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Hiatus Hernia, Small Bowel Obstruction and Haemorrhoids: A Rare Presentation of Abdominal Cacoon Syndrome

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Introduction

Abdominal cacoon or Encapsulating Sclerosing peritonitis involves having intra-abdominal organs being surrounded by a dense fibrous, collagenous tissue creating a cacoon [1]. It's a rare cause of intestinal obstruction with less than 150 cases reported, its etiology is less known however it has been linked to inflammatory disease like Tuberculosis and pelivic inflammatory disease, history of previous abdominal surgery [2-5]. Previous studies reported cases primarily involving young females, but a number of cases involving middle age and elderly men are being reported [2].

While Hiatus hernia is caused by increased intra-abdominal pressure which leads to protrusion stomach and other abdominal viscera into the mediastinum which leads to symptoms of heart burn, vomiting, epigastric and retrosternal Chest pain [6]. Its classified into types I –IV, with type 1 being sliding hiatus hernia, type II para-oesophageal hernia, type III the existence of both type I and II and type IV consisting of other structures herniating into the mediastinum other than the stomach [7,8]. The risk factors have been shown to include pregnancy, skeletal abnormalities and previous gastric surgery. Diagnosis is usually made by barium studies, esophagogastroduodenoscopy, computerized tomography and high resolution manometry.

Hemorrhoid disease has long been associated with increased abdominal pressure, constipation and straining on defecation which leads to disintegration and increased shearing forces on the supporting tissues of anal cushions [4]. This results into engorgement of haemorrhoidal plexus and prolapse. We therefore present a case which had all the above pathological entities as seen in our setting

Case Presentation

A 36 year old male presents with six months history severe coliky abdominal pain, vomiting of feeds, constipation and occasional Per Rectal Bleeding, he also reported upper gastrointestinal symptoms that included, retrosternal chest pain, heartburn and occasional regurgitation of feeds.

On examination, he was a young man in good general condition, with a Body Mass Index (BMI) of 25 General Examination was normal. Abdominal examination revealed a normal abdomen with no distension, tenderness or palbable masses. Digital rectal exam was normal. Laboratory investigations revealed a Haemoglobin of 13g/dl, Total white cell count of 4×10^3. Liver functional tests and electrolytes were found to be normal.

He underwent an Oesophagogastroduodenoscope that revealed Grade B Gastroesophageal reflux disease and Hills III hiatus hernia, colonoscopy found bleeding 2nd degree internal haemorrhoids with the rest of the colon being unremarkable.

Patient was started on Proton pump inhibitors and scheduled for a stapled haemorrhoidopexy which was done and patient discharged after 2 days. He was readmitted after 4 weeks with severe coliky abdominal pain and vomiting all feeds.

After failed clinical improvement laparotomy was done and findings of a thickened peritoneum encapsulating jejunum, ileum, caecum and ascending, transvere and descending colon causing bowel obstruction was made (abdominal cacoon).

Bowel de -encapsulation was carefully done and jejunum, ileum, caecum, ascending, transverse and descending colon were freed, patient had a non-eventful recovery and was discharged after 4. He was followed up for a year with good prognosis and no recurrence of symptoms (Figures 1-3).

Discussion

Abdominal cocoon syndrome is a rare cause of intestinal obstruction, initially described in 1978 [5]. The pathogenesis of this syndrome is yet to be agreed upon, however it's considered multi-factorial. In most of the reported cases, intestinal obstruction was the main pre- operative diagnosis.

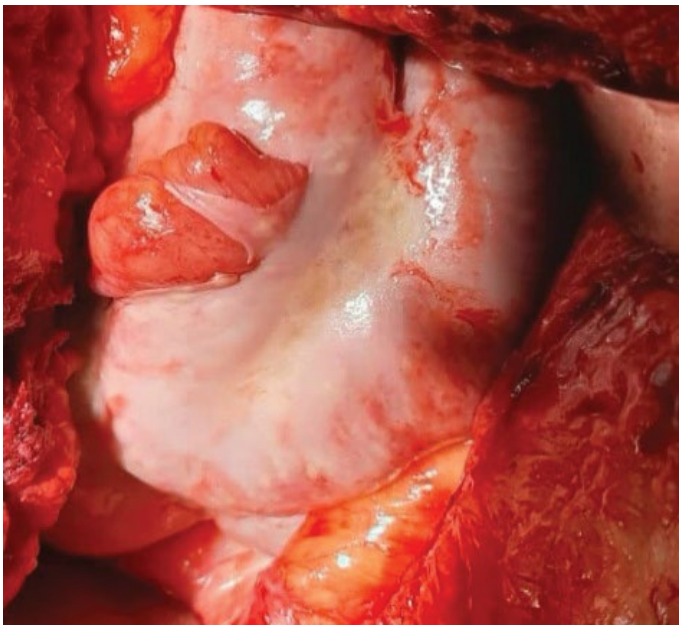

Figure 1. Patients bowel encapsulated.

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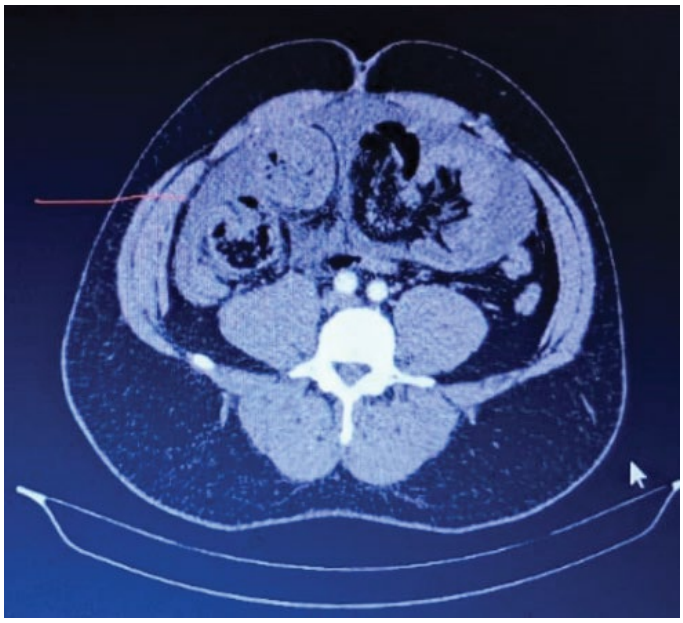

Figure 2. Abdominal CT scan of patient presented.

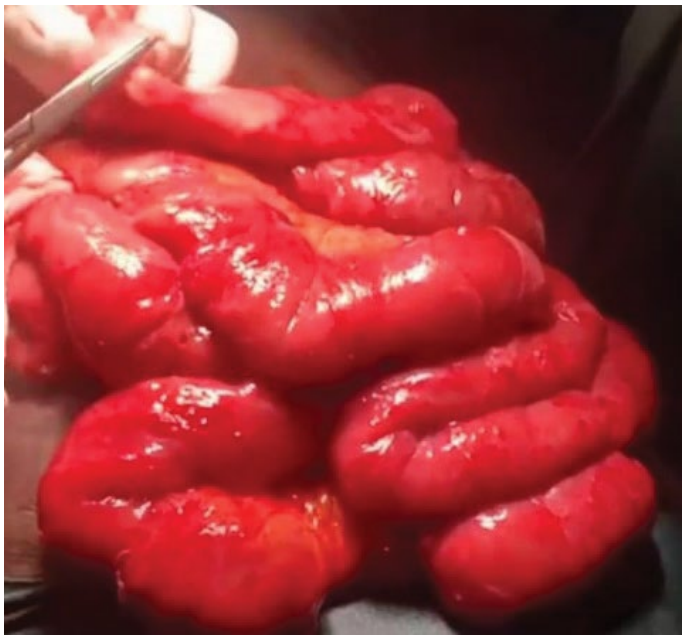

Figure 3. Patients bowel after complete removal of capsule.

Previous reports on abdominal cocoon highlighted its role in recurrent constipation and further still, studies have implicated chronic constipation as a risk factor for hemorrhoidal disease [9]. Therefore in patients with chronic constipation and haemorrhoids as the only finding on colonoscopy, one of the differential diagnoses should be abdominal cacoon syndrome. Therefore the presence of haemorrhoidal disease in this patient could be as a result of abdominal cacoon.

Hiatus hernia has long been associated with symptoms of GERD, and on rare cases as a cause of bowel obstruction in form of gastric volvulus and small or large bowel obstruction in Type IV hiatus hernia. Studies have reported the association of increased increased intra-abdominal pressure and development of Hiatus hernia [9,10]. In this case report, the patient presents with chronic constipation, vomiting and an endoscopic diagnosis of Grade B Gastroesophageal reflux disease and a Hills III hiatus hernia.

Encapsulation of the small bowel with a thick collagenous membrane reduces bowel mobility, and elasticity which impairs peristalsis. As a result there is an increased intra-abdominal pressure that leads to reverse peristalisis, reflux of gastric contents and vomiting. The association of Cacoon syndrome with hiatus hernia is not well documented, however the possibility is worsening of the already existing hernia or being the exact cause of hiatus hernia in this patient was more likely.

Conclusion

Pre- operative diagnosis of cacoon syndrome remains a challenge despite a significant number of reported cases. A high index of suspicion is a necessity to obtain a radiological diagnosis. However in patients with recurrent bowel obstruction in association with hiatus hernia and haemorrhoids, it should be listed among the possible differential diagnoses.

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