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Case Report

GALLSTONE ILEUS: REPORT OF TWO CASES

Abstract

Described first by Bartholin in 1654, gallstone ileus is a rare benign cause of mechanical intestinal obstruction in the elderly with a high morbidity and mortality rate. The patients are at an advanced age and have many other concomitant diseases that may increase the operative risk. Although benign cases are extremely rare in this age group, since gallstone ileus accounts for up to 25% of all benign intestinal obstructions cases in elderly, surgeons must keep this rare condition and its treatment in mind. Although most of the patients need emergency surgery for treatment, there is no consensus on the most beneficial surgical approach. Herein we report two cases of gallstone ileus treated by enterolithotomy alone, which is usually sufficient for successful treatment.

Key Words: Aged; Ileus/etiology; Ileus/gallstone.

Olgu Sunumu

SAFRA TAŞI İLEUSU: İKİ OLGU SUNUMU

Öz

İlk kez Bartholin tarafından 1654 yılında tanımlanan safra taşı ileusu özellikle yaşlı hastalarda görülen, nadir, ancak hayatı tehdit eden mekanik intestinal tıkanıklıklarının benign nedenlerindendir. İleri yaşta görülmesi ve yandaş hastalıklar nedeniyle mortalite ve morbiditesi yüksektir. İleri yaşlarda her ne kadar benign sebeplere bağlı intestinal obstruksiyonlar nadir görülse de, safra taşına bağlı ileus bu benign nedenlerin %25'ni oluşturduğundan, safra taşına bağlı ileus her zaman klinisyenlerin aklında bulunmalıdır. Tedavisi sıklıkla cerrahi olmasına rağmen standart cerrahi işlem hakkında fikir birliği yoktur. Bu sunumda, safra taşı ileusu nedeni ile kliniğimizde takip edilen, hastaların yaşı ve yandaş hastalıklarından dolayı kısa ameliyat süresi nedeniyle sadece enterolitotomiyi ile tedavi ettiğimiz iki hastaya yaklaşım irdelenmiştir.

Anahtar Sözcükler: Yaşlı; İleus/etyoloji; İleus/safra taşı.

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Introduction

Gallstone ileus (GI) is an unusual but life threatening benign cause of mechanical intestinal obstruction, which is mostly seen in elderly patients. Although benign cases are extremely rare in this age group, since GI accounts for up to 25% of all benign intestinal obstructions in the elderly (1), surgeons must keep this rare condition and its treatment in mind. Herein we report two cases of GI treated by enterolithotomy alone, which is usually sufficient for a successful treatment.

Cases

Case 1: A 79-year-old women admitted to the emergency service with complaints of nausea, vomiting and lack of flatus and stool passing for 2 days. Past medical history included hypertension, diabetes mellitus and cholelithiasis. On physical examination she had abdominal distension and tenderness. Plain abdominal X-rays revealed air-fluid levels and distended small bowel loops. Computerized tomography (CT) scan showed air and oral contrast in the gallbladder and a calcified stone in the terminal ileum. American Society of Anesthesiologists (ASA) score of the patient was 3. An emergency laparotomy was performed with the diagnosis of GI. A large gallstone of 3 cm in diameter was found to be impacted in the terminal ileum. Enterolithotomy alone and decompression were performed. Cholecysto-duodenal fistula was left untouched. Patient was discharged on sixth postoperative day without any complications.

Case 2: A 66-year-old women was admitted to the emergency room with symptoms of small bowel ileus. Past medical history included heart failure, hypertension, diabetes mellitus and cholelithiasis. Plain abdominal X-rays showed signs of intestinal obstruction. The CT scan showed distended loops of small intestine, air in the biliary tree and a calcified intraluminal mass (Figure 1). The patient underwent a laparotomy with ASA score 4. Enterolithotomy alone was performed (Figure 2). Two large gallstones 2.5 and 7.5 cm in diameter were detected in the terminal ileum (Figure 3). Cholecysto-duodenal fistula was untouched, as well. The patient had a full recovery on eleventh postoperative day.

Discussion

Gallstone ileus, described first by Bartholin in1654, is a rare complication of gallstone disease. It is more frequent in elderly women where a giant gallstone migrates into the intestine through a cholecystoenteric fistula, which is formed after either recurrent acute cholecystitis attacks or spontaneously, and obstructs the bowel (2,3). Besides the most common form, cholecystoduodenal fistula (83%), choledochoduodenal, cholecystogastric, cholecystocolonic, and left hepatic ductoduodenal forms may also be observed (4,5). Both of our patients had cholecystoduodenal fistula.

Although intestinal obstruction may occur with smaller sizes of gallstones when pathological narrowing is present as in bowel malignancies, the size of the gallstone should be at

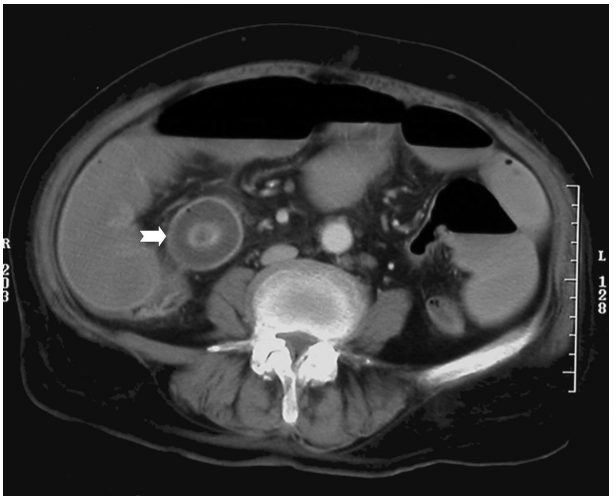

Figure 1— Computed tomography scan shows a calculus in the small bowel and dilated loops of small bowel with associated air fluid levels.

Figure 2— Enterolithotomy that was performed.

Figure 3— Two large gallstone extracted from the terminal ileum.

least 2-2.5 cm in diameter to cause an obstruction (6), Terminal ileum and ileocecal valve are the most frequent locations of impaction due to narrowing in the lumen and less active peristalsis. Other impaction sites may be the duodenum, the jejunum and the colon (7). Gastric outlet obstruction is called Bouveret's syndrome. Colonic impaction is reported in 4% of the cases, mostly in the sigmoid colon (6). In our patients, the stones were impacted to the terminal ileum.

GI is a rare cause of intestinal obstruction and has a high mortality and morbidity because of concomitant diseases and delayed diagnosis-treatment (8,9) High perioperative mortality rates for GI up to 12%- 27% were reported in most series. Since accurate preoperative diagnosis can be made in 43% to 73% of the patients, almost half of the cases are discovered only at laparotomy (8). Preoperative diagnosis was made in both of our patients.

Most common presentation is that of intestinal obstruction. Plain abdominal radiographic findings described by Rigler are: signs of small bowel obstruction, pneumobilia and aberrantly located gallstone (10). Pneumobilia can be easily misdiagnosed and misinterpreted as colon gas. Less than 15% of gallstones are radio-opaque in plain film evaluation alone. Accordingly the sensitivity of plain film varies from 40% to 70% in diagnosing GI (11). Ultrasonography is better than plain abdominal radiography but the highest sensitivity of detection is reported to be 74% (12). CT is the best technique to provide a specific preoperative diagnosis. The diagnostic CT criteria include bowel obstruction, ectopic gallstone, abnormal gall bladder with complete air collection, presence of air-fluid level, or fluid accumulation with irregular wall. Contrast enhanced CT has high sensitivity (93%), specificity (100%), and accuracy (99%) to diagnose gallstone ileus (13). CT was the most helpful test in our patients. CT also helps estimate the size of ectopic gallstone and determine the management strategy.

Conservative management can sometimes be effective when the obstructing gallstone is smaller than 2 cm. Because spontaneous passage of the impacted stone is rare (7%), most of the patients need emergency surgery for treatment (14). There is still controversy about the type of surgical treatment. Some surgeons prefer enterolithotomy alone whereas the others recommend combination of enterolithotomy with cholecystectomy and fistula repair. Proponents of combination treatment suggest that enterolithotomy alone can predispose to complications related to the persistence of a biliary-enteric fistula such as gallbladder carcinoma, recurrent gallstone ileus , cholecystitis and recurrent cholangitis (15-17). Although combination procedure prevents complications of a persistent biliary-enteric fistula, the operation time is longer due to recurrent cholecystitis attacks that form dense adhesions and cause inflammation at the surgical field. Due to advanced age and concomitant diseases, a prolonged operation time increases the morbidity and mortality. A large meta-analysis revealed that a lower mortality rate of 11.7% was found in the enterolithotomy group, compared to 16.7% for those who underwent a combination procedure (8). On the other hand some authors have published data supporting combination procedure where mortality rates are low (16,17). We performed enterolithotomy alone to both of our patients and no complications developed on follow-up. We believe that the main target of GI treatment should be relieving the bowel obstruction as quickly as possible. A two-stage strategy can be easily applied whenever it is feasible under elective conditions. However, clinicians should be aware of the different options and alert to the occasional risk of recurrence with enterolithotomy alone, with the two-stage strategy (18).

Laparoscopic management results in fewer complications in high-risk patients (19). Regardless of the choice of surgical procedure, stone extraction using a laparoscopic technique is of diagnostic as well as therapeutic value. The elderly population most commonly affected from gallstone ileus may particularly benefit from the reduction in surgical trauma associated with laparoscopic procedures, and successful procedures have now been reported in a small number of cases (20-22).

As GI is a rare condition, there is a debate about the ideal surgical management. Intraoperative findings and patient's

condition are the major factors effecting surgical decision-making. Except for residual stones and gangrene in gallbladder or cholecystocolonic fistula, the relief of bowel obstruction must be the goal of the treatment.

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