

## Case Report

# Gall stone ileus in the absence of gall bladder: a case report

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### ABSTRACT

Post cholecystectomy gall stone ileus is very rare with only few cases reported in the literature. This condition poses diagnostic challenges both because of its rarity and since the gall bladder had been removed previously. A high index of suspicion is needed for the diagnosis. Here, we report the case of a young female presented to the emergency room with acute intestinal obstruction. Patient underwent cholecystectomy followed by LSCS 20 yrs back. Patient was managed with explorative laparotomy which revealed an adherent, fibrosed and narrow segment of ileum containing a small impacted gall stone 120 cm from ileocaecal junction. Following the Resection anastomosis the patient made a satisfactory recovery and was discharged without any complication and is doing well.

**Keywords:** Gall stone, Cholecystectomy, LSCS

### INTRODUCTION

Gallstone ileus is a mechanical obstruction of the intestinal tract caused by impaction of a gallstone in the bowel lumen. The condition is uncommon but accounts for 1-3% of all cases of intestinal obstruction but the incidence increases to 25% in patients older than 65 years.<sup>1-3</sup> The gallstone classically gains access to the small bowel via a fistula between the gallbladder and the duodenum. However a gallstone that enters the small bowel by other means can occasionally obturate the lumen. Abdominal X-rays usually reveal gas-filled gut loops with fluid inside but may reveal the radio-opaque shadows too. Contrast-enhanced computerized tomogram (CECT) of the abdomen can exactly pinpoint the size and location.<sup>4</sup>

### CASE REPORT

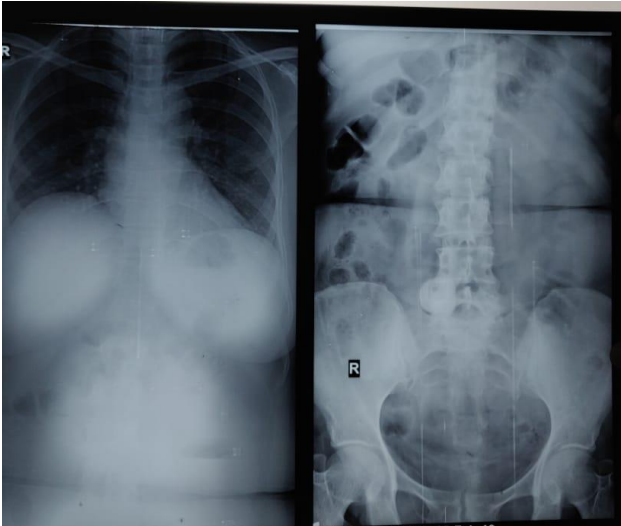
A 55 years old female presented in emergency with sudden onset colicky abdominal pain which was increasing in severity for last 2 days. Pain initially started

in periumbilical region and then became generalised. There was no history of vomiting. She also gave history of 1 bowel movements 6 hours after the onset of abdominal pain but no flatus or faeces thereafter. Patient was having similar episodes over last two years. Open cholecystectomy had been performed 20 years back and also had history of caesarean section 20 years back.

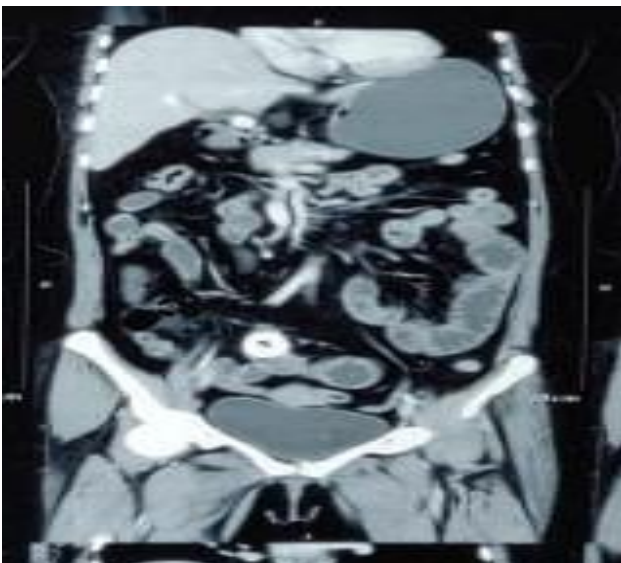
On clinical examination, patient was afebrile. Her pulse rate was 78 beats per minute. Abdominal examination reveals distension with generalised tenderness. There was no guarding and rebound tenderness. Laboratory investigations (biochemical profile and urinalysis) were all within normal limits.

The X-ray examination of the abdomen showed dilated gut loops with radio opaque shadow (Figure 1) and CECT Abdomen showed enterolith in the terminal ileum (Figure 2). Her total leukocyte count was 16,000/mm<sup>3</sup> (per cubic millimetre). Blood urea nitrogen was 30 mg/dl and serum creatinine was 0.9 mg/dl. Her haemoglobin was 6.7, Bleeding time 2'02 and clotting time was 4'56.

Her serum electrolytes ( $\text{Na}^+$ -139 and  $\text{K}^+$ -4.6) were within normal limits. Sonological examination of the abdomen showed multiple dilated small gut loops, and an echogenic enhancing mass with posterior acoustic shadow seen in right iliac fossa. Patient was taken up for explorative laparotomy after adequate fluid resuscitation and blood transfusion.



**Figure 1: Abdominal X rays showing dilated gut loops with radio opaque shadow.**



**Figure 2: CECT Abdomen showing enterolith in the terminal ileum.**

On opening the abdomen, the jejunum and ileum were dilated from the duodenojejunal junction, up to the 120 cm proximal to ileo-caecal junction. At this point, loop of the ileum were entangled with adhesions and a stone of about 2×2 cms size was felt proximally beyond which ileum were collapsed (Figure 3 and 4). Local resection of the gut was performed to include the adhered loop and stone and anastomosis was done in single layer in interrupted fashion with vicryl 3-0 RB. No other

abnormality of the gut was detected. Solid organs were normal and gall bladder was absent. On opening the specimen a gall stone of size 2×2 cms was found with the fibrotic stricture distally. The patient made a good recovery and was discharged on the 5th post-operative day. After 25 days of follow-up, the patient is doing well.



**Figure 3: Showing small gut loop with adhesions and stone extracted.**



**Figure 4: Cut section showing fibrotic stricture with stone proximal to it.**

## DISCUSSION

Post-operative bands and adhesions are most common cause of small bowel obstruction. Tuberculous strictures, congenital or acquired bands, malignancy, lymphoma, and inflammatory bowel disease are other common causes of obstruction. Intraluminal causes include gallstones, bezoars, inspissated feces, and worm bolus.<sup>5</sup>

Fecolith or enterolith is a very rare cause of small bowel obstruction. The incidence of enterolithiasis varies from 0.3% to 10%.<sup>6</sup> Grettve classified them as primary when they were formed inside the gastrointestinal tract and secondary when they were formed elsewhere and gained entry into the intestine such as gallstones or renal stones.<sup>7,8</sup> The primary enteroliths are further called true when they contain the contents of chyme such as choleric acid or calcium salts and as false primary enteroliths like bezoars when they contain the aggregates of insoluble foreign material inside the gut.<sup>9</sup> Enterolith is composed of inspissated fecal matter, calcium phosphates, magnesium, epithelial debris, bacteria, and un-conjugated choleric acid but little or no cholesterol.

Gallstone ileus is a rare complication of cholelithiasis and is one of the rarest forms of all mechanical bowel obstructions. It is, however, a more common cause of non-strangulating mechanical small bowel obstruction, accounting for 1% to 4% in all patients and up to 25% in the elderly. The diagnosis is often delayed since symptoms may be intermittent and investigations may fail to identify the cause of the obstruction. As a result, gallstone ileus continues to be associated with relatively high rates of morbidity and mortality.<sup>1-3</sup> There is a remarkable report of a very unusual case in which Zens et al recorded a 91 year old female who was purported to have had GSI 30 years post-cholecystectomy.<sup>9</sup> Teelucksingh et al also reported a case of gall stone ileus after 1 year of cholecystectomy, they believed that the subsequent stump cholecystitis with fistula formation would have delivered the 2 cms gallstone into the gut causing GSI, since the calcified stone at the gallbladder neck 1 year before is very similar to the one obstructing the ileum.<sup>10</sup>

Ultrasonogram is the initial investigation which may reveal gallstones, renal stones, Meckel's diverticulum, and distended gut loops containing fluid or pelvic abscess. The plain X-ray of the abdomen may reveal dilated gut loops with air-fluid levels along with the radio-opaque densities within the gut lumen depending on the calcium content of the enteroliths. CECT of the abdomen, can show the exact location, size, number of the enteroliths, and rule out other pathologies.<sup>11</sup> 60% of the times, enteroliths are located in the right iliac fossa. It is not always possible to make the pre-operative diagnosis definitively. About in half of the cases, diagnosis is confirmed at the time of laparotomy. The gall stone of up to 2 cms may pass through the terminal ileum, but those above 2.5 cms may lead to intestinal obstruction when they get stuck at the terminal ileum. They may directly damage the gut due to jagged edges or chemical irritation of the gut leading to perforation or stricture formation.<sup>6</sup>

In our case we hypothesise that gallstone would have given rise to obstruction due to the fibrotic stricture in the ileum secondary to long-standing adhesions with kinking. Therapeutic approach is to do enterotomy with extraction or segmental resection of bowel (as we have done in our case).

## CONCLUSION

TPost-cholecystectomy gall stone ileus is quite rare, but clinicians should be aware of its existence since the

diagnosis requires a high index of suspicion, which can be confirmed with an abdominal CT scan. It should be considered a possible diagnosis while evaluating a case of sub-acute intestinal obstruction. The treatment is surgical; simple enterolithotomy is the treatment of choice for most cases.

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