

A Case Report on Abdominal Cocoon Syndrome

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ABSTRACT

Abdominal cocoon syndrome (ACS) is encapsulation of the abdominal organs by thick fibro-collagenous material forming cocoons. On the basis of the part of abdominal organ encapsulated, ACS is classified into three types. Patients with this condition usually present with intestinal obstruction. We present a case who presented to us with features of intestinal obstruction and was diagnosed as a rare case of abdominal cocoon syndrome on CT scan. He was managed operatively where adhenolysis was performed and patient had uneventful recovery. CT scan is found to be the investigation of choice. Laparotomy with excision of membrane overlying bowel loops is the treatment most commonly adopted by surgeons and it has satisfactory results.

Key words: Cocoon syndrome, Computed tomography, Intestinal obstruction.

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Introduction

Abdominal cocoon syndrome (ACS) is a encapsulation of the abdominal organs by thick fibro-collagenous membrane forming cocoons. There are two types of abdominal cocoon syndrome i.e., primary and secondary. Primary also known as idiopathic, is the one in which no associated cause has been identified. It is found to be linked with retrograde menstruation and therefore is more common in young females. The secondary type is associated with various conditions like trauma, peritoneal dialysis, peritonitis, previous abdominal surgery, sarcoidosis, tuberculosis, autoimmune disorders, pelvic inflammatory disease, endometriosis, beta-blockers, chemotherapy, hepatitis C, liver transplantation or gastrointestinal malignancy.¹ This rare syndrome mostly presents as intestinal obstruction. Computed tomography (CT scan) being radiological investigation of choice for

this condition.² Diagnosis of this condition is difficult to establish, pre operatively. Therefore, mostly the condition is diagnosed intra operatively when its pathognomonic features of thick fibrous membrane encapsulating abdominal viscera are seen.³ Here we present a case who presented to us with intestinal obstruction diagnosed as cocoon syndrome.

Case Report

A 35 years old male man reported to us in emergency with complain of pain in abdomen for the past 10 days associated with vomiting, constipation and abdominal distension from 8 days along with multiple episodes of vomiting, bilious in nature and patient hadn't pass stool and flatus from 8 days. Following these complaints patient developed abdominal distension as well. On

examination his GCS was 15/15, with pulse of 110/min, blood pressure of 95/60, and was maintaining SpO2 at room air. Chest auscultation showed B/L equal air entry. On abdominal inspection his whole abdomen was distended with symmetrical appearance and central umbilicus. Palpation showed generalized tense abdomen and was resonant on percussion with sluggish bowel sounds. Rest of the systemic examination was unremarkable.

Patient was initially managed conservatively. Work up was done that showed all baseline investigations, GeneXpert MTB and AFB direct smear were negative. Erect Abdominal X- revealed multiple air fluid levels. Abdominal Ultrasound showed matted fluid filled gut loops with sluggish peristalsis in central abdomen. CT scan abdomen with IV contrast was carried out that reported dilated encapsulated thick walled jejunal loops in left upper hemiabdomen. Intervening gut loops showed streak of fluid and engorged mesenteric vessels. Overall features suggested intraperitoneal adhesions with small gut encapsulated at multiple levels along with small bowel obstruction (abdominal cocoon) (figure-1).



Figure 1: Per-operative findings showing multiple bands with dilated small bowel.

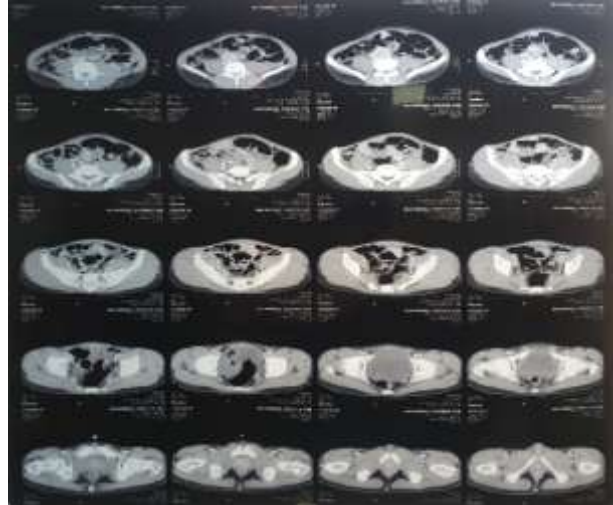


Figure 2: CT Scan Abdomen showing intraperitoneal adhesions encapsulating small gut.

As patient didn't respond to conservative management, he had exploratory laparotomy. Per-op findings were; 500ml ascitic fluid, thick fibrous membrane enclosing whole small bowel with multiple bands and markedly dilated small bowel (figure-2) for which Adhesiolysis was conducted. Post-operatively patient recovered uneventfully.

Discussion

Abdominal cocoon syndrome is a condition that involves peritoneum.⁴ It is considered a variation of retroperitoneal fibrosis or Ormond disease. On the basis of the part of abdominal organ encapsulated, ACS is further classified into 3 types. In type 1, only part of the small intestine is encased while in type 2, the entire small intestine is covered by membrane and in last type, abdominal organs like stomach, ovaries, liver or appendix can be encapsulated.² Patients of this condition have complaints of abdominal pain and constipation associated with vomiting. Abdominal X-ray in erect view shows multiple air- fluid levels, finding being non-specific. Sonography usually reveals dilated bowel loops, and specific trilaminar appearance formed by the gut wall, overlying membrane, and posterior abdominal wall with which bowel loop is adherent.⁵ The

findings on CT scan are consistent with features of intestinal obstruction along with of abdominal cocoon in which there are conglomerated, adherent gut loops enclosed in thick peritoneal membrane giving an appearance of cauliflower sign in the center of abdomen. If secondary ACS is suspected then, further investigations like ESR, Gene Xpert for tuberculosis and even biopsies with diagnostic laparoscopy are taken to rule out inflammatory, malignant, autoimmune and gynecological cause.⁶ Exploratory laparotomy with complete excision of membrane and adhesiolysis is considered the surgical treatment of choice.

Abdominal cocoon syndrome must be considered by surgeons to be a cause of intestinal obstruction after other causes been ruled out. Computed tomography of the abdomen is a useful radiological investigation for establishing preoperative diagnosis. Adhesiolysis is the treatment of choice. In general, the outcome of this management showed satisfactory results.

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