

Case Report

Intra peritoneal ascending colon in parastomal hernial sac

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ABSTRACT

The rate of parastomal hernia reported varies from 5% to 80%. It forms when the abdominal wall defect is continually stretched by the tangential forces applied along the circumference of the abdominal wall opening. The presence of parastomal hernia along with intraperitoneal ascending colon, caecum and terminal ileum along with ileal perforation is a rare entity.

Keywords: Parastomal hernia, Ascending colon, Laparotomy

INTRODUCTION

A parastomal hernia (PSH) is a type of incisional hernia that occurs at the site of the stoma or immediately adjacent to the stoma. We are reporting an unusual case of large parastomal hernia with signs of obstruction; and terminal ileum, caecum and intraperitoneal ascending colon as content of hernial sac. Ascending colon having its own mesentery is seen in about 12% cases.¹ Parastomal hernia treated with emergency operation is rare, with only 9 cases, reported in various literatures.²

CASE REPORT

An 80 year old morbidly obese lady presented with chief complaints of abdominal distension, pain abdomen, vomiting and non-functioning stoma. Abdomen was distended for the past 3 days, followed by abdominal pain which was diffuse and dull aching to begin with and later increased in severity. Later on she had multiple episodes of vomiting without remittance of pain. The output from the stoma progressively decreased and became nil. Patient had a history of Type1 diabetes for the past 15

years treated with regular insulin. Patients also had hypertension for 10 years.

Patient was operated 20 years back with exploratory laparotomy with transverse colostomy for some unknown causes for which no documents were produced.

On examination: her general condition was not fair, pulse 120/minute, regular, blood pressure was 80 mmHg systolic, respiratory rate was 28/minute thoracic, chest was clear. On per abdomen examination: the abdomen was tense and distended. Bowel sounds were absent. Scar mark of previous midline laparotomy was seen. Bowel loops were palpable. Stoma was present in right side of abdomen. A bulge of 8cm diameter was seen all around the stomal opening. This bulge was tender to palpate. However the mucosa of the stoma was healthy and pink.

Patient was resuscitated in high dependency unit for 4 hours. Nasogastric tube and urinary catheter were placed. Abdominal roentgenogram suggested multiple air fluid levels. Decision of surgery was taken and patient was explored in operation theatre. There was dilated small

bowel. Distal ileum, caecum and whole ascending colon were present inside the parastomal hernia sac which corresponded to the bulge seen on physical examination. On retrieval, the contents were examined. The segment of ileum, which was the content of hernia sac, 1 ft. proximal to ileocecal junction, had a perforation owing to ischemic changes. This segment was resected and end to end ileoileal anastomosis was done. The stoma was healthy and hence was left as such. The sac was closed with tissue repair. Abdomen was closed layer by layer and patient was shifted in post-operative ward.

Analyses were conducted to look for differences between groups defined by age, gender and other factors.



Figure 1: Preoperative picture of PSH.

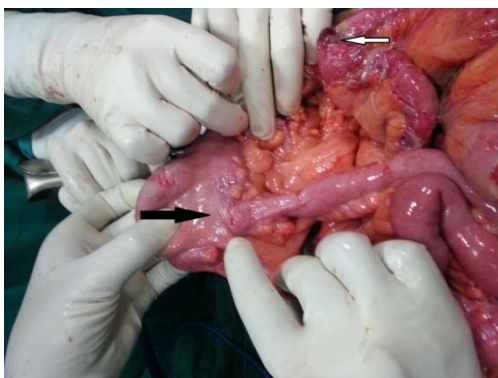


Figure 2: Intraoperative picture.

White arrow showing ileal perforation
Black arrow showing ileocecal junction with intraperitoneal ascending colon

DISCUSSION

A parastomal hernia (PSH) is a common complication following the construction of any type of stoma. A certain degree of PSH is almost inevitable.⁴

The incidence varies widely. This could be due to type of ostomy constructed, and variability in the duration of follow-up after ostomy construction. A minor degree of parastomal weakness is present in many patients and does not represent a true hernia.

Many parastomal hernias are asymptomatic, but may produce problems ranging from mild parastomal discomfort to life-threatening complications such as strangulation, perforation and obstruction. The contents of the hernia may be omentum, small intestine, stomach and colon. Many patients suffer from parastomal pain, intermittent obstructive episodes and difficulty with appliance application that may result in skin irritation.

Embryologic abnormalities of colon may lead to anatomic variations due to bowel rotation and fixation, short transvers mesocolon, intraperitoneal ascending or descending colon, increased intraperitoneal pressure or decreased retroperitoneal fat. Pancreaticogastric interposition occurs in approximately 0.2%, partial retrorenal colon in 9-10%, complete retrorenal colon 1%, interposition between psoas muscle and kidney in 0.7-1.7%, anterolateral hepatodiaphragmatic interposition in 1.3-3% of individuals.

Classification

Hernial sac may contain bowel and/or omentum. Parastomal hernia (PSH) is classified clinically into four subtypes (Devlin classification):

- Subcutaneous (most common type) - The herniation extrudes from the abdomen alongside the bowel for the stoma and bulges into the subcutaneous fat alongside the stoma.
- Interstitial - The herniation extrudes alongside the bowel for the stoma, and then burrows into one of the intermuscular planes.
- Perstomal - The stomal bowel is prolapsed and loops of bowel and/or omentum enter the hernia space produced between the layers of the prolapsed bowel.
- Intrastomal - The herniation extrudes from the abdomen alongside the bowel for the stoma and enters the plane between the emerging and the everted part of the bowel. It usually occurs in the spout type of stoma such as an ileostomy.

Gil and Szepekowski classification of parastomal hernias:⁵

- Type I includes small, isolated parastomal hernias, without co-existing cicatricial hernia and without anterior abdominal wall deformation.
- Type II involves parastomal hernias with associated cicatricial hernia, without considerable deformation of the abdominal wall.
- Type III includes large, isolated parastomal hernias without coexisting cicatricial hernia.

- Type IV includes large parastomal hernias with co-existing cicatricial hernia.

Risk factors

The increased risk of parastomal hernia (PSH) formation include obesity, weight gain after ostomy construction, poor nutritional status, immunosuppressive drugs, emergency construction of a stoma, chronic or recurrent increases in abdominal pressure, infection, and underlying disease such as malignancy or inflammatory bowel disease. Waist circumference >100 cm or body mass index >30 kg/m², is strongly related to the occurrence of PSH.

Surgical techniques leading to increased risk of PSH include faulty stoma placement, technique for ostomy construction, and abdominal wall strength. The size of the defect proportionately influences the incidence. PSH is less common following an ileostomy than a colostomy or end stoma as compared with a loop stoma.

The ascending colon is approximately 15 cm long. It ascends, from the level of the ileocecal junction to the right colic or hepatic flexure, laterally to the psoas muscle and anteriorly to the iliacus, the quadratus lumborum, and the lower pole of the right kidney.

The ascending colon is covered with peritoneum anteriorly and on both sides. Like the descending colon on its posterior surface, the ascending colon is devoid of peritoneum, which is instead replaced by an areolar tissue (fascia of Toldt). In the lateral peritoneal reflection, this process is represented by the white line of Toldt, which is more evident at the descending-sigmoid junction. This line serves as a guide for the surgeon when the ascending, descending, or sigmoid colon is mobilized. At the visceral surface of the right lobe of the liver and lateral to the gallbladder, the ascending colon turns sharply medially and slightly caudad and ventrally to form the right colic (hepatic) flexure.⁶

It can be intraperitoneal owing to the presence or absence of a mesentery/mesocolon. In a study of 100 subjects by Treves, 52% of ascending and descending colons did not have a mesocolon; hence they were by definition retroperitoneal. In 14%, both divisions of the colon had a distinct mesocolon (therefore, they were intraperitoneal along with the transverse and sigmoid divisions of the colon). In 12%, the ascending colon had a mesentery and 22% of the descending colons were suspended in a

mesentery. The variations are due to irregular or defective embryological development.

CONCLUSION

Parastomal hernia is a common clinical scenario in surgical practice. Various case series have reported different levels of weaknesses leading to parastomal hernia. Parastomal hernia leading to intermittent obstruction is common. In certain rare conditions with parastomal hernia, there may be complete bowel obstruction/perforation, mandating an emergency surgery. If a case of large parastomal hernia with complete bowel obstruction presents to emergency, the likelihood of getting a similar clinical picture should be kept in mind.

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