Bouveret's Syndrome: Definitive Diagnosis with Esophagogastroduodenoscopy

Patrick Hickey DO
Lehigh Valley Health Network, Patrick.Hickey@lvhn.org

Matthew Sullivan DO
Lehigh Valley Health Network, Matthew.Sullivan@lvhn.org

Saba Ahmad MD
Lehigh Valley Health Network, Saba.Ahmad@lvhn.org

James Cornell MD
Lehigh Valley Health Network, James_F.Cornell@lvhn.org

Shashin Shah MD
Lehigh Valley Health Network, Shashin.Shah@lvhn.org

See next page for additional authors

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Authors
Patrick Hickey DO, Matthew Sullivan DO, Saba Ahmad MD, James Cornell MD, Shashin Shah MD, and Hiral N. Shah MD

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Patrick Hickey DO, Matthew Sullivan DO, Saba Ahmad MD, James Cornell MD, Shashin Shah MD and Hiral Shah MD
Lehigh Valley Health Network, Allentown, PA

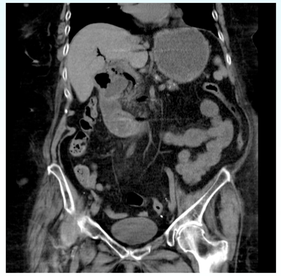
Background

- **Definition**: Bouveret's syndrome is a rare variant of gallstone ileus characterized by upper GI obstruction from an impacted gallstone in the setting of bilioenteric fistula
- **Presentation**: Elderly females with nausea, vomiting, and upper abdominal pain
- **Diagnosis**: Usually made with imaging or endoscopy
  - Rigler's triad of gallstone ileus consists of a small bowel obstruction, pneumobilia, and an ectopic radiopaque gallstone on x-ray
- **Treatment**: Commonly surgical removal, but endoscopic extraction and lithotripsy have been described
- We report a rare case of Bouveret's syndrome and describe its endoscopic diagnosis and surgical management

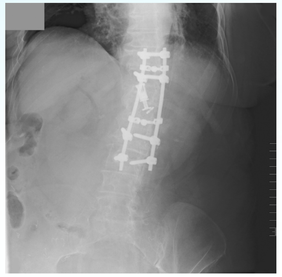
Case Presentation

- An 80 year-old-female presents with intractable nausea and vomiting of two days duration associated with mild right upper quadrant pain
- CT Scan:
  - Evidence of a possible cholecystoduodenal fistula with pneumobilia
  - Possible non-opaque gallstone within the third portion of the duodenum
  - Upper gastrointestinal obstruction
- EGD performed for definitive diagnosis and attempted treatment:
  - Two liters of bilious fluid and gastric contents were removed from the esophagus and stomach
  - Second portion of the duodenum had granulated ulceration and pus consistent with cholecystoduodenal fistula
  - Distal third portion of the duodenum revealed complete lumen obstruction with a mass of black-and-white material composed of gallstones and debris
  - The entire mass could not be mobilized despite efforts with a needle knife to break the stone
- Subsequent exploratory laparotomy allowed surgical removal of a 5.5 x 3.5 x 3.5 cm gallstone from duodenotomy site
- During the surgical procedure the fistula was left intact because it was scarred and not well visualized
- A gastrojejunal tube was placed for tube feedings and she was quickly advanced to a solid diet
- She was discharged home in stable and improved condition a week after surgical intervention, and continues to do well in follow-up

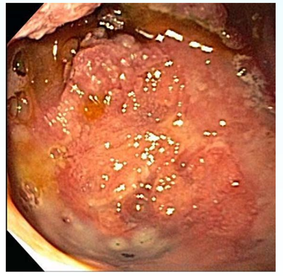
Images



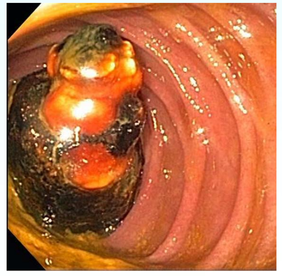
CT scan of the abdomen and pelvis showing a possible cholecystoduodenal fistula with pneumobilia, possible nonopaque gallstone in the third portion of the duodenum, and upper gastrointestinal obstruction



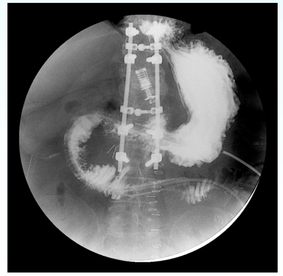
Abdominal x-ray showing pneumobilia and gastric outlet obstruction



EGD: Second portion of the duodenum showing granulated ulceration and pus consistent with cholecystoduodenal fistula



EGD: Distal third portion of the duodenum showing complete luminal obstruction by a gallstone and debris



Upper GI series prior to discharge showing delayed gastric emptying but no evidence of significant obstruction

Discussion

- French internist Leon Bouveret first described the syndrome in 1896
- Bouveret's syndrome is a rare differential diagnosis for upper gastrointestinal obstruction in elderly patients
- Surgical awareness and possible intervention is warranted in such complicated cases
- In this case we demonstrate the value of endoscopy to diagnose and guide the treatment of Bouveret's syndrome with non-diagnostic imaging

References:

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2 Mavroeidis V, Matthioudakis D, Economou N, Karanikas I. Bouveret syndrome – the rarest variant of gallstone ileus: a case report and literature review. *Case Reports in Surgery* [serial online]. 2013;2013:839370.