Abstract:
Encapsulating peritonitis is an infrequent cause of intestinal obstruction in adult patients. The peritoneal membrane, which involves the mesentery, intestines stomach, liver, gallbladder, spleen, and pelvic organs, was first described and named the abdominal cocoon (AC) by Foo et al in 1978\(^1\), Small bowel obstruction associated with Abdominal coconos (AC) account for 0.4-4% of all intestinal obstruction encountered in surgical admissions\(^2\).

We report a young adolescent girl 17 years old, who had intestinal obstruction and minimal haemoserous ascites due to coexistent Abdominal Cocoon and left ovarian endometriosis. Endometriosis has rarely been associated with Abdominal Cocoon or haemoserous ascites.

The clinical diagnosis of abdominal cocoon requires a high index of suspicion because of the nonspecific clinical picture and noncontributary imaging findings. Surgical treatment consisting of peritoneal sac excision and adhesiolysis is generally successful.

Case Report:
17 yrs old female who presented to the emergency department with history of sever lower abdominal pain and vomiting since one day, pain was sudden in onset confined more over the right iliac fossa and around the umbilicus. No radiation of pain. Vomiting was non-bilious, no history of hematemesis, malena.
She had history of abdominal distension. She had not passed stools for 1 day. No history of fever or burning micturition. She attained menarche at 12 yrs of age and had regular 3/28 days cycle, no significant past history. On examination she was conscious, oriented, well built and nourished, vitals – Pulse - 98/min, Blood Pressure -110/70 mm Hg, mild pallor, no icterus, Per Abdomen - Distension +, tenderness over the right iliac fossa and umbilical region, no guarding or rigidity, no mass or organomegaly, Per Rectal examination was normal, collapsed rectum with normal colour stool staining.

She was stabilized, Ryles tube inserted showed coffee ground colored fluid of about 300ml over 1 hr, her WBC counts were elevated (17.3x 10^3/uL) with neutrophilia, other routine investigations were normal with a Hb of 12.1g/dl, X-ray abdomen showed features suggestive of intestinal obstruction involving the small bowel. Ultrasound revealed dilated loops of small bowel involving the ileum and jejunum with moderate amount of free fluid.

**CECT Abdomen** was done and it revealed dilatation of small bowel loops in abdomen with a localized segment of small bowel loop in lower abdomen, extending into pelvis, showing mild thickening, distension and mild coiling. Minimal free fluid was seen adjacent these loops. Colon was not dilated. Suggestive of SEGMENTAL VOLVULUS OF SMALL BOWEL WITH SMALL BOWEL OBSTRUCTION

![Fig-1: X-ray erect abdomen shows multiple air fluid levels confined to a single quadrant.](image1)

![Fig-2 -CT Image Shows Clusters of Bowel Loops.](image2)
Hence the patient was taken up for laparotomy.

Intra Operatively blood stained ascitic fluid of about 200ml suctioned out sent and a sample was sent for culture.

Distal jejunum to Ileo-caecal junction was encapsulated over a peritoneal sac, a diagnosis of Coocoon abdomen was made, hence ascitic fluid was sent for Zeihl-Neelsen’s staining. Cocoon sac opened at Ileo-caecal junction and the distal ileum released completely up to the junction of small bowel. Mesenteric extension of the sac was excised completely. No evidence of perforation or ischemic bowel. Rest of the intestines and organs were found to be normal. Pelvis was normal.

Post operatively the patient improved well. Her histopathology revealed cocoon sac - fibrocollagenous tissue and intestinal wall with serosal endometriosis. Her ascitic fluid culture and Zeihl-Neelsen staining were negative. She was started on GnRH analogue for 6 months and improved.

Discussion:

The incidence of AC was 2.6% and that of tuberculous AC was 2.2% of all cases of intestinal obstruction

Abdominal cocoon may be classified into primary or idiopathic and secondary forms. Primary abdominal cocoon occurs mainly in young women from tropical and subtropical zones. Although retrograde menstruation with or without viral infection of the fallopian tubes has been suggested as a possible etiology, it does not account for the occasional occurrence of abdominal cocoon in males.
Secondary abdominal cocoon is apparently associated with predisposing factors, such as recurrent peritonitis, intake of intraperitoneal irritants, including antibiotics and beta blockers, chronic ambulatory peritoneal dialysis (CAPD), sarcoidosis, Endometriosis, Mediterranean fever, carcinoid syndrome, exposure to asbestos, and autoimmune disease.\textsuperscript{1,5}

In addition to an eventual association with Abdominal Cocoon, peritoneal tuberculosis can also mimic advanced ovarian cancer.\textsuperscript{4,6} However, tuberculosis was excluded, based on the histopathological and bacteriological data.

The preoperative diagnosis of AC requires a high index of suspicion, supported by clinical data and imaging findings indicative of the condition. However, most cases are diagnosed at exploratory laparotomy. Clinical presentation includes intestinal obstruction, weight loss and the presence of an abdominal mass. Ultrasonography and CT classically show bowel loops encased within a conspicuous membrane, mural thickening and calcifications. Removal of the cocoon tissue and adhesiolysis have been the effective treatments, but extensive resections carry high morbidity and mortality rates.\textsuperscript{4,7,8,9}

Abdominal cocoon caused by Endometriosis is a very rare diagnosis and GnRH analogue treatment for at least 1 year should be advocated post operatively.\textsuperscript{10}

References:


