Management of strangulated inguinal hernia with resection and anastomosis in a primary health care setting during COVID-19 crisis

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ABSTRACT

Introduction: Longstanding reducible hernia should be intervened timely so as to prevent the risk of strangulated hernia and resection and anastomosis of gut. Strangulated hernia is a surgical emergency and only timely surgical intervention can prevent from further deterioration of patient's health condition.

Case Report
There was a case of 75 years male from rural area of Eastern Nepal at Charikot Hospital emergency department, with the complaint of severe pain and swelling over right inguinal region, associated with abdominal distension, vomiting, not passing stool for 3 days. He had history of swelling of right inguinoscrotal region for last 5 years. Intraoperative finding showed that there was indirect hernia and the content was jejunum and omentum which was gangrenous, resection and anastomosis along with bassini's repair was done.

Conclusion: Hernia should be managed as soon as the diagnosis is confirmed before emergency visit due to serious risk of obstruction and strangulation. So, we should repair any inguinal hernia on an elective basis in any age group.

Keywords: bassini repair, resection and anastomosis, strangulated hernia

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INTRODUCTION

Prevalence of abdominal wall hernias is 1.7% for all ages and 4% for those aged over 45 years. 75% of abdominal wall hernias are inguinal hernia, among which 27% men and 3% women develops inguinal hernia lifetime.[1] According to a data in Nepal 1144 per 100,000 men of age 5-49 years have inguinal hernia, the number rises significantly to 2942 per 100,000 among men of age group 50 or more.[2] Incarceration and strangulation are the most detrimental and feared complications of long-standing inguinal hernia, and if not reduced on time the strangulated bowel ultimately perforates necessitating bowel resection.[3] The mortality shoots up to 19.4% from 5% after bowel resection specially in elderly patients who have co existing cardiopulmonary diseases and other co-morbid conditions.[4] Complicated hernia is very challenging specially when these patient land up in resource poor setting and if not managed with proper evaluation and expertise, would land into death.

Case Report

75 years male known case of right reducible inguinal hernia for last 5 years, presented to our emergency department. The patient initially went to Kathmandu for elective hernioplasty where he was referred from one center to other due to COVID-19 pandemic. Later he presented to Charikot hospital emergency department with complains of severe pain and swelling over right inguinal region, associated with abdominal distension, multiple episodes of vomiting and not passing stool for 3 days. The patient was known case of COPD managed with Bronchodilators (Salbutamol and Salmeterol) diabetes mellitus 2 but not under medication.

On Examination patient appeared ill looking, restless, vitals signs (pulse -104 beats/min, BP – 130/80 mm of Hg, respiratory rate 28breath/min, temperature 98.8^{0}F). On abdominal examination, abdomen was distended, guarding and rigidity were present. Bowel sound was sluggish.

On local examination of right inguinal region, there was swelling, redness of skin overlying the swelling, hard in consistency, tender, non-reducible. On investigations, Total white cell count was 16000/micro leter of blood with predominance of neutrophils, urea- 96mg/dl, creatinine - 2 mg/dl, sugar random- 156mg/dl. Abdominal erect/supine x-Ray showed dilated bowel (Fig 1). After the initial assessment, patient was resuscitated with IV crystalloids, IV broad spectrum antibiotics (Ceftriaxone 1 gm and Metronidazole 500 mg) and was shifted to the emergency operation theatre with the preoperative diagnosis of strangulated hernia The surgery was planned under Spinal anesthesia.

Figure 1A. X-ray of abdomen erect

Figure 1B. X-ray of abdomen supine

Inguinal approach was used for the surgery and mid inguinal incision was given. Intraoperatively, the hernia content was part of jejunum, which was brown to blackish in color (Fig 2), 15 cm of jejunum, 30cm away from Ileocecal Valve along with part of omentum. Jejunum was clamped over healthy portion on either side and resection anastomosis was done and bassini repair was performed. Patient had increased creatinine level upto 3mg/dl during the management and also had

the component of COPD for which he was kept in close monitoring with higher antibiotics (adjusted dose of Inj Piperacillin and Tazobactam per creatinine level) Gradually the ARF resolved. The patient was discharged after a week of hospital stay with normal vitals, normal creatinine level and after normal passage of bowel habits. He was followed up after a week for suture removal and followed up to a month in 2 weeks interval.

Fig: 2. Gangrenous bowel during surgery

DISCUSSION

Groin hernias can be classified as inguinal and femoral hernias. Inguinal hernias are of two types direct and indirect. When hernia appears to the medial epigastric vessels then it is known as direct inguinal hernia and when it appears lateral to the epigastric vessels it is indirect inguinal hernia. When the hernia is below inguinal ligament and medial to femoral vessels it is femoral hernia.[5]

Strangulation occurs as a complication of inguinal hernia mainly in indirect type of inguinal hernia.[6] When the content of the hernia gets stuck in the narrow neck, blood supply of the content is impaired and gradually content becomes ischemic. After 5-6 hours it becomes gangrenous, then necrosis develops and if the content is bowel it perforates.

There are various types of content of inguinal hernias most common being small intestine and omentum, but urinary bladder, fallopian tube with ovary, Meckel's diverticulum, appendix and inflamed colonic diverticulum can also be present in hernial sac.[7] In our case the content of hernia was loop of ischemic jejunum about 15 cm along with omentum which warranted resection and anastomosis.

In a study the duration of hernia is directly proportional to the irreducibility and strangulation that is 6.5% (95% confidence interval 4% to 9%) at 12 months to 30% (95% CI 18% to 42%) at 10 years.[8] Therefore, early detection and intervention can reduce emergency landing up of patient in poorly resourced setting like ours in order to prevent mortality and morbidity. Our management was very important to save the life after strangulation with resuscitation followed by resection and anastomosis technique and management of comorbidity.

CONCLUSION

Inguinal hernia of longer duration may present with obstruction causing acute or sub-acute intestinal obstruction. Anyone presenting with strangulated hernia should go for promt exploration even during any pandemic situations like COVID-19. Resection of the gangrenous bowel and primary anastomosis can be done in strangulated hernia through the same inguinal approach.

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Conflict of Interest

None

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