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ABDOMINAL COCOON SYNDROME, A RARE CAUSE OF INTESTINAL OBSTRUCTION: A CASE REPORT

General Surgery

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ABSTRACT

Abdominal cocoon syndrome is a rare clinical presentation that has been mostly associated with abdominal tuberculosis in India. It is also known as sclerosing encapsulating peritonitis, where the gut becomes enclosed by a fibrous membrane, leading to obstipation. Common symptoms include vomiting, nausea, and constipation. These clinical symptoms can result in delayed diagnosis, which may lead to adverse outcomes or even mortality. Surgery is done to release the entrapped bowel and remove the fibrous tissue along with provision of supportive care. The present case involves a 29-year-old male who presented with a distended abdomen and obstipation, which was managed through exploratory laparotomy and separation of adhesions of the small and large intestine. The patient was followed-up after one week with no new complaints. The present case helps in understanding the symptomatology and possible complications of cocoon syndrome.

KEYWORDS

Abdominal cocoon syndrome; sclerosing encapsulating peritonitis; exploratory laparotomy; complications

INTRODUCTION

Abdominal cocoon is a rare disease which causes small-bowel obstruction that is characterized by a fibrotic, thick, and cocoon-like membrane encapsulating total or partially the gut (1,2,3) . Its causes remain unknown (4,5) . Surgery is the treatment of choice (1) .This case report describes a young male patient with abdominal cocoon who presented with clinical signs of intestinal obstruction.

Case Report

In November 2024 a 29 year old man was admitted with 2-month history of intermittent colicky abdominal pain and bilious vomiting and abdominal distension. He also complained from anorexia, fatigue from two months. He had no medical or surgical history. Vital signs were normal (blood pressure 112/70 mmHg, pulse rate 84/min, temperature 37.3° C). Abdominal distention with mild tenderness in the entire abdomen, especially in left upper quadrant was noted on palpation. There were no abdominal scars or palpable upper abdominal lump. On auscultation, hyperactive bowel sounds were heard. There were no abdominal scars with palpable abdominal lump in upper abdomen. Digital rectal examination was normal. Laboratory blood analysis ascertained a total leucocyte count of 10000/cu.mm, hemoglobin 14.5 mg/dl, normal serum biochemistry and normal urine analysis. Upright plain abdominal X-ray showed multiple air-fluid levels without free gas under the diaphragm. Contrast enhanced abdominal computed tomography showed dilated small bowel loop with encasing cocoon membrane (Figure 1).

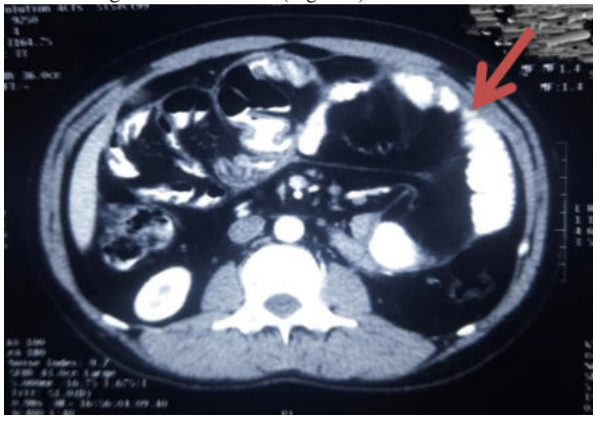

Figure 1: CECT demonstrating the cut section of abdomen with cocoon membrane encapsulating the segment of small bowel.

Due to signs of intestinal obstruction, an emergency laparotomy was performed through a midline vertical incision. During surgery, the small bowel was dilated, its mesentery was edematous and it was covered by a dense, whitish membrane, giving the look of a cocoon (Figure 2). Careful sharp and blunt dissection, along with excision of cocoon membrane was done, thereby releasing the encased small intestine. Dissection was performed from duodeno-jejunal angle to ileo-cecal junction. The peeled off membrane was sent for histopathology which revealed a fibro collagenous membrane.

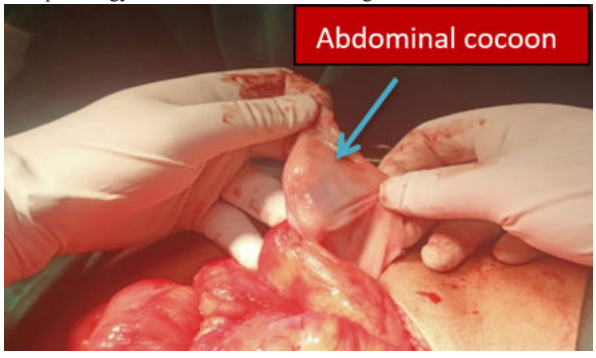

Figure 2: Intraoperative picture demonstrating the white fibrotic cocoon membrane encapsulating the small bowel.

The patient was discharged from hospital on eighth postoperative day in a satisfactory condition.

DISCUSSION

Sclerosing encapsulating peritonitis (SPE) can be classified as idiopathic (primary) and secondary. Foo et al in 1978, first described the idiopathic class of abdominal cocoon (6). This type primarily affects young females from tropical and subtropical countries (1) .The cause is still unknown (2,3), although multiple hypotheses have been stated (4,7). Abdominal cocoon is characterized by a thick shiny fibrotic membrane, with total or partial encasement of the small intestine (5). Clinically, it is presented by recurrent attacks of nausea, vomiting, weight loss, anorexia and sometimes with palpable abdominal mass indicating towards acute or subacute small bowel obstruction. Pre-operative diagnosis is challenging, demanding a high index of clinical suspicion. Most patients are diagnosed incidentally at laparotomy. (8). Raised leucocyte count, C-reactive protein levels, hypoalbuminemia and anemia are common findings in SPE cases but no laboratory serum abnormality was observed in the present case (2). Imaging plays an important role in the diagnosis of abdominal cocoon syndrome. On conventional abdominal X-ray, dilated bowel loops with multiple air-fluid levels may be noted, but they may be non-specific. Barium X-ray and contrast CT are other useful modalities for the diagnosis of abdominal cocoon (5,7). The classical abdominal CT finding consists of congregation of small bowel loops in the center of abdomen with a non-enhancing fibrous membrane surrounding these loops (3,5). Surgical dissection along with adhesiolysis of bowel loops and excision of the encapsulating membrane remains the mainstay treatment of abdominal cocoon (2,5). In the present reported case, the history was insignificant, but the presence of dilated small bowel loops

with an edematous mesentery and a dense encapsulating fibrotic membrane intraoperatively strongly suggested idiopathic sclerosing peritonitis. Bowel resection is only advisable if it is non- viable. Unindicated resection may lead to increased morbidity and mortality (7). In the present case an emergency laparotomy was performed. The dense, whitish membrane encapsulating the small bowel was incised carefully, separating it from the intestinal serosa by sharp and blunt dissection. Generally, the prognosis of abdominal cocoon after surgery is satisfactory. Excision and removal of the thick cocoon membrane around the bowel relieves obstruction and leads to complete recovery.

CONCLUSION

This case reports a rare clinical presentation of sclerosing encapsulating peritonitis. Preoperative diagnosis in the setting of an insignificant history is difficult. The recurrent episodes of small bowel obstruction along with h relevant imaging studies may help in pinning down the diagnosis. Surgery stays as the gold standard in the confirmatory diagnosis and management of abdominal cocoon syndrome.

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