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Case Report

Gallstone ileus: Rare Entity for Mechanical Small Bowel Obstruction

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Abstract

Gallstone ileus is common in elderly female population. To obtain a diagnosis of gallstone ileus is a challenge requiring clinical and radiological assistance. It's a rare cause of intestinal obstruction, accounts approximately 1-4%. Here we report a case of 56 years old lady presented with intestinal obstruction sign and symptoms. Per abdomen examination revealed generalised tenderness with sluggish bowel sound. Abdominal X-ray revealed prominent small bowel with presence of gas till rectum. CT abdomen noted intraluminal mass over distal small bowel loops mimickering intusseption. Exploratory laparotomy with small bowel enterotomy was performed. Intra-operative finding noted impacted gallstone measuring 2x3cm, 360cm from duodenal-jejunal flexure and 50cm from terminal ileum. Post-operative patient had speedy recovery and discharged home. Here we emphasize in elderly female patient presented with sign and symptoms of intestinal obstruction, diagnosis of gallstone ileus should be one of differential diagnosis.

Keywords: Gallstone ileus, intestinal obstruction, enterotomy

Introduction

Gallstone ileus was first introduced by Bartholin in 1654. He also mentioned it can lead to mechanical obstruction with gastrointestinal tract. It accounts for 1-4% of all causes of mechanical obstruction, more common in female population 65 years old above and female to male ratio 3.5-6:1 [1-4]. In cases of misdiagnosis or delayed in obtaining diagnosis, morbidity and mortality is high [5]. Therefore, an early diagnosis and treatment can minimise morbidity and mortality rate as what we did for our patient.

Case Report

56 years old lady with underlying diabetes mellitus presented with abdominal pain (generalised, colicky in nature) with no bowel output for 2 days duration, associated with vomiting, reduce oral intake and lethargy. Per abdomen examination was generalised tenderness, bowel sound sluggish, hernia orifice was intact. Per rectal examination no abnormality was detected. Chest X-ray revealed no air under diaphragm and abdominal X-ray showed prominent small bowel with presence of gas till rectum. Proceeded with ultrasound of abdomen showed no evidence of collection. In view clinical finding did not correlate with imaging, we requested for CT abdomen which concluded as paralytic ileus caused by intraluminal mass over distal small bowel loops (differential diagnosis include gallstone ileus, bezoar ingestion or intussusception) (Figure 1 & 2). Proceeded with exploratory laparotomy, small bowel enterotomy and peritoneal washout. Intra-operative finding revealed impacted stone 360cm from duodenal-jejunal flexure, 50cm from terminal ileum. Upon enterotomy noted pigmented gallstone 2x3cm (Figure 3&4), rest were normal. Patient recovered well and was discharge home. Patient was subsequently reviewed in out outpatient clinic, was well with no complain and unremarkable clinical finding and was discharged from our follow up.

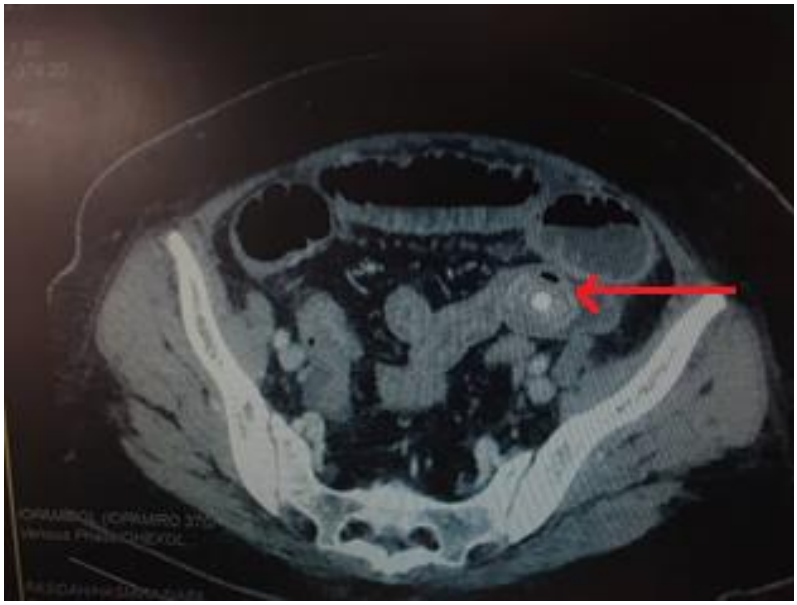

Figure 1. *CT abdomen presence of intraluminal mass*

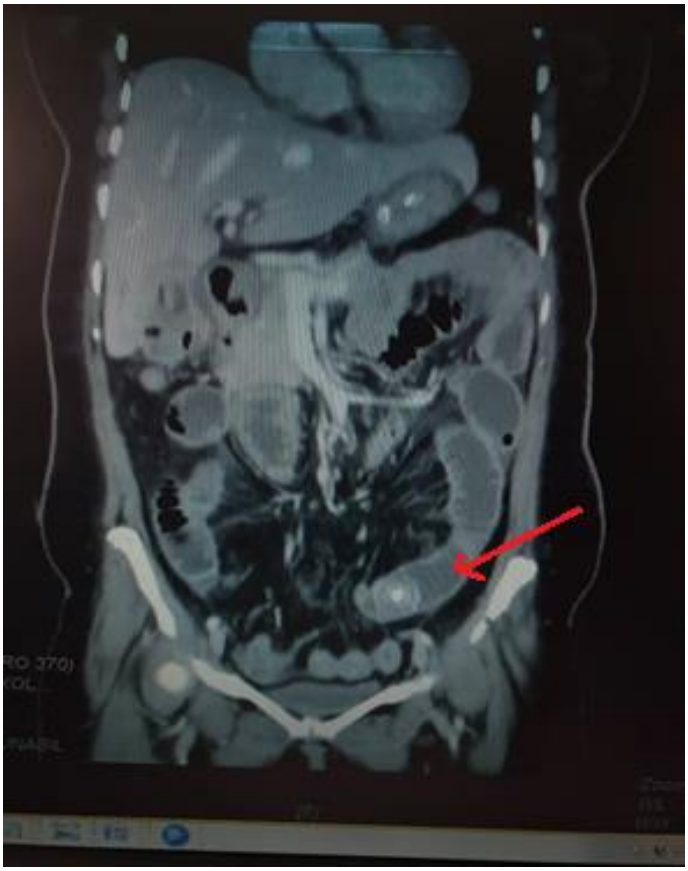

Figure 2. *CT abdomen (coronal view) presence of intraluminal mass*

Figure 3. *Upon enterotomy evidence of pigmented gallstone*

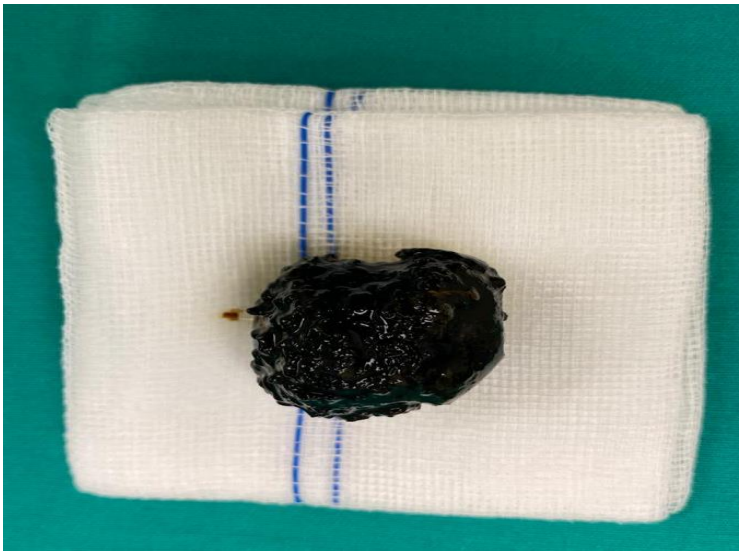

Figure 4. *Pigmented gallstone*

Discussion

Common cause of mechanical small bowel obstruction are adhesions and hernias, other causes include tumour. Rarer causes are caused by intraluminal obstruction which can be due to intussusception, gallstone ileus or foreign bodies [6]. Gallstone ileus is defined by obstruction of small bowel caused by gallstone. Pathophysiology of how it takes place is via fistula communication between inflamed gallbladder and gastrointestinal tract. Common location of gallstone impaction is over terminal ileum and ileocaecal valve as described by Reisner and Cohen, where a study was done on 1,001 cases and identified these 2 locations [3]. This common location of impaction is due to its diameter and reduce peristalsis activity. Other uncommon location for impaction is jejunum, ligament of Treitz, stomach, duodenum and colon [3]. Clinical manifestation can vary, commonly presented as sign and symptoms of intestinal obstruction. During physical examination, we can reveal abdominal tenderness, distention with diminished bowel sounds [2]. Biochemical markers are not specific for diagnosis. To confirm diagnosis of gallstone ileus, computed tomography imaging is the best modality as described by Leo George Rigler in 1941 which includes mechanical obstruction, pneumobilia and gallstone within bowel lumen [7]. Computed tomography imagingalso enables for decision making strategy and surgical planning [8]. Treatment of choice can be divided into surgical and non-surgical. Surgical treatment, the preferred operation is enterotomy and removal of stone [9]. Non-surgical intervention depends on location of obstruction which include endoscopic removal and shockwave lithotripsy [10]. Prognostic factor is poor for patient with advanced age, delayed in making diagnosis and concomitant medical illness. In our patient, early diagnosis and intervention played a great role in her recovery.

Conclusion

Gallstone ileus is a rare cause of mechanical small bowel obstruction. In patient presented with intestinal obstruction, we should always bear in mind this as one of the causes. Prompt diagnosis and treatment play a great role in survival.

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