

Case Report

Intestinal gangrene due to small bowel volvulus masquerading as strangulated inguinal hernia – A diagnostic dilemma

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Abstract

Complicated inguinal hernia is a common surgical emergency. Rarely, hernias may pose a great surprise and complexity in their management. We report a 55 year old gentleman with a long standing history of irreducible right inguinal hernia who presented in shock with sudden increase in size of scrotum and obstipation for 1 day. A diagnosis of strangulated inguinal hernia was made and the patient was taken up for emergency surgery. On exploration the content in the sac was normal small bowel and faecalulent smelling fluid. Abdomen was explored for inspecting the proximal bowel and to facilitate reduction of contents. But as a surprise small bowel volvulus with gangrenous bowel was noted. Resection and anastomosis was done. This paper stresses the importance of having a high index of suspicion in all cases of strangulated hernia of a concomitant small bowel volvulus as its recognition and early surgical intervention is paramount in reducing the mortality associated with it.

Keywords: Strangulated inguinal hernia, volvulus

1. Introduction

Volvulus is a rare cause of small bowel obstruction, with the majority of cases occurring in sigmoid colon. Small bowel volvulus can be worrisome if not diagnosed early. Mortality rates are high, between 9-35%, and even higher in late presentation.¹ The strangulated inguinal hernia on the other hand is one of the most common emergencies in surgery, which occurs in approximately 1–3% of groin hernias. The sac of an inguinal hernia most frequently contains the intestine and the omentum and uncommonly the appendix, the Meckel diverticulum, the ovary or the urinary bladder.² A coincidence of both is a rare entity with very few cases reported in literature. Volvulus may produce in a hernia signs and symptoms which accurately simulate hernial strangulation; or it may be associated with actual strangulated hernia. But volvulus, in either association, may readily escape recognition; and that probably contributes heavily to the mortality of strangulated hernia.³

2. Case History

A 55 year old male presented with a history of swelling in the right inguino-scrotal region since 15 years which was associated with pain, bilious vomiting and increase in the size of the swelling since 1 day. Patient was in shock as the radial pulse was not palpable and systolic blood pressure was 70mmHg. Local examination revealed a 15x15cm right inguino-scrotal swelling with severe tenderness and indurated scrotal skin [Photo 2]. Cough impulse was absent. Diffuse tenderness and localized guarding was present in the lower abdomen.

Routine investigations were within normal limits except for an elevated leucocyte count of 21,800 cells/mm³ with neutrophilia. Erect X ray abdomen showed few dilated small bowel loops and air fluid levels [Photo 1]. A diagnosis of

strangulated inguinal hernia was made and the patient was taken up for surgery after prompt resuscitation with intravenous fluids.



Photo – 1



Photo - 2

An inguinal incision was used to expose the sac contents. Normal small bowel loops with minimal faeculent smelling fluid was noted. The incision was then extended to a right paramedian incision and peritoneal cavity opened. [Photos 3&4]

Gangrenous small bowel extending 25cm from the duodenojejunal flexure upto 30cm from the ileocaecal junction secondary to a volvulus due to a drag on the mesentery by the bowel loops in the hernial sac was noted.



Photo – 3



Photo - 4

A resection and anastomosis was performed along with herniorrhaphy. Hernia with loss of domain and the bowel edema made the abdominal closure difficult for which component separation technique was employed. Postoperatively patient was managed on a ventilator in ICU.

3. Discussion

Inguinal hernias are relatively common in the elderly with an estimated prevalence 6%. Incarceration of inguinal hernia occurs in approximately 10% of cases which in turn can lead to strangulation with potentially lethal sequelae. Small-bowel volvulus is the twisting of small bowel about its own mesentery, which leads to small bowel obstruction.⁴ Concomitant volvulus and strangulated inguinal hernia is rare but possible. Strangulated hernia may be complicated by volvulus of an intra-abdominal oral loop; there may be a volvulus, one loop of which finds its way into the hernia sac to become incarcerated and simulate strangulation or to become actually strangulated, or, again, the torsion may occur within or just above the neck of the sac.³ The typical case is, then, a man past 50 years of age, with a large inguinal hernia of long standing, often more than 20 years. Shock is usually extreme. Abdominal pain may be severe and in certain cases may be

localized and associated with less marked tenderness. Locally there is increase in size of the hernia, but pain and tenderness, while usually present, may be strikingly slight. This great disproportion between the degree of shock and the signs in the hernia, accompanied by marked abdominal symptoms, is characteristic.³

Our patient presented with a long standing hernia and a sudden worsening of symptoms. Examination revealed marked hypotensive shock and scrotal and lower abdominal tenderness. The patient was operated upon as case of strangulated inguinal hernia but after noticing normal looking bowel in the hernia sac was converted to a laparotomy. Intraoperatively, small bowel volvulus was noted. The condition has rarely been recognized before operation. A diagnosis of acute intestinal obstruction due to strangulated hernia has almost invariably been made, only to be disproven during the course of the operation. An operation undertaken for strangulated hernia must demonstrate absolutely the strangulation.³ Small Bowel Volvulus causes mortality in 9-35% of cases, and when there is necrosis of the small bowel the mortality is 20-100%.^{5,6} Even in the urgency of a strangulated hernia, a thorough preoperative evaluation utilizing imaging methods accordingly is required in order to make the right diagnosis and to exclude concomitant intra-abdominal pathology.² But Volvulus proximal to actual strangulated hernia apparently offers no sure means of diagnosis other than routine abdominal exploration-a procedure which is manifestly not to be recommended.³

4. Conclusion

Strangulated hernia has remained for years one of the most formidable surgical problems. A rare complication of the strangulation of herniated bowel is the coincidence of volvulus. The dominant feature is always acute intestinal obstruction. The diagnosis before operation is usually difficult and depends upon careful observation. Certain suggestive features are advanced age, presence of a hernia for many years, shock out of proportion to the signs about the rupture. In any case of strangulated inguinal hernia, the above features should raise a suspicion of co-existent volvulus and a laparotomy is probably warranted to reduce the morbidity and mortality associated with this lethal combination.

This case stresses on the importance of having a low threshold for exploring the abdomen and the difficulty that may be encountered in closing an abdomen with loss of domain.

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