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Abdominal Cocoon Syndrome: A Rare Cause of Intestinal Obstruction

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ABSTRACT

Abdominal Cocoon Syndrome (ACS): is a rare condition causing small bowel obstruction, refers to total or partial encapsulation of the small bowel by a fibro-collagenous membrane with local inflammatory infiltrate leading to acute or chronic bowel obstruction. Laparotomy with extensive lysis of adhesions to alleviate the obstruction is the definitive diagnosis and managment. However, possibility of preoperative diagnosis can be achieved if clinicians are aware of the condition and its radiologic findings.

Keywords: Abdominal Cocoon Syndrome; Intestinal Obstruction; Laparotomy

CASE PRESENTATION

A 60-years-old man with the following background:

- A laparoscopic cholecystectomy done 9/2021
- A laparoscopic bilateral indirect Inguinal hernia repair done on 10/2021

Presented to OPD of our hospital on 6/3/2022 with history of chronic abdominal pain, on/off chronic constipation and occasional bilious vomiting since many days.

On examination he had distended abdomen with severe tenderness in left side with guarding, then admitted to the ward with sever central colicky abdominal pain, distension associated with bilious vomiting and absolute constipation.

On examination he was vitally stable with distended abdomen, sluggish bowel sounds, mild tenderness, DRE: empty rectum.

INVESTIGATIONS

Routine laboratory workup showed normal total leukocyte count 5.74 10*3/uL, Hemoglobin 14.25g/dL and normal serum chemistry.

Contrast Enhanced Computed Tomography (CECT) done 6/3/2022 showed dilated small bowel loops mainly jejunal loops, reaching 3.8cm with collapsed terminal ileum, no definite transition point, however gas is seen at terminal ileum and colon, traces of oral contrast seen at ileocecal valve with impression of adhesive partial small bowel obstruction (Figure 1).

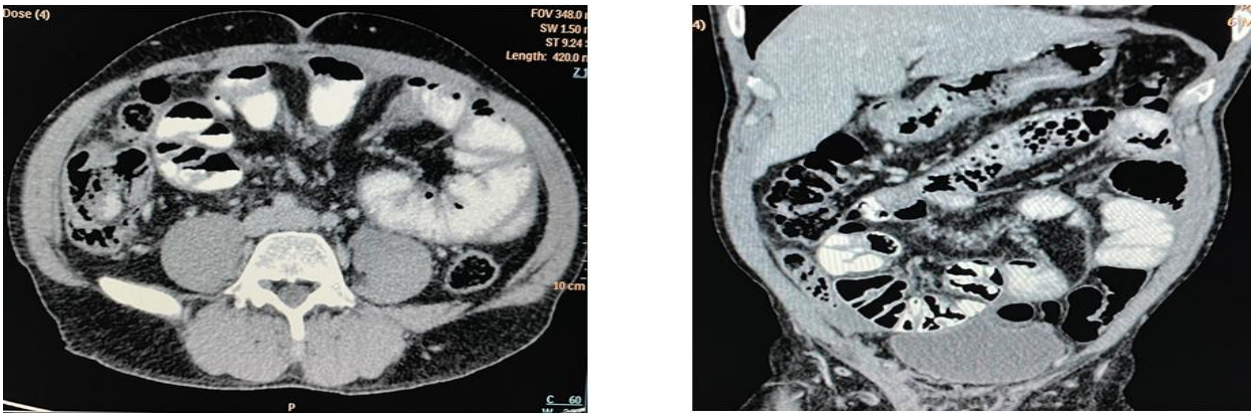

Figure 1: CT finding.

TREATMENT

Initially patient was treated conservatively with fasting, gastrointestinal decompression with nasogastric tube and intravenous fluid as he reported passing flatus, but still he didn't improve and on 11/3/2022, patient underwent exploratory laparotomy, adhesolysis, appendectomy, serosal and peritoneal biopsy, in our hospital,

OT finding: Dilated small bowel loops detected with a thick whitish membrane encasing small bowel (distal part of jejunum and all ileum)(abdominal cocoon), the same process involves transverse and sigmoid colon which are mildly dilated, adhesions involving root of mesentery also detected with scarring and thickened, short small bowel, estimated length about 180cm (Figure 2,3).

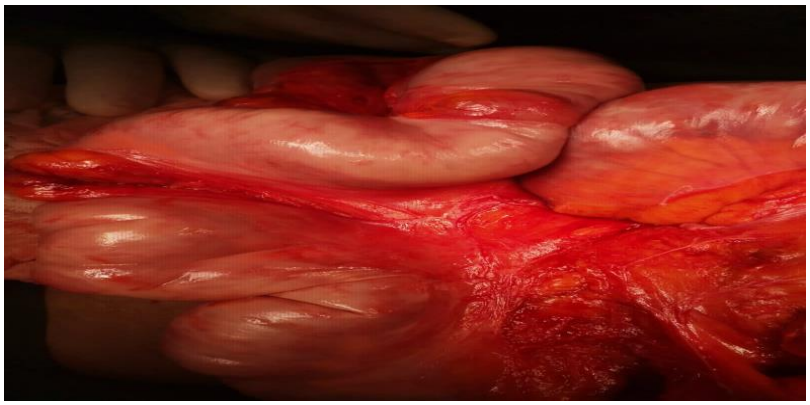

Figure 2: Intraoperative finding

Thick membrane covering small bowel is identified

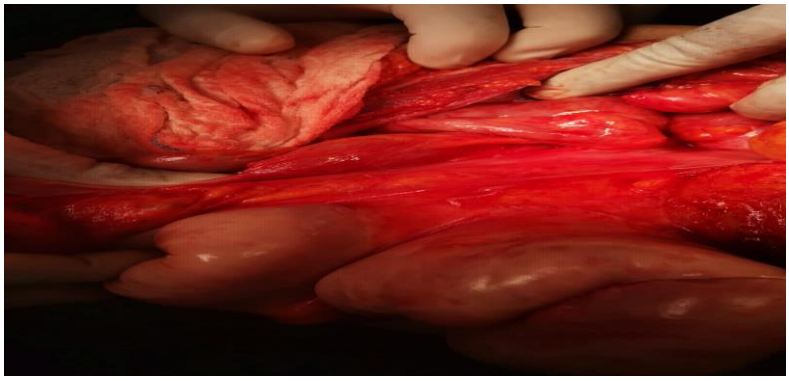

Figure 3: Intraoperative finding.

The findings of histopathology examination were Appendix: lymphoid hyperplasia, negative for acute inflammation, peritoneal biopsy: inflamed fibroadipose tissue, ileal biopsy: mildly inflamed and congested fibrocolagenous tissue. Post- operatively patient was treated with NPO, IVF, he showed improvement for few weeks but his symptoms recurred, hence the case was discussed with tertiary hospital (Royal hospital) where laparotomy done with membrane release (was excised)(Figure 4) and extended adhesiolysis was performed after surgery the patient showed dramatic improvement of his symptoms.

Figure 4: Membrane is excised.

CONCLUSIONS

Abdominal cocoon syndrome is a rare cause of intestinal obstruction. clinicians should suspect this possible cause as differential diagnosis of chronic abdominal pain and bowel obstruction when other common causes are excluded. Contrast-enhanced abdominal CT scan is a useful preoperative diagnostic method, although in most cases the diagnosis is achieved during surgery.