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Gallstones obstructing Proximal Jejunum: A rare case of gallstone ileus

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Abstract: Gallstone ileus is an esoteric cause of mechanical small bowel obstruction, usually seen in chronic cases of gallstones. Elderly age group presentation and the adjoining delayed diagnosis of the disease explains it`s high morbidity and mortality rates. We report a case of 66 year old female who presented to us with small bowel obstruction. Radiological findings were aiming at this rare entity, and were confirmed on laparotomy. Enterolithotomy was done and a second stage procedure to take down cholecystoenteric fistula was planned. Though uncommon in existence, Gallstone ileus presents as a challenge in management, surgical community still divided over it`s one stage or two stage management.
Keywords: Gallstone ileus, cholecystoenteric fistula, complications of cholelithiasis.

INTRODUCTION

Though gallstone ileus is a rare entity accounting for only 1-4% of small bowel obstructions its significance increases, when it is seen that it is found in mostly elderly females. Gallstone ileus is usually seen in long standing cases of chronic cholecystitis and cholelithiasis, where gall stones find a way in gut through a fistula formed between gall bladder and small bowel. In spite of the fact that most gallstones passes down the gastrointestinal tract, some of the larger stones get impacted and cause a mechanical obstruction.

Surgery remains the definitive treatment, although some people have successfully tried endoscopic techniques. Since the patients are usually morbid, most of the surgeons favor a two stage approach; first to relieve the obstruction and a latter procedure to deal with gall bladder and cholecystoenteric fistula.

We describe a case of gallstone ileus with characteristic radiological findings, successfully treated with a laparotomy.

CASE REPORT

A 65 year old female be presented to our emergency department with history of abdominal distension and pain since 10 days. Pain use to grow after meals and was relieved after vomiting which was voluminous, green and contain undigested food particles. Patient was also not passing flatus and motion since 5 days. There was no history of fever, hemetemesis, malena, weight loss. Patient was a non diabetic, non hypertensive with no history of past surgical procedures.

On examination, she was having tachycardia, tachpnoea, low blood pressure and dehydration. Abdomen was mildly distended with no tenderness. There was no lump palpable and sluggish bowel sounds were present.

After resuscitating patient with 2 liter of crystalloids, a naso gastric tube was placed which drained about 700 ml of bile. All the routine blood investigations were normal except serum urea (66 mg/dl) and serum Pottasium (3.0 meq/l).

A plain radiograph of abdomen demonstrated a dilated stomach with a calcified mass in left upper quadrant. An upper G.I. endoscopy was performed which failed to show any abnormality except undigested food particles and bile in stomach. CECT abdomen showed the evidence of a large hypodense lesion with peripheral calcified rim noted in proximal jejunal loop with a size of 26 x26 x46 mm. There was an associated dilatation of bowel loops and stomach proximal to the lesion. Distal to it bowel loops were collapsed. Also, GB was contracted and thick walled with associated presence of multiple hyperdense foci with air foci noted within the lumen.

An exploratory laparotomy was performed. Per op findings revealed an enterolith obstructing the jejunal lumen, around 3 ft distal from duodenojejunal junction. Stomach, duodenum and proximal jejunum were dilated while small bowel distal to it was

collapsed. Gall bladder was badly adherent to second part of duodenum with a possible fistulous connection. Enterolithotomy was done and abdomen was closed keeping in mind the critical condition of the patient, with a plan of second procedure for Cholecystectomy later. Patient was managed on mechanical ventilation for three days and then five days in ward, after which she was discharged. Enterolith turned out to be a gallstone on biochemical analysis.

Fig-1: Plain Radiograph of abdomen showing dilated stomach

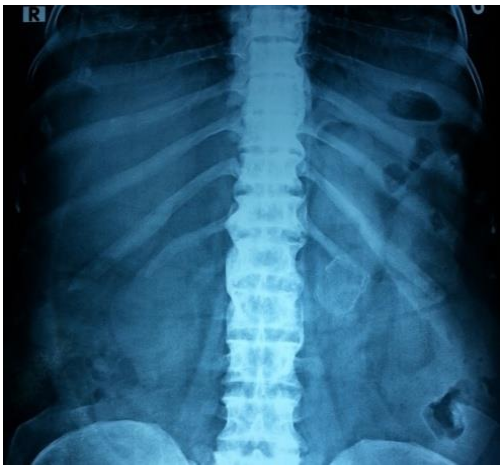

Fig-2: X-Ray FPA Showing Gallstone

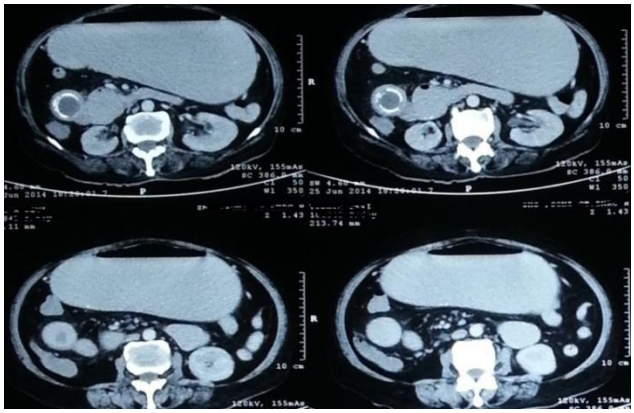

Fig-3: CECT Abdomen Showing Calcified object in Jejunum

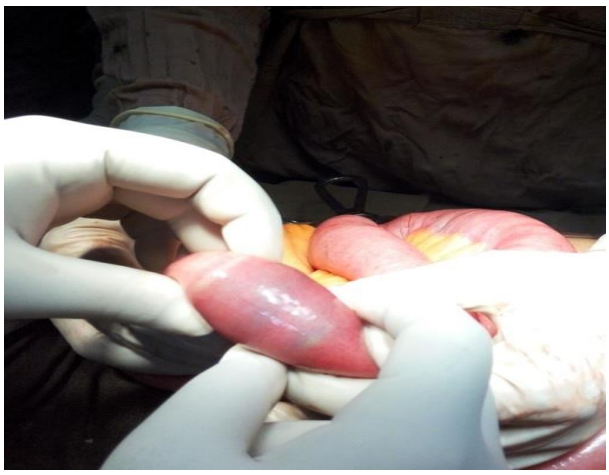

Fig-4: Per Op Jejunum Showing enterolith in situ

Fig-5: Reterievd Gallstone from Jejunum

DISCUSSION

234 years after the first account of gallstones in 1420 by a Florentine pathologist Antonio Benevien [1], gallstone ileus was described by a Danish physician and mathematician Dr Erasmus Bartholin [2] in 1654.

Gallstone ileus follows a long course of chronic cholecystitis and cholelithiasis, during which severe adhesions are formed between gall bladder and a part of gut, most commonly duodenum. Impact of larger stones causes a pressure necrosis thus leading to a cholecystoenteric fistula through which gall stones gains a passage in gut. Most of the gall stones passes away uneventfully, but some of larger ones get impacted thus leading to mechanical small bowel obstruction. The term gallstone ileus is a misnomer as the obstruction caused is a mechanical one.

Sites of impaction of gall stones has been reported from stomach to colon, ileocaecal valve being the most common. Most of the cases are seen in sixth and seventh decades with female sex having higher incidence. This accounts for the higher morbidity and mortality [3].

Symptoms of gallstone ileus are similar to small bowel obstruction such as pain, nausea vomiting. These symptoms may be mild in severity in earlier phase of the illness when the gallstone travels through the intestine but rapidly progresses as soon as the stone gets impacted [4]. Only fifty percent of the patient gives history of billiary diseases [7]. Rigler described a triad of pneumobilia, air fluid levels demonstrating small bowel obstruction and an opacity pointing towards a gallstone [8]. However classic triad of Rigler is present only in 15% of cases [9]. In absence of diagnosis by a plain abdomen radiograph, a computed tomography scan will show pneumobilia, impacted stone and even its site of impaction in the small gut with a sensitivity of 93% [10]. Ultimately an explorative laparotomy will always confirm the diagnosis.

Management of gallstone ileus is a disputed one since a long time. Traditionally, a two stage procedure with enterolithotomy in first stage and followed by a Cholecystectomy with closure of cholecystoenteric fistula was advocated, though it relieves the intestinal obstruction and unstable patients also withstand the surgery but keeps the patient on a risk of recurrence for 3-4 weeks. The one stage procedure which deals with the obstruction and fistula in the same surgery seems to be a promising one but offers a great mortality and morbidity [11]. The consensus on this is a one stage procedure in young and henodynamically stable patients while a two stage procedure in older and complicated cases [12]. Endoscopic removal of gallstones has been also tried in a few cases with success [13]. Some people have even tried ESWL in patients with highly co-morbidity [14].

CONCLUSION

Our case demonstrates that in this era of easily available sonography and laproscopic Cholecystectomy, such cases of complications of gallstone ileus may still present. One stage procedure can be done with fairly good outcome in young and healthy patients but a two stage procedure still remains a life saver in elderly patients who form the big chunk of gallstone ileus cases.

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