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Case report / Olgu sunumu

GALLSTONE ILEUS; REVIEW OF THE LITERATURE WITH 3 CASES

Safrataşı ileusu; 3 olgu ve literatür sunumu

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ABSTRACT

Gallstone ileus, an unusual complication of cholelithiasis that commonly found in elderly patients. A biliary-enteric fistula allows the passage of one or more large gallstones and causes mechanical intestinal obstruction due to impaction of gallstones within the gastrointestinal tract. In this paper, we report our three cases who were treated without fistula repair. All three patients had significant risk factors with advanced ages. We performed enterolithotomy for intestinal obstruction in two cases. After a 12 months follow-up, they remain in good health. In the third patient we performed a tranvers colotomy and removed the impacted stone. But 5 days after the surgery, the patient died due to respiratory failure. There is no uniform surgical procedure for gallstone ileus. Enterolithotomy remains the most reported procedure in the literature. In high risk patients and if biliary surgery is not advisable, an enterolithotomy could be the best option.

Key words: Gallstone ileus, cholelithiasis, biliary fistula, Rigler's triad

ÖZET

Safra taşı ileusu, kolelitiazisin nadir görülen bir komplikasyonudur ve genellikle yaşlı hastalarda görülür. Bir veya daha fazla büyük safra taşının, biliyoenterik yol ile gastrointestinal sisteme geçişi ve mekanik obstrüksiyon oluşturmasıyla meydana gelir. Bu yazıda, fistül tamiri uygulanmadan tedavi edilen, yandaş hastalıkları olan ve ileri yaşlardaki üç olguyu paylaşıyoruz. İlk iki olguda, incebarsak obstrüksiyonu yapan taşlar, enterolitotomi ile, üçüncü olguda ise, tranvers kolotomi ile impakte taşlar çıkarıldı. İlk iki olgu herhangibir komplikasyon olmadan taburcu edildi ve 12 aylık takiplerinde ek problemle karşılaşılmadı. Üçüncü olgu ise postoperatif 5. günde solunum yetmezliği nedeniyle kaybedildi. Enterolitotomi, literatürde en sık bildirilen cerrahi yöntem olmasına rağmen, safra taşı ileusu için standart bir yöntem henüz yoktur. Fakat bilier cerrahinin önerilmediği, ileri yaştaki riskli hastalarda, sadece enterolitotomi yapılarak taşın çıkarılması en uygun yöntem olduğu kanısındayız.

Anahtar kelimeler: Safta taşı ileusu, kolelitiazis, biliyer fistül, Rigler triadı

INTRODUCTION

Gallstone ileus is a rare complication of cholelithiasis and is an uncommon cause of intestinal obstruction, accounting for 1-4% of mechanical bowel obstructions (1,2). This usually results from luminal impaction of one or more gallstones. In patients over 65 years of age, gallstone ileus accounts for 25% of intestinal obstructions with a female to male ratio of 3.5-6. The pathological mechanism is related to the

formation of a bilioenteric fistula(3).

Despite the increase of the reported cases recently due to high suspicion index and improved diagnostic imaging techniques, gallstone ileus represents a significant diagnostic and treatment challenge (2). For a long time, plain abdominal radiographs had thought to be the gold standard in the diagnosis of gallstone ileus with Rigler's triad(pneumobilia, presence of ectopic gallstone, and mechanical bowel obstruction) (4). But in the recent years, abdominal ultrasound (US) and computed tomography (CT) scans are much more popular for early diagnosis of gallstone ileus (5,6). Enterolithotomy with or without interval cholecystectomy and fistula repair or one-stage enterolithotomy, cholecystectomy and fistula repair are preferred choices for treatment. Herein, we present 3 cases of gallstone ileus who underwent surgery.

Case 1

A 86-year-old female patient was admitted to our hospital with the complaints of abdominal pain, distension and postprandial vomiting for three days. The patient had no previous history of gallstone disease. Concomitant diseases were hypertension and diabetes mellitus. On admission, vital signs (blood pressure, heart rate, respiration rate, and body temperature) were within normal limits. Bowel sounds were hyperactive with distension. Blood counts, especially white blood count (WBC) and liver enzymes were found to be in the normal range. Plain abdominal film showed small bowel obstruction without an apparent stone. Computed tomography (CT) showed an acute cholecystitis with cholelithiasis and wall thickening and a biliary fistula between the gallbladder and the duodenum. And CT also showed two particulate calcified stones. One of them with a diameter of 1.5 cm was found to cause small bowel obstruction in the middle part of the jejunum and the second one with a diameter of 1.5 cm was in the duodenal bulb (Figure 1).

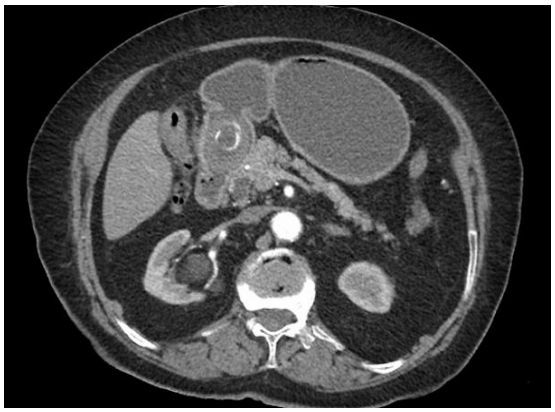

Figure 1: The computerized tomography image of the gallstone in the duodenal bulb.

We decided to perform a laparotomy. A palpable stone was impacted in jejunum 50 cm from Treitz ligament and the second one was impacted 80 cm from Treitz ligament. Generalized distension was observed in the proximal of the impacted stones. The gallbladder had a firm adhesion to the first portion of the duodenum, suggestive of a cholecystoduodenal fistula. No other gallstones were palpated. Due to her unstable condition, enterolithotomy was performed on the first impacted stone and extracted. The other stone was milked towards to the same enterolithotomy and extracted. The enterolithotomy was closed with primary sutures. Following an uneventful recovery, the patient was discharged 8 days later. After a 12 months follow-up, she remains in good health.

Case 2

76 years old male patient had been suffering from abdominal pain and vomiting for 4 days. Concomitant diseases were chronic obstructive pulmoner disease, congestive heart failure, hypertension and recurrent obstipation. The patient had a history of several biliary colic attacks caused by cholelithiasis in last 10 years. Blood counts revealed signs of inflammation (WBC:17.600). He had no other significant laboratory results. His abdomen was slightly distended. He also had general tenderness with muscle guarding. Computed tomography indicated an acute cholecystitis with a biliary fistula between the gallbladder and the duodenum. A particulate calcified stone, with a diameter of 3 cm was found to cause small bowel obstruction in the middle part of the jejunum (Figure 2). With the diagnosis of intestinal obstruction caused by gallstone, we performed a laparotomy. The operative procedure was performed as described in case 1. Following an uneventful recovery, the patient was discharged 10 day later. After a 12 months follow-up, he remains in good health.

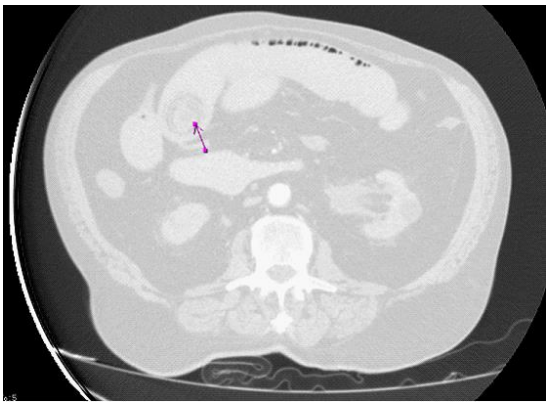

Figure 2: The computerized tomography image of the gallstone (arrow) in the middle of jejunum.

Case 3

A 82-year-old man was referred to our hospital due to vomiting and abdominal pain for 5 days. The patient had an appendectomy 50 years ago and

truncal vagatomy + gastroenterostomy for peptic ulcer disease 30 years ago. Concomitant diseases were diabetes mellitus, chronic obstructive pulmoner disease and alsa the patient had a cerebrovascular attack 7 years ago. Bowel sounds were hyperactive, his abdomen was mildly distended, with tenderness, but no guarding or rebound. WBC was 18.300 per cubic millimeter, with 91% neutrophils. Other tests were unremarkable. Plain abdominal film demonstrated dilated bowel loops, air- fluid levels. With the diagnosis of adhesion-related bowel obstruction we performed a laparatomy. Surprisingly, we found a palpable stone in the splenic flexure. Between the ileocecal valve and the splenic flexure bowels were dilated. A cholecystocolonic fistula was observed between hepatic flexure and gallbladder. Due to his unstable condition and high ASA score, tranvers colotomy was performed to remove the impacted stone. It was felt that primary closure of the colotomy had a significant risk of failure, therefore, a loop tranvers colostomy was fashioned. No attempts were made to treat the cholecystocolonic fistula. But 5 days after the surgery, the patient died due to respiratory failure.

DISCUSSION

Depend on the rise in the ratio of aging population in the western world, gallstone ileus is assuming an increasing significance (8). For several years gallstone ileus was known to be a disease with a mortality rate about 70%, however due to current progress in diagnostic and surgical techniques as well as innovative drugs, the mortality dropped to 15-20% nowadays (9). Preexisting co-morbidity, advanced age, delay in diagnosis and misdiagnosis are the reasons for high morbidity and mortality. The impacted stone in gallstone ileus commonly originates from the gallbladder, but rarely gallstone ileus has been reported in the presence of agenesis of the gallbladder (7). Cholecystoduodenal fistula is the most common type of fistula but the fistula can also occur in the stomach, the colon, and the small bowel(4). Non-specific symptoms of gallstone ileus could be important for delayed diagnosis. Many authors report a period of 3–5 days in average between first symptoms and time of admission (9,10). This might be a reason for the high mortality rate and is reported as an independent prognostic factor (11,12).

The clinical presentation of gallstone ileus is that of intestinal obstruction, usually depends on the site of impaction, and may be manifested as acute, intermittent or chronic episodes (13). Most common sites of stone impaction are the terminal ileum and the ileocecal valve (50-75%), while less common are the proximal ileum and jejunum (20-40%), stomach, duodenum (less than 10%) and colon (14,15).

There is no consensus on the choice of surgical procedure. The first aim must be the stabilization of the patient. Fluid and electrolyte balance and management of comorbidities are essential in the preoperative setting. The surgical approaches that used for gallstone ileus are; enterolithotomy alone, enterolithotomy with cholecystectomy performed later (two-stage surgery), enterolithotomy, cholecystectomy and fistula closure (one-stage surgery). As our 3 present cases, enterolithotomy has been the most reported surgical procedure. Enterolithotomy alone has lower morbidity and mortality and solves the acute obstruction problem. It is believed that in the presence of a patent cystic duct has been reported, cholecystoenteric fistula will close spontaneously.

On the other hand, with a one- stage procedure, further events of cholecystitis, cholangitis and recurrent gallstone ileus are prevented (16). But this procedure is usually associated with significant morbidity and mortality in these high-risk patients (17). Kasahara et al. reported that in patients treated with enterolithotomy and subsequent cholecystectomy plus fistula repair, mortality as low as 0% has been reported, whereas a mortality rate of 19% has followed the one-stage procedure (13). Except surgical choices, non-operative management can be attempted when the gall-stone size does not exceed 25 mm based on the CT findings and in high risk patients with significant co-morbidities (8).

Enterolithotomy alone is increasingly being offered to patients with gallstone ileus in an emergency setting, without a follow-up definitive biliary tract surgery (14,18,19).

In conclusion, one-stage surgery should be first option in selected patients with low ASA score and with good cardiorespiratory reserve. Most of the patients with gallstone ileus have co-morbid factors and with advanced ages. Due to need of short operating time in this high patient group, enterolithotomy alone is the best option.

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