

Case Report

Versatility of Rives-stoppa Hernia Repair In High Risk Patients, Presenting With Obstructed Inguinal Hernia

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ABSTRACT

The obstructed inguinal hernia presenting with acute abdomen is often encountered in surgical emergency. The diagnosis is mostly clinical and emergency surgery has always been the cornerstone of its management.

We are hereby reporting a case of obstructed left inguinal hernia presenting with unique set of co-morbidities which ruled out the possibility of emergency surgery since the patient was on anti-fibrinolytic agents post percutaneous transluminal coronary angiography (PTCA), laparoscopic approach was also ruled out since the patient had very low EF of 30% and yet the surgical team needed to manage the patient for both the intestinal obstruction as well as for the definitive management of the hernia.

KEYWORDS: Obstructed inguinal hernia, Rives-Stoppa (RS) repair

INTRODUCTION

A hernia is defined as abnormal protrusion of whole or part of a viscus through the wall that contains it. Abdominal wall hernias are common, with a prevalence of 1.7% for all ages and 4% for those aged over 45 years. Inguinal hernias account for 75% of abdominal wall hernias, with a lifetime risk of 27% in men and 3% in women.¹

A normal abdominal wall has sufficient strength to resist high abdominal pressure and prevent herniation of content. Herniation has been attributed to high pressures from constipation, prostatic symptoms, excessive coughing in respiratory disease and obesity.²

The weakness in the wall is usually the narrowest part of the hernia which expands into the subcutaneous fat outside the

muscle. The defect varies in size and may be very small or indeed very large. The nature of the defect is important to understanding the risk of hernia complications. A small defect with rigid walls traps the content and prevents it from freely moving in and out of the defect, increasing the risk of complications.²

CASE REPORT

A 65 years old male patient, a retired shopkeeper presented to surgery emergency with bilateral inguinal hernia (figure 1) with features of obstruction on left side. He complained of an irreducible swelling with features of obstruction over inguinal region on the left side for last 2 days which was associated with pain, obstipation and multiple episodes of vomiting.



Figure 1: Bilateral inguinal Hernia

On examination the swelling was located in left inguinal region. The swelling was confined to the groin and above the inguinal ligament. It was 11X10cm in size and spherical. The overlying skin was normal and penis was centrally placed. Bowel sound was present. There was no abdominal guarding or rigidity. The swelling was tense, tender and was elastic in consistency. The swelling was not reducible, a tympanic note was observed over the swelling. The pain was moderate in nature and radiating to whole of the abdomen. Similarly, the swelling on right side was examined and found to be a 3X2 cm reducible spherical swelling with normal over lying skin confined to the groin above the inguinal ligament.

Patient was a known case of coronary artery disease for which he underwent PTCA in 2019 following which he was on regular aspirin and clopidogrel. He was also a known case of hypertension and was on telmisartan. At present time he was on regular aspirin, clopidogrel and telmisartan.

USG of whole abdomen (Figure 2) showed a defect measuring 20mm through which bowel loops, omental fat herniating in left inguinal region and fluid collection causing proximal dilatation of bowel loops suggestive of obstructed left inguinal hernia with intestinal obstruction. His TLC was 11800/mm³ and other parameters were within normal range.



Figure 2: USG of left inguinal region showing obstructed bowel loops and proximal dilatation of bowel suggestive of obstructed left inguinal hernia

His 2D echo revealed moderate left ventricular systolic dysfunction with LVEF 30%.

The patient was managed in trendelenburg position, the hernia spontaneously reduced on day 3 of admission and on day 4 his TLC count also improved to 4600/mm³ with medical management being given with antibiotics, intravenous fluids and keeping the patient nil by mouth

Surgery was scheduled and a plan for laparoscopic repair of hernia was made but due to multiple co morbidities and low ejection fraction, anesthesia fitness for GA could not be obtained in the first instance.

Due to this a multidisciplinary team was formed to tackle the case, physician and cardiologist's opinion was taken, aspirin and clopidogrel were stopped as per their advice and surgery was scheduled after 5 days.

The patient was administered spinal anesthesia after which a 'modified pfannenstiel incision' of approximately 15 cm length was given. The incision was asymmetrically placed whereby around 75% of the incision was placed over the diseased left side and around 25% incision was placed over the right side (Figure 3).



Figure 3: Post op result; modified pfannestiel incision

The wound was developed and peritoneum was opened vertically in the midline and exploratory laparotomy was done through it. Bowel walk was done and a non-gangrenous, edematous and erythematous ileal segment of around 10 cm

with surrounding constricting ring (figure 4) 4-5 feet away from ileocecal junction was found.

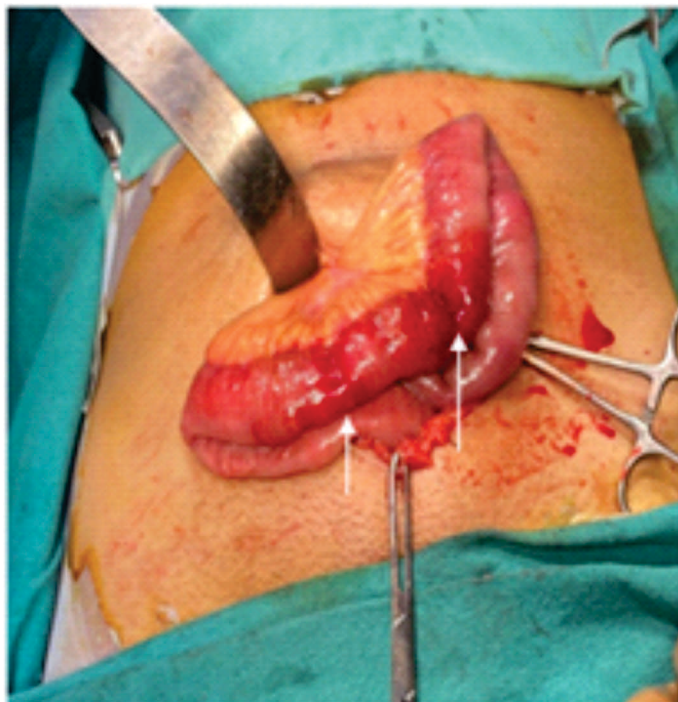


Figure 4: A non-gangrenous, oedematous erythematous ileal loop with surrounding constricting ring

The bowel viability was tested by keeping it under warm saline packs for 5 minutes. The colour of the bowel improved and it was decided not to resect the bowel loops to keep contamination grade under check. The peritoneum was closed.

A retro rectal pre peritoneal plane was then created around 5 cm inferior to the previously closed peritoneal site. The plane was developed and the bilateral hernial sacs were reduced. Simultaneously both spermatic cords were dissected and presence of incidental pantaloon hernia was also ruled out. A 12 x 15 prolene mesh was then placed in this plane and fixed with the pubic symphysis with a single stitch with prolene 1-0.

DISCUSSION

The Rives Stoppas technique includes the placement of mesh in the preperitoneal space, covering the myopectineal orifice of Fruchaud it is the ideal location from anatomical and hydrostatic and neurological protection point of view, preventing recurrence in three likely hernial orifices. This technique is particularly useful in recurrent and bilateral hernias³.

Rene Stoppa first put forth the concept of Preperitoneal placement of a large Prosthesis Mesh of 16 by 24 cms, termed as Giant Preperitoneal Prosthetic Repair, in 1965³.

This was later modified by Wantz who called it as Giant

Prosthetic Reinforcement of Visceral Sac (GPVRS).

Jean Rives introduced the concept of Retro-Rectus Mesh Repair in 1966, and thus today, the Retro-Rectus Mesh Repair is being used for repair of Midline Hernias and is now called as the Rives-Stoppa repair⁴.

The Stoppa's Repair first described in 1975 by Rene Stoppa, also known as giant prosthetic reinforcement of the visceral sac (GPRVS), is a tension free type of hernia repair, which is performed by wrapping the lower part of the parietal peritoneum with prosthetic mesh and placing it at a preperitoneal level through pfannenstiell incision. This technique has met particular success in the repair of bilateral hernias, large scrotal hernias, and recurrent hernias in which conventional repair is difficult and carries a high morbidity and failure rate⁵.

This procedure uses the giant prosthetic reinforcement of the visceral sac (GPRVS). The defect of the abdominal wall is not repaired, but is reinforced with a large prosthesis placed in the preperitoneal area (Bogros' space) that for all practical purposes, replaces or reinforces the endopelvic fascia. The technique is essentially the same for unilateral and bilateral repair. No sutures are used, but the intra-abdominal pressure keeps the prosthesis in situ⁶.

CONCLUSION

Acute abdomen secondary to obstructed inguinal hernia is routinely managed as an emergency in the modern surgical practice. Under normal circumstances a long mid line incision is given for exploratory laparotomy and the hernia is then repaired with anterior approach through a second inguinal incision but as general anesthesia was ruled out a single pfannestial incision was given, as discussed above. Each case of obstructed inguinal hernia can present with a unique set of challenges, here the hernia being obstructed and patient being on anti-fibrinolytic agents and low EF, a single incision was chosen to address both the issues.

Although it has not been mentioned in the literature the Stoppa's repair seems to be a viable, versatile option to manage cases of obstructed inguinal hernia apart from its more common indications such as bilateral and recurrent hernias.

CONFLICTS OF INTEREST: None

FINANCIAL SUPPORT: None

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