

BOUVERET'S SYNDROME: GASTRIC OUTLET OBSTRUCTION FROM MIGRATED GALLSTONE

BOUVERET SENDROMU: MİGRATE SAFRA TAŞINA BAĞLI GASTRİK ÇIKIŞ OBSTRÜKSİYONU

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ABSTRACT

Bouveret's syndrome is a rare etiology of gastric outlet obstruction, occurring when a large gallstone migrates into the gastrointestinal tract via a bilioenteric fistula, usually due to chronic inflammation. Risk factors include a history of gallstones larger than 2.5 cm, female gender, and advanced age. A 74-year-old female presented with a 7-day history epigastric and right upper quadrant pain, accompanied by nausea and multiple episodes of bilious vomiting. Contrast-enhanced computed tomography (CT) of the abdomen and an upper gastrointestinal endoscopy confirmed an obstructing stone lesion in the first part of the duodenum. A diagnosis of Bouveret's syndrome, due to a cholecystoduodenal fistula with an impacted gallstone in the duodenum, was made and later confirmed through surgical intervention.

Keywords: Gallstone, gastric outlet obstructions, digestive system endoscopies

ÖZET

Bouveret sendromu, mide çıkış obstrüksiyonunun nadir görülen bir nedenidir ve genellikle kronik inflamasyona bağlı olarak gelişen bilioenterik fistül yoluyla büyük bir safra taşının gastrointestinal sisteme göç etmesiyle ortaya çıkar. Risk faktörleri arasında 2,5 cm'den büyük safra taşı öyküsü, kadın cinsiyet ve ileri yaş yer alır. Bu olguda, 74 yaşında kadın hasta, 7 gündür devam eden epigastrik ve sağ üst kadranda ağrısı, bulantı ve çok sayıda safralı kusma epizodları şikayetleriyle başvurdu. Kontrastlı batin bilgisayarlı tomografisi (BT) ve üst gastrointestinal endoskopi, duodenumun ilk kısmında obstrüksiyon yapan taş benzeri bir lezyonu ortaya koydu. Cholecystoduodenal fistüle bağlı, duodenumda sıkışmış safra taşı ile seyreden Bouveret sendromu tanısı konuldu ve cerrahi müdahale ile bu tanı doğrulandı.

Anahtar Kelimeler: Safra taşı, gastrik çıkış obstrüksiyonu, sindirim sistemi endoskopileri

A 74-year-old female presented with a 7-day history of epigastric and right upper quadrant pain, accompanied by nausea and multiple episodes of bilious vomiting. She had recently been diagnosed with right breast cancer with multiple vertebral metastases. The patient had no prior history of gallstones. She was hemodynamically stable and afebrile, with no clinical jaundice.

Laboratory tests revealed elevated serum amylase (223 U/L), lipase (730 U/L), GGT (113 U/L), and C-reactive protein (CRP) levels (119 mg/L). The white blood cell count was reduced ($3.29 \times 10^9/L$). Other laboratory values were within normal limits. Contrast-enhanced computed tomography (CT) of the abdomen demonstrated an oval, hyperdense lesion (arrowheads) measuring 4 cm in diameter, located in the first part of the duodenum (Fig. 1A).

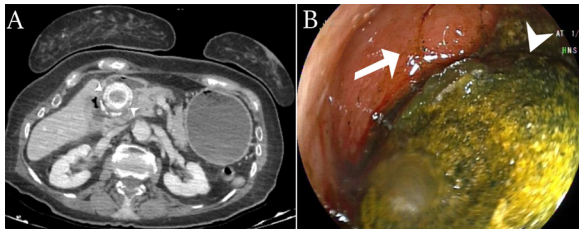


Fig. 1. A. Axial contrast enhanced abdominal CT scan demonstrates the stone (arrowheads) located in the first part of duodenum. The gallbladder appeared contracted, with indistinct borders between its medial wall and the adjacent gastric wall. **B.** An upper gastrointestinal endoscopy revealed a stony hard lesion (arrowheads) obstructing the first part of the duodenum (arrow).

The gallbladder appeared contracted, with indistinct borders between its medial wall and the adjacent gastric wall. An upper gastrointestinal endoscopy revealed a stony hard lesion obstructing the first part of the duodenum (Fig. 1B).

The endoscope could not be advanced beyond this point. A diagnosis of Bouveret's syndrome, caused by a cholecystoduodenal fistula with an impacted gallstone

in the duodenum, was made and later confirmed surgically. The patient underwent cholecystectomy, distal gastrectomy, and gastrojejunostomy to remove the obstructing gallstone and address the associated fistula and gastric outlet obstruction.

Bouveret's syndrome is a rare cause of gastric outlet obstruction, occurring when a large gallstone migrates into the gastrointestinal tract via a bilioenteric fistula, typically due to chronic cholelithiasis and inflammation (1). It is most frequently seen in elderly women and accounts for only 1–3% of gallstone-related bowel obstructions (2). The condition results from chronic cholelithiasis, where persistent inflammation leads to the formation of a cholecystoenteric fistula—most commonly a cholecystoduodenal fistula—allowing a large gallstone to enter and obstruct the proximal gastrointestinal tract (3).

Risk factors include a history of gallstones larger than 2.5 cm, female gender, and advanced age (typically over 70 years). Nonspecific symptoms include nausea and vomiting, epigastric or right upper quadrant pain, gastric outlet obstruction, occasionally hematemesis or weight loss (2). Contrast-enhanced CT is highly sensitive and specific in diagnosis, often revealing Rigler's triad: Pneumobilia, a hyperdense lesion within the duodenum (sometimes with a bilioenteric fistula), and gastric or duodenal obstruction (4). Although endoscopic management may be attempted, it is only successful in only a minority of cases. Challenges include the large size of the impacted gallstone, limited maneuverability in the duodenal bulb, and the risk of mucosal injury or perforation (5). Lithotripsy, fragmentation and retrieval with endoscopic interventions is reported to have low success rates for stones >2.5 cm or in distal duodenum (6). Surgical removal of the obstructing gallstone remains the mainstay of treatment for most patients, as endoscopic options are often limited by the size and location of the stone (7). Timely imaging and individualized treatment planning are critical for improving patient outcomes in this rare but serious condition, especially in the elderly patients with comorbidities (8).

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