PDEAS International Journal of Research in Ayurved and Allied Sciences
Volume 5 Issue 2; 31st August 2023 ISSN (online): 2583-2018

PDEAS International Journal of Research in Ayurved and Allied Sciences

Research Article

Exploratory laparotomy with resection and anastomosis for obstructed Femoral hernia - A case report

Bharat K. Oza[1,*], Madhav U. Talhar[2]
Associate Professor[1], P.G. Scholar[2]
Department of Shalyatantra[1,2]
[1,2]PDEA's College of Ayurved and Research Centre, Nigdi, Pune, Maharashtra, India-411044

Article Received on: 01/07/2023; Accepted on: 15/07/2023.
***Corresponding Author:** *Dr. Bharat K. Oza*, **E-mail:** drbharat_oza@yahoo.co.in

ABSTRACT:

Introduction - A femoral hernia typically presents with a characteristic bulge below the inguinal ligament. Strangulation is the most common serious complication of a femoral hernia; these hernias have the highest rate of strangulation (15% to 20%). A femoral hernia may lead to bowel obstruction or strangulation symptoms and possible bowel resection-anastomosis.

Method - We herein present a 45-year-old female with a 3-day history of abdominal pain, nausea and vomiting. On examination, the patient had painful irreducible swelling and localized tenderness over the right groin region.

Result - Laparotomy was performed, and the patient was treated successfully with surgical therapy. The hernia was surgically repaired, and an end-to-end anastomosis was performed for the small bowel resection. The postoperative course was uneventful.

Discussion - As a result, there may be engorgement of the hernia sac and contents with findings on exam of a painful, hard lump or mass. If a small or large intestine is contained within the hernia sac, a patient may present with signs or symptoms of obstruction. Such symptoms could include nausea/ vomiting, abdominal distention, abdominal pain and possibly a decrease in bowel function with an absence of flatus or bowel movements. Patients may also present with paraesthesia related to compression of nearby sensory nerves by a hernia. This case report presents a unique instance of an obstructed femoral hernia in a 45-year-old female patient, emphasizing the significance of early diagnosis and prompt surgical intervention. The rarity of strangulated femoral hernias, particularly involving the small bowel, makes this case noteworthy.

KEY WORDS: Femoral hernia, Strangulation, Bowel obstruction, Surgical therapy

INTRODUCTION:

A femoral hernia typically presents as a bulge or mass below the inguinal ligament, and in some cases, it may even extend over the inguinal canal. Approximately 50% of men with a femoral hernia will have an associated direct inguinal hernia, whereas this relationship occurs in only 2% of women. Lifetime occurrence of a groin hernia is 27% to 43% in men and 3% to 6% in women. Femoral hernias occur less commonly than inguinal hernias and typically account for about 3% of all groin hernias. While inguinal hernias are still most common, regardless of gender, femoral hernias have a female-to-male ratio of about 10:1. Femoral hernias are rare in men. There may be other co-existing defects present at the time of diagnosis, as 10% of women and 50% of men with a femoral hernia either have or will develop an inguinal hernia. The prevalence of a femoral hernia increases with age as does the risk of complications including incarceration or strangulation. Femoral Hernia is less common than inguinal hernia and more commonly occurs in female then in male. It may be easily

missed on clinical examination due to inadequate exposure of the area while rountine examination. 50% of cases pf femoral hernia presents as an emergency with very high risk of strangulation. The standard Cooper ligament repair, a preperitoneal approach, or a laparoscopic approach can repair a femoral hernia. The essential elements of femoral hernia repair[11] include dissection and reduction of the hernia sac and obliteration of the defect in the femoral canal, either by approximation of the iliopubic tract to Cooper ligament or by the placement of prosthetic mesh to obliterate the defect. The incidence of strangulation in femoral hernias is high; therefore, all femoral hernias should be repaired, and incarcerated femoral hernias should have the hernia sac contents examined for viability. In patients with a compromised bowel, the Cooper ligament approach is the preferred technique because the mesh is contraindicated. When the incarcerated contents of a femoral hernia cannot be reduced, dividing the lacunar ligament can be helpful[1].

A femoral hernia may be detected on routine physical exams, and approximately one-third of patients may be asymptomatic at the time of diagnosis. Typically, a slight bulge is noted below the level of the inguinal ligament. On occasion, the bulge may ascend the cephalad, suggesting a more commonly noted inguinal hernia. Herniated fat in the preperitoneal space is frequently observed within the hernia sac and can often be alleviated through direct pressure or manipulation[1]. Incarceration is the term used when the contents within the hernia sac or defect cannot be reduced. Strangulation occurs commonly with femoral hernias, and therefore, these patients may present urgently for evaluation. Strangulation is characterized by compromised blood flow to the contents of a hernia, leading to vascular impairment. This occurs more often in the setting of a hernia with a small neck, resulting in obstruction of arterial flow and/or venous drainage to the contents of a hernia[2].

Case presentation –

A 45-year old undergraduate female patient from low socio-economic status and widowed with no children, working as a house-help came to OPD with painful irreducible swelling over the right groin region.. The patient had a history of abdominal pain, nausea and vomiting for three days. On physical examination, she appeared ill with localized tenderness over the right groin region. There were no clinical signs of peritonitis. Also, The patient had no medical history of hypertension, DM, Hypothyroidism, Hyperthyroidism, etc. She had a previous history of reducible right groin hernia and surgical history of hysterectomy by Pfannenstiel incision The patient had history of abdominal pain, nausea and vomiting since 3 days and symptoms were progressively increasing. The swelling over right groin region become more prominent and tender. When patient consulted she was advised. . USG abdomen and pelvis was suggestive of right inguinal irreducible hernia (enterocele) with loss of peristalsis in a closed loop segment. The patient was advised of an emergency laparotomy. After two days of discussion patient's relatives agreed to OT, and by that time, symptoms were progressively increasing. Clinically swelling was below the inguinal ligament and medial to the femoral artery, so a femoral hernia was made as a clinical diagnosis. Differential diagnoses were irreducible inguinal hernia, incisional hernia and femoral hernia. Inguinal Hernia is found above inguinal ligament medial to mid-inguinal point. Incisional hernia is noted around the site of previous incicion (Pfannensiel incision). Location of Femoral Hernia is below inguinal ligament and lateral to saphenous triangle. So, in this case all these 3 possibilities had to be considered and a clinical diagnosis was made based upon above clinical findings (signs/ Surgical Anatomy)

Before surgical procedure Informed written consent was taken. The patient underwent exploratory laparotomy under spinal anaesthesia. Horizontal incision was taken over the site of femoral hernia to open the sac and reduce the contents of hernial sac. But as the neck of sac was narrow, bowel could not be reduced and due to strangulation there was need of bowel resection followed by anastomosis. So a lower midline laparotomy incision was taken below umbilicus and incarcerated segment of bowel was delivered intra- abdomen. Bowel

loops were reduced and 100% Oxygen was given, to note any reversible changes in bowel. But due to long-standing obstruction, there was gangrenous bowel segment[4]. The small bowel loop was incarcerated and gangrenous with some degree of inflammation at about 30 cm proximal to the Ileo Colic junction resection-anastomosis was performed by conelling technique (Triple layer handsewn anastomosis) to remove the gangrenous bowel segment[5]. The femoral canal opening was repaired with three stitches by taking one stitch medially from the inguinal ligament – lacunar and pectineal ligament, and laterally, two stitches were taken from the inguinal and pectineal ligament[6]. The rest of the procedure was uneventful. Postoperatively patient was treated with IV Antibiotics, Antacids, Analgesic and other supportive medications. The postoperative course of the patient was unremarkable, and the patient was doing well.

Dressing was done on Day 3, there was no evidence of inflammation or oozing through the operative wound. On day 7, approximately 8 to 10 cc purulent discharge was observed through the operative wound. Dressing was done with Betadine and Hydrogen peroxide irrigation NS wash was given. Swab of the discharge was taken for culture and sensitivity but the relatives refused for further investigation. After regular Dressings, discharge was significantly reduced and wound healed completely on post-operative day 20.

DISCUSSION:

Strangulated femoral hernia is not a common event. A femoral hernia is acquired. This hernia could include the stomach, omentum, colon, small intestines (Richter's hernia), the appendix, urinary bladder, fallopian tube and ectopic testis[7]. The differential diagnosis of femoral hernia includes inguinal lymph nodes, Direct and indirect inguinal hernia, hydrocele of the Cord or canal of Nuck, the greatest saphenous vein, Varices, femoral artery aneurysm, ectopic testis and Psoas abscess[3]. Strangulation of the femoral hernia is a serious life-threatening event. The most important symptom is typically a painful bulge placed on the medial aspect of the thigh[8-11].

Surgical intervention remains the only cure. It is generally recommended to repair femoral hernias promptly upon diagnosis. This is mostly due to their increased incidence of complications, including incarceration or strangulation, compared to the more common inguinal hernia. In terms of intervention along with femoral hernia repair timing, the discovery of strangulation or obstruction constitutes a surgical emergency, as well as operative intervention must not be delayed. The repair of femoral hernias can be accomplished through different approaches, including the standard inguinal approach, open pre-peritoneal approach, or minimally invasive techniques such as laparoscopic or robotic-assisted laparoscopic approaches. Regardless of the chosen technique, essential steps in femoral hernia repair involve dissecting and reducing the hernia sac, closing or obliterating the defect, and potentially utilizing a prosthetic mesh. When there are concerns of incarceration or strangulation, it is important to open the hernia sac and assess the viability of its contents. The lacunar ligament may be divided, if necessary, to facilitate the reduction of the hernia sac and contents. Placement of prosthetic mesh should be avoided in the setting of compromised bowel, enterotomy or gross contamination due to concerns of infection or bacterial exposure within the operative field. Although relatively rare, mesh infection is a significant complication associated with hernia repair that poses challenges in treatment and often necessitates the removal or explanation of the infected prosthesis[6].

Limitations associated with this case are as follows- Wounds of emergency exploratory laparotomy and intestinal obstruction have high chances of infection. So, meshplasty in such cases is avoided. In this case, infection was observed at the operative wound so the decision of not doing meshplasty was beneficial. After inconsecutive dressings, wound healed completely and the patient was doing well.

Strangulated femoral hernia of the small bowel is rare, and the general surgeon should be familiar with femoral hernia as a bowel

Obstruction source. Prompt diagnosis and appropriate therapeutic interventions, such as laparotomy and hernia repair, can lead to successful outcomes and prevent potentially life -threatening complications associated with femoral hernias. This case underscores the significance of maintaining a high index of suspicion for femoral hernias, particularly in patients presenting with symptoms of bowel obstruction, and highlights the effectiveness of surgical therapy in addressing such cases.

Figure No. 1: Shows incarcerated bowel segment which was strangulated in femoral hernia

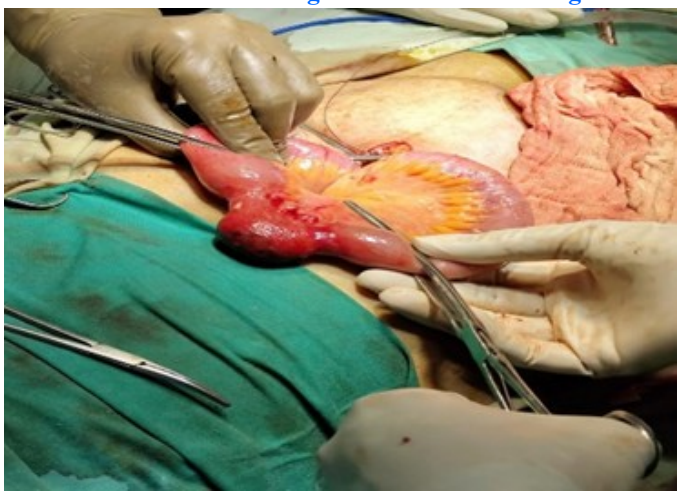


Figure No. 2: Shows resection and anastomosis done of the bowel segment

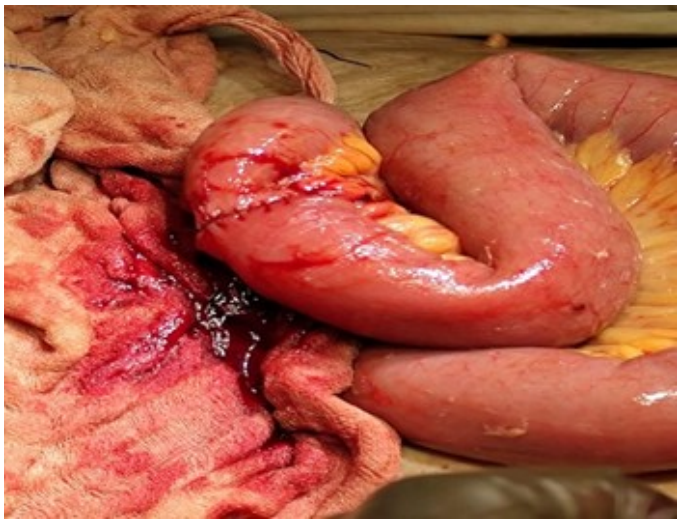
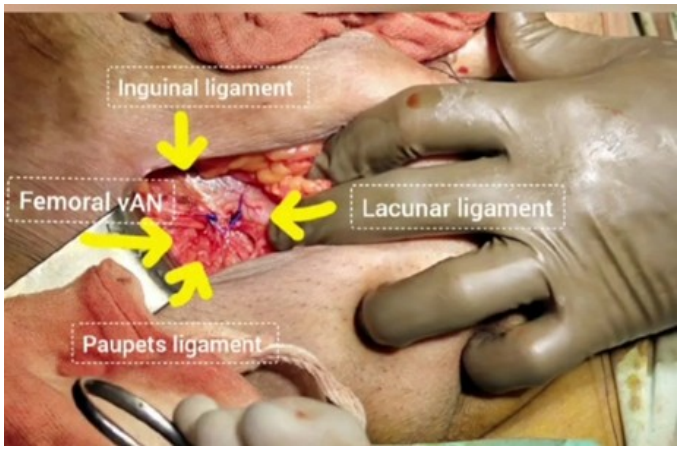


Figure No. 3: Shows repaired femoral hernia



CONCLUSION:

This case concludes that,

1. Early diagnosis of incarcerated hernia can prevent bowel strangulation.
2. Midline preperitoneal repair is an effective and simple method for closure of strangulated femoral hernias.
3. It ensures tension free repair of incarcerated femoral hernia.
4. Intestinal resection and anastomosis can be done easily through small incision.
5. This procedure can be considered minimally invasive. Small incision ensures quicker recovery of wound.
6. Post operative follow up and dressings are important to avoid wound site infection.

Femoral hernia repair surgery is simple and the postoperative complication rate is low. And it is economically effective for patients as well.

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Cite this article as:

Bharat K. Oza, Madhav U. Talhar, Exploratoary laparotomy with resection and anastomosis for obstructed Femoral hernia - A case report, PDEAS Int. J. R. Ayu. & A. Sc., 5(2); Aug 2023, p.14-18.