

# Abdominal Cocoon - Review of Literature

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**Abstract:** *Adhesions, strictures and hernias are the common causes of intestinal obstruction, a common surgical emergency. reviewing the literature.*

**Keywords:** cocoon abdomen, tuberculosis abdomen

Adhesions, strictures and hernias are the common causes of intestinal obstruction, a common surgical emergency. Abdominal cocoon is a very rare cause of intestinal obstruction, with fewer than 70 cases reported in literature and seldom with histopathological confirmation. [1,2]

## 1. Case Presentation

A 31-year-old male presented to us with a history of generalized abdominal pain and abdominal distension for 10 days. The pain was mild to moderate, continuous and associated with nausea and vomiting. Two days earlier he had an ultrasound which showed a loculated ascites and a markedly thickened small bowel wall. He underwent ultrasound guided aspiration of ascitic fluid which was unsuccessful. His symptoms worsened pain becoming severe. He had no previous medical history of abdominal pain, change in bowel habits or surgery. On examination, he appeared distressed and toxic. His vitals were as follows: pulse 97 beats/min (regular), blood pressure 114/65 mm Hg and respiratory rate 20 per minute. He was afebrile. Abdominal examination showed generalized tenderness more so in the right iliac fossa with a palpable mass. There were no gut sounds. The digital rectal examination was unremarkable. On auscultation, both lung fields had symmetrical breath sounds. An abdominal X-ray showed paucity of bowel gas whereas the erect chest X-ray was normal with no evidence of pneumoperitoneum. Laboratory investigations showed hemoglobin 16.8 gm/dl, hematocrit 50.1%, total leukocyte count 107,000/cc (69.4% neutrophils), platelets 443,000/cc. Serum creatinine and electrolytes were within normal limits. A computer tomography (CT) scan abdomen with oral and intravenous contrast suggested features of internal herniation. Based on clinical and radiological features decision of laparotomy was made. Exploratory laparotomy revealed 500 ml of yellow serous fluid and a thick white membrane covering stomach, liver, small and large bowel. The greater omentum was not identifiable. Cocoon like membrane was gently dissected off the small bowel. There was well-defined plane of dissection. Care was taken to prevent any serosal injury. The entire small bowel was healthy, with no bowel adhesions. Post-operative hospital stay was prolonged due to ileus. Histopathology of the covering membrane revealed chronic inflammation and PCR for tuberculosis was positive. The patient was initially started on oral antituberculous drugs to which he was intolerant so these were later changed to intravenous antituberculous medications. He received peripheral parenteral nutrition and a short course of intravenous steroids to decrease the bowel edema. Nasogastric output gradually decreased and he was discharged on oral antituberculous medications and regular diet. His hospital stay was 20 days. Three weeks later he was

readmitted with colicky abdominal pain and vomiting but improved to conservative treatment. He had a good recovery and was well 8 months later.

## 2. Discussion

Abdominal cocoon may be classified into primary or idiopathic and secondary forms<sup>4</sup>. 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 cause<sup>4,5</sup>, it does not account for the occurrence of abdominal cocoon in males. Secondary abdominal cocoon is apparently associated with predisposing factors, such as recurrent peritonitis, intake of intra peritoneal irritants as antibiotics and beta blockers, chronic ambulatory peritoneal dialysis (CAPD), sarcoidosis, familial Mediterranean fever, carcinoid syndrome, exposure to asbestos, and autoimmune disease<sup>4,5</sup>. The clinical presentation of abdominal cocoon includes acute, sub acute, or chronic intestinal obstruction, abdominal distension, nausea, and vomiting<sup>5</sup>. Patients usually complain of recurrent attacks of intestinal obstruction<sup>6</sup>. Some patients are asymptomatic. An accurate diagnosis is difficult to make preoperatively because findings on biochemical investigations are usually normal, and imaging findings are nonspecific<sup>4</sup>, although plain abdominal X-ray film may show airfluid levels. In the rare reports of the CT appearance of abdominal cocoon, adherent small bowel loops encased within a thick enhancing peritoneal membrane were visualized<sup>4</sup>. In the cases of abdominal cocoon described in the literature to date, the diagnosis was made either during surgery for unrelated reasons (in asymptomatic patients) or at exploratory laparotomy (in patients who presented with bowel obstruction). The typical finding at surgery is a conglomeration of small bowel loops encased in a dense white membrane<sup>4</sup>. Treatment, as in the present case, consists of excision of the peritoneal sac with lysis of the interloop adhesions. Bowel resection is done if a nonviable segment is found<sup>4</sup>.

## 3. Conclusion

A high index of suspicion is required in the absence of other possible causes of the symptoms of abdominal obstruction. Treatment consists of excision of the peritoneal sac and lysis of the interloop adhesions. Outcome is generally good.

## References

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