



A rare cause of duodenal obstruction: Bouveret syndrome

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ABSTRACT

Gallstone ileus is a relatively rare pathology, most commonly obstructing the terminal ileum. Bouveret syndrome, leading to gastric outlet obstruction and seen with an incidence of less than 1%, is a syndrome met particularly in elderly patients and develops as the result of cholecysto-enteric fistula. In this report, it was aimed to present a 95-year-old case diagnosed with Bouveret syndrome.

Keywords: Obstruction, gallstone ileus, Bouveret syndrome

INTRODUCTION

Bouveret syndrome was initially defined by Leon Bouveret and described as the gastric outlet obstruction occurring as the result of a cholecysto-duodenal or a cholecysto-gastric fistula (1). Non-specific symptoms such as nausea, vomiting, and abdominal pain are observed as the result of developing approximal obstruction in this syndrome, which is usually seen with a less than 1% incidence (2,3). Although ultrasonography is the first used imaging method for diagnosis, computerized tomography and magnetic resonance cholangiopancreatography (MRCP) can provide more precise information (4). Endoscopic, laparoscopic, and open surgical methods can be used for its treatment. In this report, it was aimed to present a 95-year-old case admitted to the emergency service with the complaint of nausea and vomiting and diagnosed with Bouveret syndrome.

CASE REPORT

A 95-year-old female patient was admitted to the emergency service with the complaints of abdominal pain, nausea and bilious vomiting lasting for approximately two days. Her physical examination revealed tenderness at her right subcostal region, with the absence of defense and rebound findings. Murphy finding was not present. Her bowel sounds were normal. Gas and stool discharge were absent for the last two days. In the rectal examination, the stool was present with no palpable mass. Other systemic examination findings were reported as normal. Regarding her laboratory results, liver function tests, renal function tests, and bilirubin values were interpreted as normal. Leucocyte count was measured as 8500/mm³, and other results of the complete blood count were normal. No pathology was detected on chest X-ray. Erect abdominal X-ray was obtained in the patient, and minimum amount of air-fluid levels were observed in the small bowel at the epigastric region. Abdominal tomography revealed a gallbladder stone leading to near-complete obstruction at the second portion of the duodenum. The patient was admitted to the ward, a nasogastric tube was inserted, and oral intake was discontinued. The patient was hydrated, and bilious drainage of approximately 500-750 cc/day was observed through the nasogastric tube. It was decided to remove the stone through endoscopic intervention. The patient was consulted with the Gastroenterology department, and endoscopic retrograde cholangiopancreatography (ERCP) was performed. The stone was attempted to be extracted using

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the basket method, but it was observed that the size of the stone was too big. The stone was partially fragmented, and the procedure was terminated. A larger basket was brought in; however, it was observed that the stone was not in the duodenum and had moved further into the duodenum. Since ileus continued, laparotomy was decided to be performed. The patient and her relatives were informed about the disease of the patient together with its complications, and written informed

consent was obtained. The patient was taken to the operating room. Epidural anesthesia was preferred due to the advanced age of the patient. The gallstone causing complete obstruction at the location 10 cm distal to the Treitz ligament was observed (Figure 1). The attempt to move the stone to a further site by squeezing the intestine was unsuccessful. Enterotomy was made at the site of obstruction, and the stone was extracted (Figure 2). Then the enterotomy site was repaired primarily by

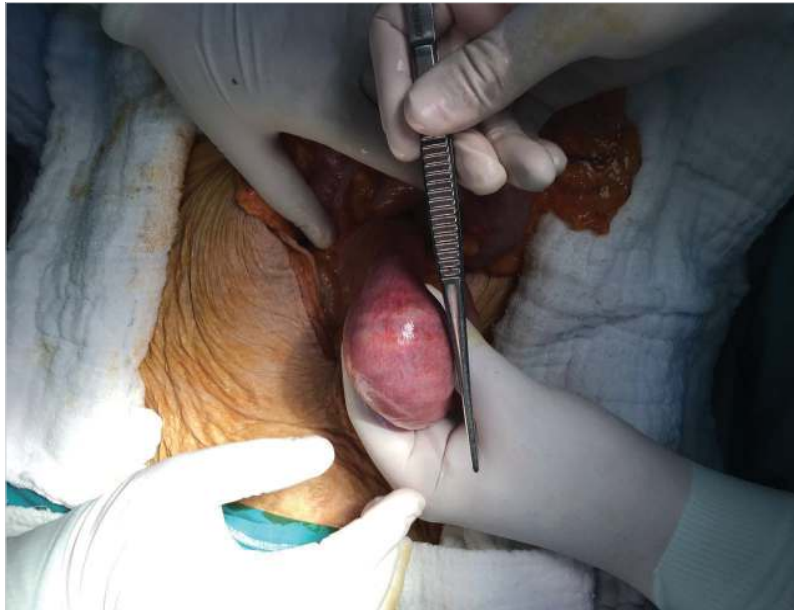


Figure 1. Gallstone causing complete obstruction.

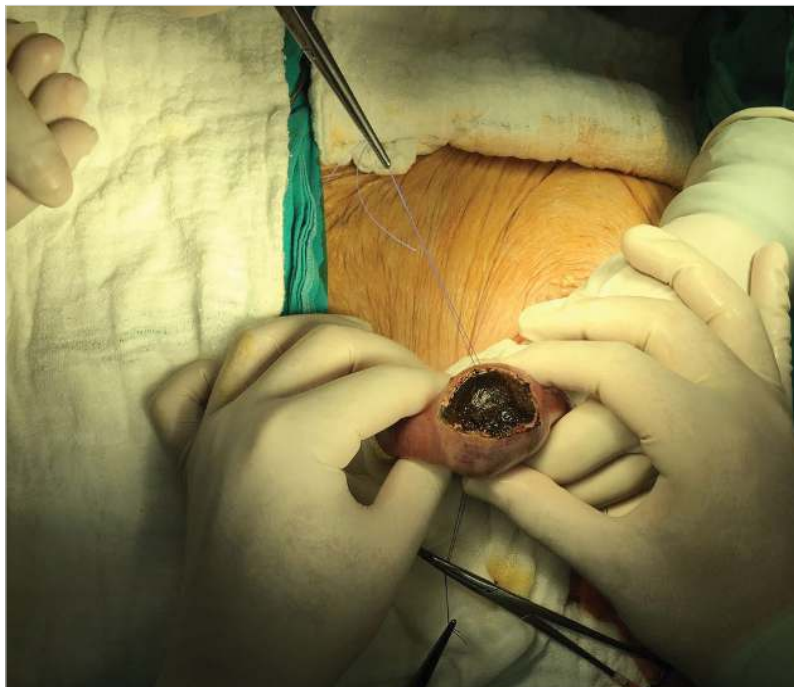


Figure 2. Stone removal with enterotomy.

Gambée-type sutures, and the procedure was completed. The patient was followed postoperatively at the surgical ward. Liquid diet was started on the fourth postoperative day and was tolerated well. Then, following the gas-stool discharge, the patient's oral intake was increased, and she was discharged to follow-up on the sixth postoperative day.

DISCUSSION

The incidence of ileus-related gallbladder stone is quite low (0.3-0.4%), and approximately 90% of these stones obstruct the terminal ileum (3,5). While a less portion of these stones obstruct the jejunum, duodenal and gastric outlet obstructions are seen with an incidence of less than 1% (1). The most typical reason of such a duodenal obstruction is the Bouveret syndrome, which is a cholecysto-enteric fistula.

Typically, abdominal pain, nausea and vomiting symptoms may be observed in Bouveret syndrome. Most of the cases are in advanced age and manifest typical gallstone symptoms (6). Our patient was 95 years old and manifested all of the typical symptoms. While these symptoms are usually confused with those of pyloric stenosis or other gastric outlet obstructions, the diagnosis can be more easily made by modern imaging methods today. In our case, making the diagnosis was also possible by performing computerized tomography. The initial attempt by endoscopic extraction of the stone was unsuccessful. The number of cases in whom endoscopic extraction of gallstone is successful is limited (7).

While surgical treatment is quite effective in Bouveret syndrome, the surgical method of choice is controversial. The main purpose should be to eliminate the symptoms with a minimal number of complications. Some authors prefer to remove the stone and close the enterotomy opening. Some others claim that the probability of recurrent ileus due to fistula is present with such a method (6); therefore, they claim that cholecystectomy and fistula repair should be performed within the same session. The risk of biliary tract injury is quite high with such a preference (8). Reisner et al., in their study (9), have reported that mortality rate reached 16.9% in single-stage, cholecystectomy + enterotomy, and fistula repair operations. In our case, we preferred to defer the cholecystectomy and fistula repair operation to a second stage due to the advanced age and extremely high amount of adhesions around the gallbladder and the biliary tract. It has been reported in the literature that recurrence may develop at a rate of 4-8% in cases in whom only enterotomy is performed (10). Fifty per cent of these recurrences develop within the following two years (11). We consider that meticulous planning should be done regarding mortality and morbidity in such cases. Since the age of our case was rather advanced, we preferred to discharge to follow-up after informing about recurrence.

CONCLUSION

As a conclusion, gallstone ileus is a rarely met disorder, most commonly obstructing the terminal ileum whereas Bouveret syndrome is a much rarer cause of proximal mechanical gastrointestinal obstruction. It should be kept in mind as a preliminary diagnosis in advanced-aged patients admitted with typical complaints of abdominal pain, nausea, and vomiting. Various surgical methods are present and the most appropriate method that causes the least morbidity should be preferred.

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**OLGU SUNUMU-ÖZET**

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Nadir bir doudenom obstrüksiyon nedeni: Bouveret sendromuEyüp Murat Yılmaz¹, Erdem Barış Cartı¹, Altay Kandemir²¹ Adnan Menderes Üniversitesi Tıp Fakültesi, Genel Cerrahi Anabilim Dalı, Aydın, Türkiye² Adnan Menderes Üniversitesi Tıp Fakültesi, Gastroenteroloji Bilim Dalı, Aydın, Türkiye**ÖZET**

Safra taşı ileusu oldukça nadir görülen bir olgu olup en sık terminal ileumu obstrükte etmektedir. Mide çıkış obstrüksiyonuna neden olan ve %1'den az görülen Bouveret sendromu ise özellikle yaşlılarda gözlenen bir sendrom olup kolesistoenterik fistül sonucu gelişen bir tablodur. Bu olgumuzda 95 yaşında Bouveret sendromu tanısı alan bir vakayı sunacağız.

Anahtar Kelimeler: Obstrüksiyon, safra taşı ileusu, Bouveret sendromu**DOI:** 10.47717/turkjsurg.2021.3794