

## Bouveret Syndrome

Ayca Calbay\*, Ahmet Toksoy, Omer Faruk Gemis, Fatma Tortum

Department of Emergency, Ataturk University, Erzurum, Turkey

**\*Corresponding Author:** Ayca Calbay, Department of Emergency, Ataturk University, Erzurum, Turkey, Email: [drycshn@gmail.com](mailto:drycshn@gmail.com)

**Abstract:** Bouveret's syndrome is a common clinical condition in elderly patients. It is a gastric outlet obstruction caused by impaction of a gallstone that passes through a cholecystoduodenal or cholecystogastric fistula and because of a bowel ileus. This clinical condition is associated with high morbidity and mortality.

**Keywords:** Bouveret syndrome; Gallstone ileus; Bilioenteric fistula

### 1. INTRODUCTION

Bouveret syndrome is a gastric outlet obstruction caused by impaction of a gallstone that passes through a cholecystoduodenal or cholecystogastric fistula and gallstone ileus is a rare complication of cholelithiasis. Endoscopic extraction is the preferred for the therapy. Although gallbladder lithiasis is a common disease, however, a Bouveret syndrome represents an uncommon complication.

Ileus is an occlusion or paralysis of the bowel action for the passage of the intestinal contents. This situation can occur either to mechanical or to functional ileus. Mechanical ileus is a common complication after previous surgery. The other causes of the mechanical ileus including external compression, blockage of the gastrointestinal lumen and modification in the bowel wall (tumor, inflammation/infection) [1]. Small-bowel ileus is usually due to adhesions from prior surgery (65%) or hernia (15%), while large-bowel ileus is usually due to cancer (70%) or to adhesions and stenoses after recurrent diverticulitis (upto 10%) [2].

Co-existent of Bouveret syndrome and Gallstone ileus is rare as 3% - 6% [3].

### 2. CASE REPORT

A 59 year old man admitted to emergency service with the complaint of abdominal pain and emesis. The patient did not have a gas-gaita outlet for a week. Vital signs of the patient was as following, TA: 96/45mmHg, Pulse: 102/min, Fever: 36.5°C and O2 Sat: 85%. Liver cirrhosis has been on his medical history. On physical

examination, lung sounds were bilaterally decreased and rales were heard on bases. Acid, sensitivity and defense were present in the abdominal examination. His consciousness was confused, oriented and co-operated. On his lab tests WBC: 12,22  $10^3/\mu\text{L}$ , Hgb: 8.5g/dl, Plt: 28  $10^3/\mu\text{L}$ , AST: 17U/L, ALT: 10U/L, Crea: 1.8mg/dl, Na: 138mmol/l, K: 4.56mmol/l, Glu: 98 mg/dl, INR: 1.67. Porcelain pouch and portal vein thrombus had shown in main portal vein on abdominal ultrasonography (USG). Abdomen computerized tomography (CT) taken from the patient for the suspicion of acute abdomen clinic with ileus. So ileus observed in the patient with bilioenteric fistula on CT scans [Figure 1]. After the diagnose of Bouveret Syndrome the patient hospitalized in the general surgery intensive care unit.



**Figure 1.** Ileus observed in the patient with bilioenteric fistula on CT scan

### 3. DISCUSSION

Gallstone ileus as a complication of cholecystolithiasis is a well-described situation in old patients. It is the result of chronic inflammation of the gallbladder. The incidence of this clinic after cholecystolithiasis operations is 4.8% [4]. Bilioenteric fistulas, cholecystocolonic and cholecysto gastric fistulas can be seen after this chronic irritation. The cholecystoenteric fistulas seen in 0.3-0.5% of the patients with cholelithiasis, the majority as cholecysto duodenal (60%) [5]. The gallstones can occur via the fistula or the opposite of this situation is also correct.

The large gallstones may block the intestinal passage by mechanical obstruction and cause gallstone ileus [6].

The main presenting symptoms for a Bouveret syndrome are nausea, vomiting and abdominal pain. The physical examination may show signs for evidence of mechanical ileus. The bowel sounds are classic in the early phase and they are decreased and also absent. Murphy sign may help for the suspicion of cholelithiasis. The imaging Rigler triad (duodenal obstruction with a dilated stomach, pneumobilia and ectopic gallstone in the duodenum) is important for the diagnosis.

Endoscopy (with or without lithotripsy) is usually the first therapeutic choice, particularly in patients with no comorbidities, but surgery has the highest achievement rate. Cholecystoenteric fistulas that have been treated by laparoscopy have been shown on literature. The physicians coincide the 4.8% of major post operation complications and 11.1% of minor postoperation complications after the laparoscopy [7].

The mortality of the patients with Bouveret syndrome without duodenal perforation is 25% of the patient and the prognosis of these patients depends on the comorbidities of the patient, the advanced age and the delay in the diagnosis [8].

### 4. CONCLUSION

In this case we want to share the possibility of migration of a large gallstone into the duodenum with a bilioenteric fistula and cause of an ileus. The diagnosis of Bouveret syndrome depends on a clinical suspicion. Imaging methods may increase the patient's early diagnosis chance. It will reduce the mortality and complications after surgery.

### REFERENCES

- [1] Vilz TO, Stoffels B, Strassburg C, Schild HH, Kalf JC. Ileus in Adults. *Dtsch Arztebl Int.* 2017 Jul 24;114(29-30): 508-518. doi:10.3238/arztebl.2017.0508.
- [2] Drozd W, Budzynski P. Change in mechanical bowel obstruction demographic and etiological patterns during the past century: observations from one health care institution. *Arch Surg.* 2012;147:175-180.
- [3] Beuran M, Venter DM, Ivanov I, Smarandache R, Iftimie Nastase I, Venter DP. Gallstone ileus. *Annals of Academy of Romanian Scientists* 2012; 3(1):5-28.
- [4] Clavien PA, Richon J, Burgan S, Rohner A (1990) Gallstone ileus. *Br J Surg* 77:737-742
- [5] Lowe AS, Stephenson S, Kay CL, et al. Duodenal obstruction by gallstone (Bouveret's syndrome): A review of the literature. *Endoscopy* 2005; 37:82-7. DOI: 10.1055/s-2004-826100
- [6] Langhorst J, Schumacher B, Deselaers T, Neuhaus H. Successful endoscopic therapy of a gastric outlet obstruction due to a gallstone with intracorporeal laser lithotripsy: a case of Bouveret's syndrome. *Gastrointest Endosc.* 2000;51(2):209-213.
- [7] Costi R, Randone B, Violi V, Scatton O, Sarli L, Sourbrane O, Dousset B, Montariol T (2009) Cholecysto colonic fistula: facts and myths. A review of the 231 published cases. *J Hepato biliary Pancreat Surg* 16:8-18
- [8] Crespo-Pérez L, Angueira-Lapeña T, Defarges-Pons V, et al. Una causa infrecuente de obstrucción gástrica: síndrome de Bouveret. *Gastroenterol Hepatol* 2008; 31: 646-51. DOI: 10.1016/S0210-5705 (08) 75 813-8.

**Citation:** Ayca Calbay, Ahmet Toksoy, Omer Faruk Gemis, Fatma Tortum. Bouveret syndrome. *ARC Journal of Clinical Case Reports.* 2017; 3(4):8-9. doi:dx.doi.org/10.20431/2455-9806.0304002.

**Copyright:** © 2017 Authors. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.