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GALL STONE OBSTRUCTION AFTER OPEN CHOLECYSTECTOMY – AN UNUSUAL OCCURRENCE.

Anaesthesiology

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ABSTRACT

Gallstone ileus, a complication of chronic cholecystitis, is an uncommon cause of mechanical small bowel obstruction. It occurs when a gallstone passes into the small bowel lumen and impacts to cause mechanical obstruction. Typically present with a background of long history of recurrent right upper quadrant pain, these repeated attacks of cholecystitis result in adhesion of the gallbladder to the small bowel (usually duodenum) with eventual fistula formation (cholecysto-enteric fistula) and passage of gallstones into the lumen of the bowel. The site of obstruction is usually the terminal ileum because it is the narrowest portion of the small bowel. Due to the demographics of the population affected (elderly) this condition continues to have a high mortality. Availability of computerized tomography scan have made diagnosis with certainty. Surgery is definitive, with removal of the stone (enterolithotomy), fistula repair, accompanied by cholecystectomy.

KEYWORDS

Gall stone obstruction, ileus, obstruction; choledocho-duodenal fistula

Introduction : Gallstone ileus is a rare and severe complication of a gallbladder disease and anuncommon cause of mechanical intestinal obstruction. It is caused by a single stone or multiple stones moving through a biliary enteric fistula, which is formed between the inflamed gallbladder and, in most cases, the duodenum. In the literature, its high mortality rate is explained by the fact that the disease mostly affects elderly patients who have other illnesses as well as by the delay in giving an accurate diagnosis and treatment.[1} Therefore, early diagnosis and treatment[2] can reduce the high mortality.

We report a case of gallstone ileus in which the patient underwent open cholecystectomy and repair of duodenal rent of choledocho-duodenal fistula before 2 weeks .

Case report :

A male patient of 50 years underwent open cholecystectomy at some peripheral hospital was referred to our tertiary care center with sub acute intestinal obstruction along with a controlled biliary fistula draining about 200ml bile daily after 2 weeks of surgery . On viewing operative notes it was found that this patient had choledocho-duodenal fistula, repair of duodenal rent and cholecystectomy . Since biliary drainage was in decreasing order when patient presented to us so decision of conservative treatment was taken.

Computed tomography of abdomen was done which reported oval marginal hyperdense /calcific lesion seen impacted in distal portion of jejunum, away from ICJ suspicious of gall stone ileus with sub acute intestinal obstruction (photo1). USG abdomen reported dilated proximal bowel loops with collapsed distal bowel loops.

In view of imaging findings patient underwent midline laparotomy, upper compartment of abdomen was not disturbed, in lower abdominal compartment dilatation of gut loops was present and further about 5 feet proximal to ICJ a stone of about 4cm x 4cm was in lumen of ileum, the gut beyond stone was found collapsed. Deflation of dilated gut was done by an enterotomy at antimesenteric border about 1 feet proximal to stone location and stone was also retrieved from enterotomy site by milking the stone proximally (photo 2,3).

Patient had stormy post operative period with ventillatory support and strict vigil in critical care unit for four post operative days, there after patient started improvement and sent home on 15th post operative day.

Comments

Gall stone ileus is an uncommon complication occurring in 0.3–0.5% of all cases of cholelithiasis, however in the elderly it accounts for up to 25% of non-strangulated bowel obstructions[3]. As is the case with cholelithiasis, women are more frequently affected. The ratio of women to men affected ranges from 3:1 to 16:1[3]. Internal biliary fistulas constitute 2% of bile duct diseases [4] and they accompany cholecystolithiasis in 90 % of cases [5]. Since gall bladder stone occurrence is increasing with rapid pace and so is intervention to deal with complications of this nature.

Typically gall stone ileus patients present with a background of long history of recurrent right upper quadrant pain due to repeated inflammatory events.[6] These repeated attacks of cholecystitis result in adhesion of the gallbladder to the small bowel (usually duodenum) with eventual fistula formation (cholecystoenteric fistula) and passage of gallstone into the lumen of the bowel. The commonest site of entry by erosion is thought to be to the duodenum. The site of obstruction is usually the terminal ileum because it is the narrowest portion of the small bowel[3]

The gall stone migrating through the gastrointestinal tract may cause symptoms of incomplete obstruction (so called “ball valve effect”) [7]. Size, number & morphology of the stones are the most important parameters to be considered & it is commonly agreed that a gallstone must be at least 2.5 cm to cause an intestinal obstruction.[4,5] Small stones presumably pass without causing any problem, however large cholesterol stones can become impacted & cause mechanical ileus. Stones sometimes reach to impressive sizes of 7 cm [8] to 9 cm [3]. Our case stone size was 4 cm and presented with symptoms of incomplete obstruction and biliary fistula, since stone was not searched at initial surgery inspite of repair of duodenal fistula, hence moved further and this led subsequently to biliary fistula and later at 2weeks to gall stone obstruction.

The computed tomography[CT] allows a correct diagnosis of gall stone obturation to be made with higher accuracy [9]. Newer MDCT scanners, using multiplanar or 3D volume rendering reconstructions, may allow better evaluation of the intestinal segment in which the stone is impacted and its correct morphology, especially when axial findings are indeterminate or doubtful, because the thinner collimation creates isotropic data useful for the detection of small bowel abnormalities [10]. The information obtained on CT is used to make a rapid diagnosis and aid in deciding whether surgical or conservative treatment may be more effective [11]. This approach may lead to a decrease in the rather high morbidity and mortality rates seen in this disease.

Surgery is definitive, with removal of the stone (enterolithotomy) and fistula repair, accompanied by a cholecystectomy. Our experience further adds that in choledocho-duodenal fistula cases, stone should always be searched in distal bowel and retrieved, to avoid unfavourable events during post operative period.

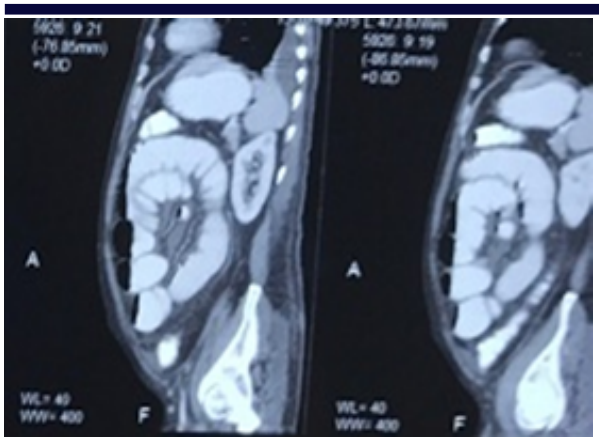

Photo1: CT scan shows dilated bowel loops & calcific stone

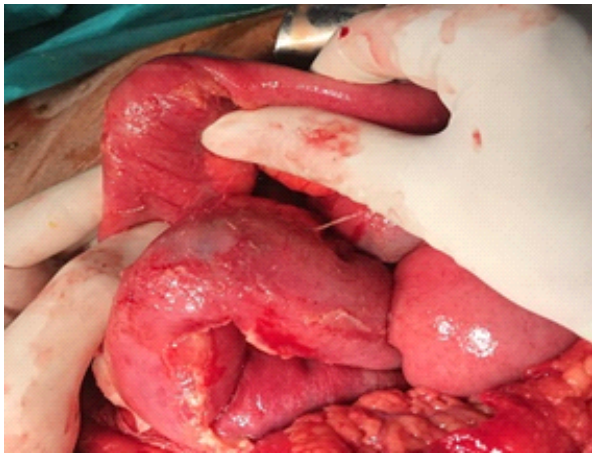

Photo 2: Shows small gut stone with dilated & collapsed loop

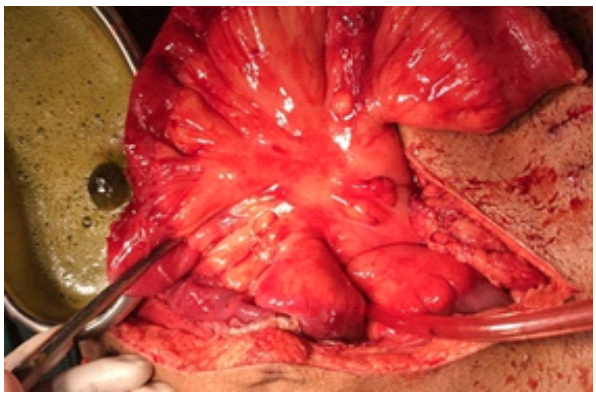

Photo 3: Shows obstructing stone retrieval by enterotomy

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