and there is a high chance of misdiagnosis due to non-specific symptoms and laboratory findings [1]. Physical examination may show abdominal distention, abdominal tenderness, high pitch bowel sounds and obstructive jaundice [3]. Laboratory studies may show hepatic enzymes alterations in one-third of cases, leukocytosis, renal failure, hydroelectrolytic and acid-base alterations [3].

Risk factors of this syndrome contain a history of cholelithiasis, stones greater than 2 cm, female gender (Female to male ratio 1:9), and age older than 60 years [3]. The Clinical presentation mainly consists of nausea and vomiting, abdominal pain, hematemeses secondary to duodenal erosions or with expulsion of stones in his vomitus and melena [1]. It is associated with a high rate of morbidity and mortality which were around 60% and 20% respectively [3].

In front of this vague presentation, various differential diagnosis should be taken into consideration, among them congenital, inflammatory and malignant etiologies [4].

Fig. 1. (A, B) Gallstone seen on gastroscopy and mistaken for a necrotic budding aspect of the duodenal wall. (C) Biopsy taken to rule out pancreatic neoplasia invading the duodenum.
Fig. 2. (A) Aerobilia as seen on axial CT scan. (B) Axial view CT showing dilated stomach and duodenum with a 17 mm stone at the level of D2-D3. (C) Sagittal view CT showing dilated stomach and duodenum with a 17 mm stone at the level of D2-D3 (arrow).

Fig. 3. KUB showing aerobilia.
Fig. 4. Opening of the fistulous tract (Suction: towards the pylorus, Metzenbaum Scissors: towards distal duodenum).

The diagnosis is usually confirmed by CT scan, showing the fistula and Rigler’s Triad, the latter consist of pneumobilia, intestinal obstruction and ectopic gallstones [3]. It have a high sensitivity of 93% and Specificity of 99% In contrast to KUB which is diagnostic.

Fig. 5. Identification of a gallstone (Arrow) post widening of the fistula opening to a diameter of 5 cm.

Fig. 6. Two removed gallstones of 2 × 2 × 1 cm and 6 × 3.5 × 3 cm.
in only 21% of cases [3]. Otherwise, MRCP is reserved for patients who don’t tolerate oral contrast [3].

EGD is another diagnostic tool, where we have visualization of the stone in two-third of cases, and possible simultaneous removal of stone is successful in a minority of patients despite multiple used modalities [1].

Surgery is most of the times the definitive treatment, open gastrotomy, pylorotomy or duodenotomy utilized to extract the impacted stone [1], followed by primary closure of the Enterotomy site and a bypass if the stone is removed from the duodenum [1]. Recently a successful laparoscopic removal of gallstones is described but it remains a difficult modality [5].

Declaration of Competing Interest

This article has no conflict of interest with any parties.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Ethical approval

The study type is exempt from ethical approval.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contribution

Writing the paper: Etienne El-Helou, Youssef Ghoussoub.
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Supervision: Hikmat Husseini.

Registration of research studies

1. Name of the registry: N/A.
2. Unique identifying number or registration ID: N/A.
3. Hyperlink to your specific registration (must be publicly accessible and will be checked): N/A.

Guarantor

Dr Hikmat Husseini.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Patient perspective

The patient was grateful, and happy for the improvement of her state post-operation.

Acknowledgements

We would like to thank the Doctors and staff of our institute, and the members of our University, for their continuous support and guidance.

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