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Case Report

Strangulated direct inguinal hernia with intraperitoneal perforation

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ABSTRACT

Usually direct inguinal hernia doesn't present as strangulation or incarceration as compared to indirect inguinal hernia because of earlier has wider neck. A patient of recurrent direct inguinal hernia presents as intra-scrotal gangrene and intra-peritoneal perforation. We reported a case of 65 years old male presented with septicemia and right sided strangulated direct hernia. On exploration through inguino scrotal incision and mid line laparotomy, gangrenous loop was found in scrotum and perforation was found in intra-peritoneal part of small intestine. Resection-anastomosis was done for both the parts of intestine. Inguinal Incision was closed by posterior wall closure and modified Bassini's herniorraphy. Abdomen was closed in layers with brain. Long standing direct hernia may present as strangulation or incarceration specially in elderly but perforation and gangrene of intra-peritoneal part of small intestine is very rare.

Keywords: Bassini's Herniorrhaphy, Hernia, Hesselbach's triangle, Intraperitoneal, Resection anastomosis, Strangulated hernia

INTRODUCTION

Till date only few case of strangulated direct inguinal hernia had been reported. Strangulation of direct inguinal hernia is rare but can occur in elderly.[1] We are reporting a case of strangulated and incarcerated recurrent direct inguinal hernia in a 65 years old male patient where necrosis was present in middle of the hernia content (ileum).[2] Necrosis and perforation was also present in intra-peritoneal part of intestine this is very unusual complication of strangulated direct inguinal hernia. No any such case of complicated direct inguinal hernia had been reported till now where there is perforation of intra-peritoneal part of small intestine but no gas under diaphragm in X-Ray abdomen erect. Diagnosed clinically and managed operatively.

CASE REPORT

A 65 years old male patient presented in surgical emergency with chief complain of obstipation following right sided large inguino scrotal swelling for 13 days. He was initially managed locally by quack conservatively and symptomatically relieved from pain only but no reduction of inguino scrotal swelling.

Patient was operated twice for right sided inguinal hernia at age of 50 years and 55 years (herniorrhaphy), but he again developed hernia in same side at the age of 56, 13 days back he developed sudden increase in scrotal size associated with pain, vomiting and then unable to pass feces and flatus (obstructed hernia get converted into strangulated hernia). Clinically symptoms getting deteriorated day by day. On clinical examination

- Right sided large inguino scrotal swelling which is non-reducible
- Mild distension of lower abdomen
- Increased body temperature, fast but low volume pulse
- Irreducible scrotal content, soft and tender abdomen
- Impulse on coughing was absent

- Absent bowel sound
- X-Ray abdomen erect shows few Air-Fluid level in lower abdomen but no gas under diaphragm
- Laboratory investigation shows anemia and septicemia.

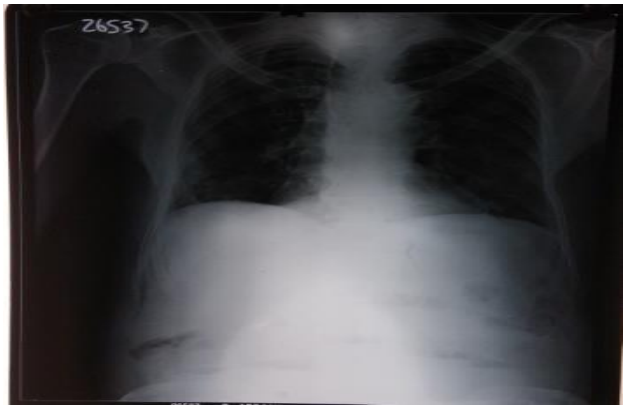

Figure 1: X-Ray abdomen erect showing few air fluid level in lower abdomen but no gas under diaphragm.

After proper resuscitation patient was planned for emergency surgery. On exploration of hernia through libral inguino scrotal incision hernia was seen to be direct type, scrotum was meshed up with ileum and part of mesentery.

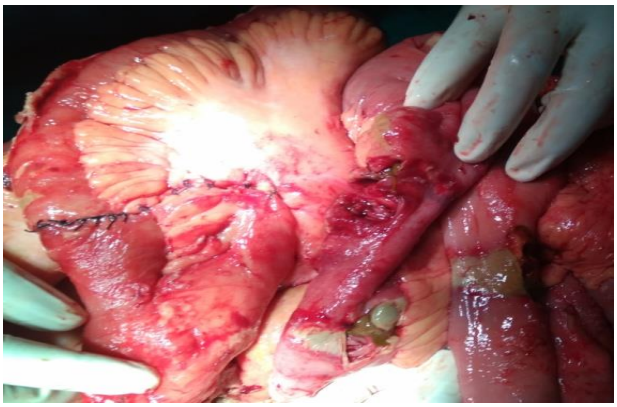

Figure 2: Resection anastomosis of hernia component(ileum), gangrene and perforation of intra-peritoneal component (jejunum).

About 10 cm of middle part of ileum was necrosed but having no spillage of intestinal content, resection anastomosis done.[3] Normally perforation occur at the site of constricting ring but here perforation occur in middle part of the hernial content. There was spillage of fecal content into scrotum through superficial ring hence abdomen was opened through mid-line incision.

Necrosis with perforation of jejunum was found 1 and 3 feet distal to duodena-jejunal junction, in between these necrosed part there was frank perforation of size approximately 7cm with ragged margin over anti-mesenteric border (no gas under diaphragm in plain X-Ray abdomen erect). Jejunal necrosis was supposed to be due to traction of mesentery which compromises the blood supply of these parts.

Perforation with ragged margin on anti-mesenteric border may be due to direct traction force on jejunum as whole of the ileum and part of mesentery was herniated down into scrotum. resection-anastomosis between two necrosed part was done.[3] Till now no such case have been reported where perforation in mid of the scrotal content occur along with the perforation of intra-peritoneal part of intestine(jejunum). Obstructed or strangulated direct inguinal hernia perforation doesn't occur in intra-peritoneal part of intestine. Abdomen was closed.

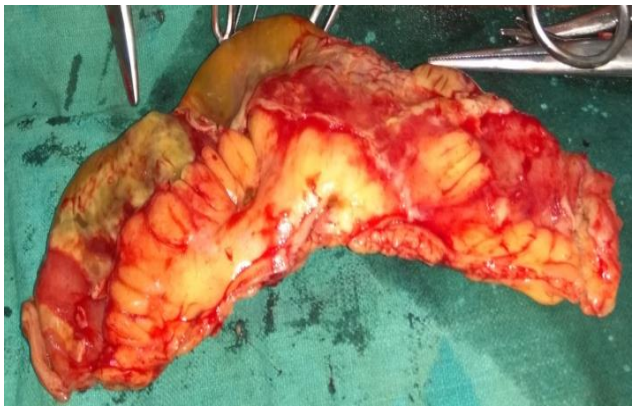

Figure 3: Resected gangrenous and perforated part of jejunum.

DISCUSSION

Hernia is abnormal protrusion of viscous or part of viscous through an opening natural or artificial with a sac covering it.[4] Out of various types of hernia groin hernia is most common type of hernia. Groin hernia is commoner in male than female.

Hernia is caused due to increase intra-abdominal pressure or decrease strength of abdominal. In younger age group indirect hernia is common because of patency of processes vaginalis while in older age direct hernia is commoner due to weaker abdominal support. Groin hernia may be of direct inguinal, indirect inguinal and femoral hernia. Zeeman's test is used to differentiate between these.[5] Neck of direct hernia lies medial to inferior epigastric vessel while neck of indirect hernia lies lateral to this vessel.

Parts of hernia are covering, sac and content. Covering is of visceral peritoneum. Sac is diverticulum of peritoneum with mouth, neck, body & fundus. Neck is wider in direct hernia than in indirect hernia. Hence chances of obstruction and strangulation is lesser in direct hernia than in indirect hernia. According to content of sac hernia may be omentocoele, enterocele, Richter's hernia, litters hernia, cystocele, Amyand's hernia etc.[6] Direct inguinal hernia is due to weakness or defect in transversalis fascia

in the posterior wall on inguinal canal through "Hesselbach's triangle (bounded medially by lateral border of rectus muscle, laterally by inferior epigastric vessel and below by inguinal ligament). In adult male 35% of inguinal hernia is direct. Direct hernia generally doesn't attain large size or descend into the scrotum. Out of the several complications one rare complication is strangulation.

Strangulated Hernia

Hernia get obstructed when there is non-reducibility of the content of hernia back to abdominal cavity. Obstructed hernia may get strangulated when blood supply of the contents of hernia get seriously compromised leading to formation of gangrene (incarcerated hernia). Indirect hernia strangulate[7] more commonly than direct because of narrow neck, adhesion of the content and narrow external ring in children. Incidence of strangulation during infancy is approximately 4% (Girls:Boys = 5:1). In female infants the content may be ovary with or without fallopian tubes. Most common constricting agent is neck of the sac then narrow external ring in the children and adhesion within the sac (rarely). Strangulation more commonly occur in small bowel but large bowel and omentum strangulate occasionally.

Management

Management of shock with aggressive fluid therapy, Ryle's tube aspiration, higher range of antibiotic coverage for both gram positive and gram-negative organism then emergency surgery. Through right inguino scrotal incision resection anastomosis of gangrenous loop was done, and defect was closed by posterior wall closure and modified Bassini's herniorrhaphy. Through midline laprotomy resection-anastomosis done for intra-peritoneal perforation.

CONCLUSION

This case report demonstrates the unusual complication of recurrent direct inguinal hernia that is strangulation and incarceration of mid part of hernial content and perforation of intra-peritoneal part of small intestine but showing no gas under diaphragm.

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