Strangulation of Small Intestines Causes by Paracecal Hernia Due to Congenital Anomaly

William C Baumgartner, DO; Stephen Atkinson, DO; Matthew H Robinson, DO; UPMC Community Osteopathic

INTRODUCTION

Paracecal hernia is a rare type of internal hernia that can present as a small bowel obstruction. Small bowel obstructions caused by internal hernias has a reported incidence of up to 5.8%. Furthermore, paracecal hernia is responsible for only 13% of all internal hernias and 1% of small bowel obstructions. Risk factors that can cause a paracecal hernia may be related to congenital anatomic anomalies, defects in the paracecal area related to surgery or trauma, adhesions, or increased intra-abdominal pressure.

CASE DESCRIPTION

This case is of an 84 year old male who reported to the emergency room with right lower quadrant abdominal pain, nausea, vomiting, and a three-day history of diaphoresis. No significant abdominal surgery was reported besides a recent left open nephrectomy nine months prior. The computed tomography (CT) scan showed dilated small bowel loops lateral to a medially displaced cecum. Laparoscopy was performed followed by conversion to open. Proximal ileum appeared to be herniating from inferior to superior along the white line of Toldt adjacent to the cecum, creating an internal hernia defect between the posterior aspect of the cecum and the anterior aspect of the retroperitoneum. Approximately 10 inches of ischemic bowel was reduced from the defect and was resected due to nonviability. The defect was closed. A very redundant right colon and lax white line of Toldt was observed. The internal hernia defect appeared to be created by congenital attachment to pelvic brim, creating an internal hernia defect posterior to the cecum and hernia sac that ran posterior and lateral to the cecum through the white line of Toldt. According to Meyer's classification, this could be classified as a lateral paracecal hernia. The patient's post-operative course was uncomplicated. He was discharged on post operative day six.

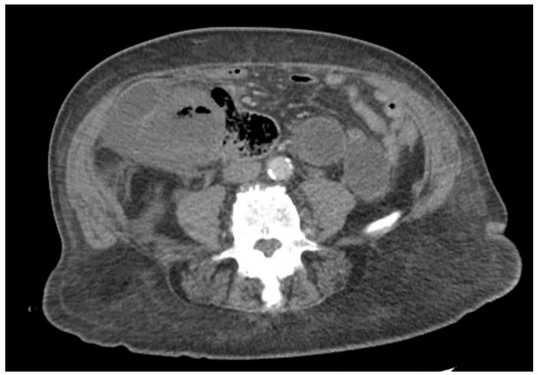
CONCLUSIONS

Although encountered infrequently, paracecal hernia should be considered in a surgeon's differential diagnosis, as there is a high likelihood of bowel ischemia. A literature review on PubMed showed that surgery likely does not predispose the patient to developing paracecal hernias, but rather congenital factor and acquired factors such as aging likely play a much greater role. Differential diagnosis of small bowel obstruction should also include internal hernias such as paracecal hernias. There is evidence that ischemia to the bowel is rapid and aggressive in paracecal hernias. Delay in treatment can lead to increased morbidity; therefore, timely diagnosis is of utmost importance. Once diagnosed, surgery should promptly be performed in order to prevent further complications. Characteristic findings on CT imaging and surgery can give a definitive diagnosis and appears to be highly accurate. Surgery can be done laparoscopically or open and may be determined based on surgeon's preference. There is evidence that early diagnosis may help avoid intestinal ischemia and necrosis, therefore, decreasing the need for an exploratory laparotomy. Early laparoscopy for obstruction can serve as both diagnostic and therapeutic and has been shown to reduce morbidity and decrease postoperative stay.

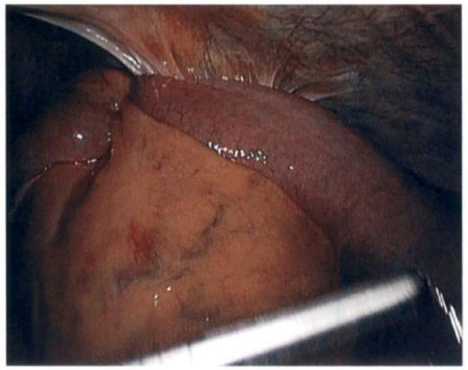
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IMAGES

Top Left: CT scan at time of presentation showing medial displaced cecum and lateral displaced small bowel, axial view.

Top Right: CT scan at time of presentation, coronal view.

Bottom Left: Intraoperative imaging showing internal hernia containing distal small bowel tracking inferiorly to superior, posterior and lateral to cecum.

Bottom Right: Intraoperative picture of paracecal hernia showing hemorrhage and necrosis.