RESEARCH PAPER | Medical Science | Volume : 5 | Issue : 11 | November 2015 | ISSN - 2249-555X

A rare case of Acute Abdomen- Abdominal Cocoon

KEYWORDS: Abdominal Cocoon, Acute abdomen, Peritonitis, Intestinal cocoon, Fibrous sac

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ABSTRACT *Abdominal cocoon, the idiopathic form of sclerosing encapsulating peritonitis, is a rare condition of unknown etiology that results in an intestinal obstruction. In it a part or whole of small bowel is encapsulated within a dense fibrous membrane. We report a 30 years old male patient who presented to our emergency department with abdominal pain and palpable lump on abdominal examination. The early clinical features are nonspecific, are often not recognized and it is difficult to make a definite pre-operative diagnosis. At surgery the entire small bowel was found to be encased within a dense fibrous sac and the diagnosis of abdominal cocoon was made. Careful dissection and excision of the thick sac with the release of the small intestine was done. Outcome was satisfactory.*

INTRODUCTION

Abdominal cocoon is a rare condition that refers to total or partial encapsulation of the small bowel by a fibrocollagenous membrane or cocoon with local inflammatory infiltrate leading to acute or chronic bowel obstruction1. It was first described by Owtschinnikow in 1907 as "peritonitis chronica fibrosa incapsulata"2 and termed "abdominal cocoon" by Foo in 1978.2 The condition is acquired and the cause in usually unknown. Most cases are diagnosed incidentally at laparotomy3. We report a rare case of a young male presenting with abdominal cocoon leading to intestinal obstruction. Diagnosis is usually incidental at laparotomy.

A high index of clinical suspicion may be generated by the recurrent character of small bowel ileus combined with relevant imaging findings and lack of other plausible etiologies, as it may prevent a "surprise" upon laparotomy and result in proper management [5].

CASE REPORT

A 30 year old male presented in the Surgery emergency with complaint of abdominal pain and distension due to palpable lump. Patient had similar past history 6 months back which was managed conservatively. Patient was afebrile. Patient also complains of 3 vomiting episodes and constipation. Patient was non smoker, non-vegetarian. There was no history any medical disease in the family. On admission pulse was 72/min, BP 140/90mm Hg, body temperature 100oF. Systemic examination revealed no abnormalities.

Examination of the abdomen revealed distension, diffuse pain and hyperactive bowel sounds. A mass was palpable in the periumblical region which was non tender and 14x10 cm in size approximately. Plain X-ray abdomen in the erect posture showed multiple dilated gut loops and no gas under the dome of diaphragm.

On abdominal computerized tomography (CT) dilated small bowel loops arranged adjacent to each other forming a mass were seen along with fluid collection in the mesentery. The provisional diagnosis of intestinal obstruction was made. Exploratory laparotomy through a mid line incision was performed. It revealed a cystic mass [Fig 1] adherent to the abdominal wall. On tapping clear fluid came out. Around 500 ml fluid was aspirated. Mass was found to be covered by a dense white fibrous membrane [Fig 2]. On opening the mass small gut coils were found

to be encased inside. Adhesiolysis was performed to release the gut loops. There was present obstruction in the mid-ileal region.

The white fibrous membrane pieces were sent for histopathology examination which revealed chronic non specific inflammation. Post operative course was uneventful.

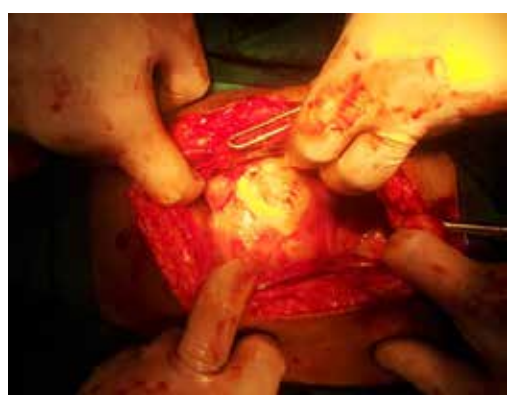

Figure-1 shows a cystic mass adherent to the abdominal wall

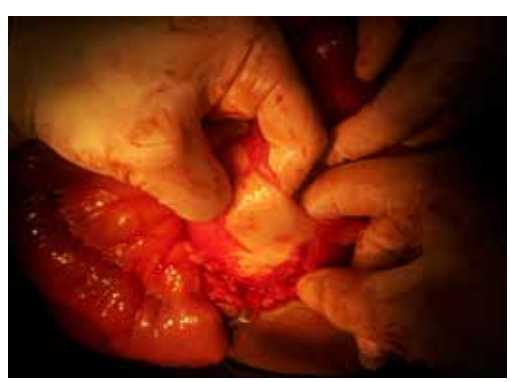

Figure 2- shows mass was found to be covered by a dense white fibrous membrane

Volume : 5 | Issue : 11 | November 2015 | ISSN - 2249-555X

DISCUSSION

Abdominal cocoon may be classified into primary or idiopathic and secondary forms4. 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 cause4, 5, 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 intraperitoneal irritants as antibiotics and beta blockers, chronic ambulatory peritoneal dialysis (CAPD), sarcoidosis, familial Mediterranean fever, carcinoid syndrome, exposure to asbestos, and autoimmune disease4, 5. The clinical presentation of abdominal cocoon includes acute, sub acute, or chronic intestinal obstruction, abdominal distension, nausea, and vomiting5. Patients usually complain of recurrent attacks of intestinal obstruction6. Some patients are asymptomatic. An accurate diagnosis is difficult to make preoperatively because findings on biochemical investigations are usually normal, and imaging findings are nonspecific4, 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 visualized4. 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 membrane4. 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 found4.

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 inter loop adhesions. Outcome is generally good.

In conclusion, Idiopathic sclerosing encapsulating peritonitis or *abdominal cocoon*, although a rare cause of a common surgical emergency such as small bowel ileus, may be responsible, especially in cases with recurrent attacks of non-strangulating obstruction in the same individual. A high index of clinical suspicion may be generated by the recurrent presentation of small bowel ileus combined with relevant imaging findings and lack of other etiologies Clinicians must rigorously pursue a preoperative diagnosis, as it may prevent a "surprise" upon laparotomy and unnecessary procedures for the patient, such as bowel resection.

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