

SAFRA TAŞI İLEUSU: PREOPERATİF TANIYI DESTEKLEYEN DEMOGRAFİK VE KLİNİK KRİTERLER

GALLSTONE ILEUS: DEMOGRAPHIC AND CLINICAL CRITERIA SUPPORTING PREOPERATIVE DIAGNOSIS.

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ÖZET: Safra taşı ileusu, yüksek mortalite riski taşıyan nadir bir barsak tıkanması şeklidir. Bu nadir hastalığın preoperatif tanısı zordur. Bu çalışmanın amacı, ince barsak tıkanmalı olgularda safra taşı ilusu şüphesini destekleyen bazı basit öğelerin ortaya konmasıdır. Bu amaçla 25 yıllık bir dönemde inkarsere dış fitiklar haricindeki mekanik barsak tıkanmalı 1230 ve safra taşı ileusu bulunan 8 olgunun hastane kayıtlarını retrospektif olarak inceledik. İnce barsak tıkanmalı olguların %0.9'unda (8/886) neden olarak safra taşı bulundu. Sekiz olgumuz da ortalama yaşı 74 olan kadınlardı. İnce barsak tıkanmalı yaşlı (+70 yıl) kadınların %18'inde safra taşı ileusu tanısı vardı. Adezyonlara neden olan önceki karın ameliyatları dışında tutulduğunda bu yaşlı kadın grubunda safra taşı ileusu oranı %36'ya yükseldi. Önceki ultrason incelemeleri 5 (%62) olguda safra kesesi taşı varlığını göstermişti. Yalnızca bir olguda (%12.5), safra yollarında gaz varlığını gösteren direkt grafi sayesinde preoperatif olarak tanı konabildi. Tıkanma enterolitotomi ile tedavi edildi. İki (%25) olguda kolesistektomi eklendi. Erken postoperatif dönemde iki olgu (%25) kaybedildi. İleri yaş, kadın cinsi, bilinen safra taşı varlığı hikayesi tanıyı destekleyen öğeler olarak ortaya çıktı. Sonuç olarak safra taşı ileusu, inkarsere dış fitiği olmayan, karın içi ameliyat geçirmemiş ince barsak tıkanmalı yaşlı kadınlarda sık görülen bir tıkanma nedenidir. Pnömobili preoperatif tanıyı koydurabilen radyolojik bulgudur. Anahtar kelimeler: Safra taşı, barsak tıkanması, ince barsak, ileri yaş, kadın.

SUMMARY: Gallstone ileus is an uncommon intestinal obstruction with unexpectedly high mortality. It is not easy to diagnose this uncommon disease preoperatively. The aim of our study is to establish some simple criteria supporting the suspicion of gallstone ileus in patients with small intestine obstruction. We retrospectively analysed hospital records of 8 patients with gallstone ileus and 1230 cases of mechanical intestinal obstruction, excluding incarcerated external hernias. Gallstones were the cause of occlusion in 0.9% (8/886) of patients with small bowel obstruction. All our 8 patients were women with an average age of 74 years. Gallstone ileus was diagnosed in 18% of elderly (+70 years) women with small intestine obstruction. This rate raised to 36% in this group of elderly women if previous abdominal operations that would produce adhesion were excluded. Previous ultrasonographic examinations had demonstrated gallstones in 5 (62%) patients. Only one patient (12.5%) was diagnosed preoperatively with plain X ray film demonstrating gas in the biliary tract. The obstruction was treated with enterolithotomy. Cholecystectomy was performed in two (25%) patients. The mortality was 25% in early postoperative period. Advanced age, female sex, and positive patient's history of known gallstone in the gallbladder have appeared as strong criteria. Gallstone ileus is a common cause of intestinal obstruction in elderly women with no previous abdominal operations and without incarcerated external hernia. Pneumobilia is more common radiological finding to establish the diagnosis of gallstone ileus in these patients.

Key words: Gallstone, intestinal obstruction, small bowel, elderly, woman.

INTRODUCTION

Gallstone ileus remains as an unusual form of small bowel obstruction. This disorder with relatively infrequent occurrence is seen in 1% of patients with mechanical intestinal obstruction (1-3). Many clinical symptoms, and clinical and laboratory signs have been described for proper diagnosis, but morbidity and mortality is still unexpectedly high for such a benign disease. There are two main causes for unfavourable outcome: First, advanced

age of patients, and concomitant cardiovascular and respiratory disorders. Second, delayed preoperative diagnosis due to intermittent course of intestinal obstruction leading fluid and electrolyte imbalance intolerable for elderly patients. Therefore, proper preoperative diagnosis, early supportive medical treatment, and surgical management of patients could decrease morbidity and mortality of the disease. In this paper we aimed to discuss our experience on gallstone ileus in order to elucidate clinical criteria for its diagnosis.

MATERIALS AND METHODS

In a period of twenty-five years (1975-1999), operative records of patients with mechanical intestinal obstruction were reviewed retrospectively in order to determine the cause and the site of obstruction, and surgical treatment.

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Incarcerated external hernias were excluded. Thereafter we retrospectively analysed hospital records of patients with gallstone ileus for demographic features of patients, patient's history, diagnosis and management of the disease, and outcome.

RESULTS

One thousand two hundred and thirty cases of mechanical intestinal obstruction were surgically treated in a period of twenty years. The site of obstruction was small bowel in 886 (72%) patients. Female have consisted 34% (301 patients) of patients with small intestine obstruction. The cause of obstruction was gallstone in eight patients (0.9%). All patients were women with an average age of 74 (71-83) years. The frequency of gallstone ileus was significantly high in elderly women (Table I). Patients' history showed that gallstones were previously demonstrated with ultrasonography in gallbladder of 5 (62%) patients. Clinical symptoms and signs, and the plain X-ray films revealed the pattern of small intestine obstruction in all patients. The interval from symptoms to surgical treatment was 5 (2-9) days. Seven patients were diagnosed intraoperatively, but the disease have been suspected preoperatively in one patient (12.5%) that gas was demonstrated within the biliary tract with radiological examination (Table II). Gallstones were surgically removed through an enterotomy from mid-ileum in 2 and from terminal ileum in 6 patients. All removed stones have a diameter of more than 2.5 cm. A second stone was removed from proximal intestinal lumen in one patient (12.5%). Concomitant cholecystectomy was performed in 2 (25%) patients. We did not performed any later cholecystectomy in the follow-up period. Two patients (25%) had fatal outcome in early postoperative period due to cardiovascular disorders.

Table I: Frequency of gallstone ileus in mechanical intestinal obstruction

Patients	Total number	Rate of gallstone ileus(n=8)
All bowel obstructions (Small + large bowel)	1230	0.65%
Small bowel obstructions	886	0.9%
Women with small bowel obstruction	301	2.7%
Elderly (>70 years) women with small bowel obstruction	45	18%
Elderly women with small bowel obstruction, without an incarcerated hernia and with no previous operations	22	36%

Table II: Criteria and findings supporting the diagnosis of gallstone ileus

Criteria	Finding	Mean
Site of obstruction	Small bowel	Elderly women with small bowel obstruction
Age	>70 years	
Sex	Female	
Cause of obstruction	Exclusion of adhesions Exclusion of hernia	No previous abdominal operations. No incarcerated external hernias.
History of patients	Presence of large gallstone	Previous ultrasonography demonstrating gallbladder containing large gallstone
Plain X ray film	Air in biliary tract	Air enter the biliary tract from the bowel through a cholecystoenteric fistula.

DISCUSSION

Gallstone ileus is a mechanical obstruction of the bowel by a gallstone, which usually enters the alimentary tract through a cholecysto-enteric fistula. The mortality rate in gallstone ileus is 15 to 20%, usually because of late recognition of this disease as well as the existence of other serious illnesses in an elderly population (4). Demographic features of our patients show that gallstone ileus is a disease of the elderly woman. In many series the average age was reported as over 70 years (5-9). As in our series, the cause of mechanical small bowel obstructions is gallstone in 1 to 2% of patients (2,8,9). In our study, women have constituted all patients with gallstone ileus, and 34% of patients with small bowel obstruction. Women have constituted 75 to 80% of such cases, and outnumber men 5 to 9/1 (5,6,8,10,11). The gallstone ileus is relatively common cause of intestinal obstruction in women. And our results confirmed this fact that gallstone ileus had a rate of 2.7% in women with small bowel obstruction. We found also that gallstone ileus was a disease of the elderly (especially over 70 years of age). When taking into account advanced age and female sex together, more remarkable finding has emerged that gallstone ileus cases have consisted 18% of elderly women with small bowel obstruction. In general the leading cause of intestinal obstruction is adhesions secondary to intraperitoneal operations. When excluding cases of obstruction due to operative adhesions, the rate of obstructing gallstones have increased to 36% in this group of elderly women. All these findings have revealed that gallstone ileus is a common cause of intestinal obstruction in elderly women without an incarcerated external hernia and with no previous operation that would produce adhesions. Therefore this condition should be strongly suspected in elderly women who have not undergone previous abdominal surgery and do not have obvious external hernia causing entrapment of bowel loops.

Our preoperative and intraoperative findings about history of biliary disease, and the site and the cause of obstruction, were in accordance with other reports. Previous biliary symptoms support the diagnosis of gallstone ileus (7,10). As in our 5 patients, a positive history of large stones in gallbladder has appeared as a factor supporting the diagnosis of gallstone ileus. Major developments in imaging modalities, like hepatobiliary ultrasonography, lead that abdominal ultrasonography takes place as a part of periodical health check-up programs. More and more gallstones are diagnosed with ultrasonography. In addition to demographic and clinical features, the suspicion of occlusion of the bowel lumen by a gallstone arises from knowledge of previous presence of gallstone in gallbladder, and its larger diameter.

Preoperative diagnosis of gallstone ileus is unusual. The diagnosis is made in only 5 to 20% of patients (5,8). Intermittent course often lead to delay in diagnosis. Pneumobilia, as a determinant of cholecystoenteric fistula, is evident in only 10 to 40% of patients. Imaging of a

radiopaque gallstone outside the gallbladder is not more than 5% (8,9,12). Beside demographic and clinical features, pneumobilia is more common radiological finding leading to preoperative diagnosis. If there is strong suspicion of gallstone ileus arising from demographic features and patient's history, air in the biliary tree can be researched carefully. Therefore, pneumobilia can be determined more frequently.

In our patients, occlusion of the bowel lumen by a gallstone was treated with simple enterolithotomy, followed by cholecystectomy in two patients. Proximal bowel lumen and gallbladder should carefully explored for another stone which was found in our one patient. Recurrence is rare, and usually due to a gallstone retained in proximal bowel lumen or in gallbladder. The incidence of existence of more than one stone in the intestinal lumen was reported as 20% in a large series (12). Cholecystectomy is controversial in these patients. Many authors propose only enterolithotomy (7,10,11). Others advocate one stage procedure; enterolithotomy followed by cholecystectomy and fistula closure (5,6). The intestinal obstruction is life threatening and must be treated urgently and definitively. Treatment of the bowel obstruction without cholecystectomy and fistula repair remains the treatment of choice. The cholecystoenteric fistula closes spontaneously, without the need for surgical intervention in many patients (4,9). Our findings support that such elderly patients who have not a secondary stone in their gallbladders do not require concomitant or later cholecystectomy.

Advanced age, female sex, positive patient's history of biliary symptoms has been determined as strong criteria for the diagnosis of gallstone ileus. Based on our findings, we concluded that occlusion of bowel lumen by a gallstone is a common occurrence in elderly women with small bowel obstruction. In addition if there is no previous abdominal operations that would produce adhesions, and no external hernias entrapping bowel loops, the diagnosis of gallstone ileus is more likely. Known gallstones by previous hepatobiliary ultrasonography is another factor supporting the suspicion of this disease. Beside these factors, radiological demonstration of gas in the biliary tract is valuable finding to establish preoperative diagnosis.

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