

Ileus due to gallstone: case report

Safra taşına bağlı ileus: olgu sunumu

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Abstract

Gallstones are seen in 10% of the adult population. Ileus due to gallstones is a rare complication of cholelithiasis, representing 1-4% of mechanical intestinal obstruction cases. It often occurs as a result of larger than 2.5 cm stones passing through the gastrointestinal system due to bilioenteric fistula, causing obstruction in an already narrow space in the lumen. We present a patient with known prior history of a 4-cm gallstone who developed ileus associated with the gallstone in the sigmoid colon.

Keywords: Gallstone, bilioenteric fistula, ileus.

Öz

Safra taşları yetişkin nüfusun %10'unda görülür. Safra taşına bağlı ileus kolelitiyazisin nadir bir komplikasyonu olup, mekanik intestinal obstrüksiyon olgularının %1-4'ünü oluşturur. Sıklıkla 2,5 cm üzerindeki taşların bilioenterik fistüle bağlı gastrointestinal sisteme geçmesi ve lümeninde dar olan bir alanda tıkanıklığa sebep olması ile meydana gelmektedir. Burada daha önceden bilinen 4 cm'lik safra kesesi taşı öyküsü olan bir olguda sigmoid kolonda safra taşına bağlı ileus gelişmesi nedeniyle sunuyoruz.

Anahtar Sözcükler: Safra taşı, bilioenterik fistül, ileus.

Introduction

Ileus due to gallstones is a rare complication of cholelithiasis, representing 1-4% of mechanical intestinal obstruction cases (1). It often occurs as a result of larger than 2.5 cm stones passing through the gastrointestinal system due to bilioenteric fistula, causing obstruction in an already narrow space in the lumen. The most common sites of fistula from the gallbladder is to the duodenum (60-86%), ileum and colon respectively (2). More than 25% of the patients are above 65 years of age with a female to male ratio of 3.5-6:1 (3). Patients may have high rate of morbidity and mortality due to wrong or delayed diagnosis. Here, we present a patient with known prior history of a 4 cm gallstone, who developed ileus in so rare localization, associated with the gallstone in the sigmoid colon.

Case Report

Written informed consent was obtained from the patient. A 68-year-old female patient presented to the emergency unit with abdominal pain, nausea, vomiting and inability to flatulate and defecate during the past three days. Her history included hypertension and three hospitalizations due to acute cholecystitis. Her abdominal ultrasonography demonstrated a 4 cm gallstone in the gallbladder two years ago. Cholecystectomy was recommended, but the patient refused. With intermediate overall condition at physical examination, the patient had abdominal distention and hyperactive colonic sounds. She had tenderness, defense and rebound at all quadrants. The patient's X-ray abdominal radiography demonstrated diffuse presence of air in the colonic folds and air-fluid levels in the small bowel folds.

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Her abdominal computed tomography (CT) demonstrated a hyperdense area with lamellar structure that was 3.5x2.5 cm in diameter at the sigmoid colon. In addition, heterogeneity of the fatty tissue that is adjacent to the gallbladder, minimal wall thickening at hepatic flexure and air at the superior gallbladder-bile duct lodge were also observed (Figure-1a). The findings were consistent with gallstone ileus at the sigmoid colon and suggested that the fistula was at the hepatic flexure. Gallstone was tried to be removed from the lumen with endoscopic methods (extraction balloon catheter and lithotripsy basket) but was not successful because of the impaction of gallstone to the sigmoid colon (Figure-1b). Enterolithotomy, cholecystectomy and fistula repair were performed for the patient. The patient recovered well and discharged five days post-surgery and is still alive.

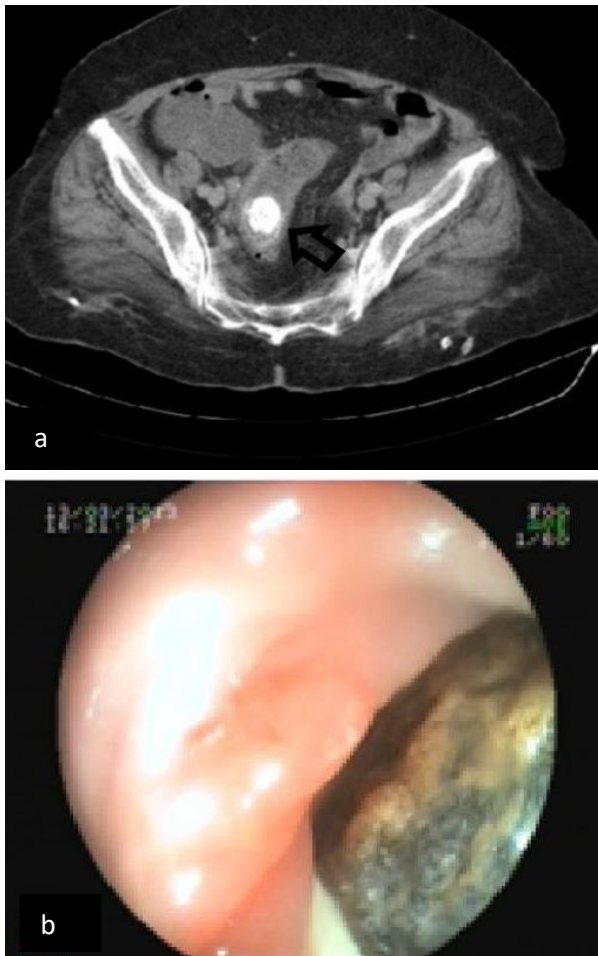


Figure-1. a) A hyperdense area with lamellar structure that was 3.5x2.5 cm in diameter at the sigmoid colon (black arrow). **b)** Colonoscopy view of the gallstone with sigmoid colonic impaction.

Discussion

The first case of gallstone ileus was described by Bartholin in 1654. In a surgery series, cholecysto-enteric fistulas were detected in 105 of 5763 patients (1.8%) who underwent cholecystectomy (1). A gallstone passes from an inflamed or gangrenous gallbladder to the gastrointestinal system often through a bilio-enteric fistula. Bilio-enteric fistulas appear frequently in the gallbladder and duodenum but may also be seen rarely in the right or transverse colon, stomach and other areas of the small intestine (4). Gallstones with a size of 25 mm is sufficient for obstruction (4). In the review of 1001 cases by Reisner et al., the most common sites obstructed by gallstones were the terminal ileum and ileocecal valve (50-70%) because of the anatomical narrowness and less active peristalsis (3). Other rare locations are the proximal ileum and jejunum (20-40%), at the level of Treitz ligament in the duodenum (10%) and less frequently, the colon. The incidence of biliary fistula is around 0.1–0.5% in autopsy series and 1.5–5% in cholecystectomies (3). Cholecysto-colonic fistula and associated ileus are very rare and constitute 2-8% of all gallstone ileus as in our case. Bilio-enteric fistula tract at the level of hepatic flexure was observed in our patient, and ileus developed possible due to the angulation of the sigmoid colon. In the literature, gallstone ileus at this area was often considered to be due to the narrowness or stricture secondary to the past diverticulitis (5).

Clinical findings in an adult female patient often start with attacks of abdominal pain characterized by episodic subacute obstruction as in our case. This is followed by abdominal pain that is spread over the whole abdomen and nausea and vomiting. Physical examination may involve fever and evidence of dehydration. Distention and hyperactive bowel sounds are frequent accompanying findings. Plain abdominal radiography and CT play an important part in diagnosis. Pneumobilia, gallstone appearance in the intestinal lumen and the mechanic obstruction findings in direct X-ray described by Rigler in 1941 may provide guidance in diagnosis (6). CT is the best diagnostic tool in confirming the diagnosis. The level of pneumobilia, cholecysto-intestinal fistula and gallstones can be determined with the CT.

Once the diagnosis is established, treatment approach may be determined according to the location of the gallstone. Extraction of the gallstone with endoscopic methods and non-surgical methods such as lithotripsy may be tried but the most frequently preferred method is gallstone extraction by surgical enterotomy. There are a few case reports of gallstone extraction by colonoscopic methods (8, 9). Mortality rates range from 7,5 to 15% due to the advanced ages of the patients and comorbidities (1). In a retrospective study found that the cases intervened within 2-3 days had less mortality rates than the cases intervened within 4-8 days due to gallstone ileus (1). The patient underwent laparotomy due to

failure of colonoscopic extraction and she was discharged without any complication because of early surgery.

Consequently; if the patient has a history of cholelithiasis and associated recurrent cholecystitis, pneumobilia associated with mechanical obstruction findings in direct X-ray may be a guide for gallstone ileus. In these cases, it is important to confirm the diagnosis by CT. In rare cases, if obstruction develops in the colon, stone extraction can be tried with endoscopic methods. However, cholecystectomy and fistula repair may be necessary in these cases too. It should not be forgotten that early surgical outcomes and a simple enterolithotomy may provide good results.

References

1. Abich E, Glotzer D, Murphy E. Gallstone Ileus: An Unlikely Cause of Mechanical Small Bowel Obstruction. *Case Rep Gastroenterol.* 2017; 11 (2): 389-95.
2. Bakhshi GD, Chincholkar RG, Agarwal JR, Gupta MR, Gokhe PS, Nadkarni AR. Gallstone ileus: dilemma in the management. *Clin Pract.* 2017; 7 (3): 977.
3. Reisner RM, Cohen JR: Gallstone ileus: a review of 1001 reported cases. *Am Surg.* 1994; 60 (6): 441-6.
4. Fox PF. Planning the operation for cholecystoenteric fistula with gallstone ileus. *Surg Clin North Am.* 1970; 50 (1): 93-102.
5. Ayantunde AA, Agrawal A. Gallstone ileus: diagnosis and management. *World J Surg.* 2007; 31 (6): 1292-7.
6. Sahsamani G, Maltezos K, Dimas P, Tassos A, Mouchasiris C: Bowel obstruction and perforation due to a large gallstone. A case report. *Int J Surg Case Rep.* 2016; 26: 193-6.
7. Halabi WJ, Kang CY, Ketana N, et al. Surgery for gallstone ileus: a nationwide comparison of trends and outcomes. *Ann Surg.* 2014; 259 (2): 329-35.
8. Murray E, Collie M, Hamer-Hodges D. Colonoscopic treatment of gallstone ileus. *Endoscopy.* 2006; 38 (2): 197.
9. Roberts S, Chang C, Chapman T, Koontz JP, Early G. Colonoscopic removal of a gallstone obstructing the sigmoid colon. *J Tenn Med Assoc.* 1990; 83 (1): 18-9.