Exploratory Laparotomy with Resection and Anastomosis for Obstructed Femoral Hernia

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

Corresponding Author:
Bharat K. Oza
E-mail: drbharat_oza@yahoo.co.in

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Abstract

Femoral hernias are relatively uncommon but present with significant clinical implications due to their propensity for strangulation and bowel obstruction. This case report describes a rare instance of an obstructed femoral hernia involving bowel strangulation in a 45-year-old female. Prompt surgical intervention through exploratory laparotomy, bowel resection, and hernia repair resulted in an excellent outcome. This case highlights the importance of early diagnosis, clinical vigilance, and surgical management to mitigate complications.

Keywords: Femoral hernia, strangulation, bowel obstruction, laparotomy, surgical therapy

Introduction

Femoral hernias, accounting for 3% of all groin hernias, are more common in females, with a female-to-male ratio of 10:1. They often present as a bulge below the inguinal ligament and are associated with a high risk of strangulation (15–20%).[(1)] Strangulated femoral hernias can cause bowel ischemia, necessitating emergency intervention. This report documents the management of an incarcerated femoral hernia complicated by bowel obstruction and strangulation in a middle-aged female.[(2-3)]

Patient Information

The patient, a 45-year-old widowed woman of low socioeconomic status working as a house-help, presented to the outpatient department with a three-day history of abdominal pain, nausea, and vomiting. She reported a prior history of reducible right groin swelling, but the current swelling was irreducible and painful. The patient had undergone a hysterectomy via a Pfannenstiel incision five years earlier and denied any history of hypertension, diabetes, or thyroid disorders.

Clinical Findings

Physical examination revealed a localized, tender, irreducible swelling below the inguinal ligament in the right groin region, with no clinical signs of peritonitis. The swelling was firm and nonpulsatile, raising suspicion of a femoral hernia. Differential diagnoses included an irreducible inguinal hernia and incisional hernia.

Diagnostic Assessment

An abdominal ultrasound (USG) revealed an irreducible right inguinal hernia (enterocele) with loss of peristalsis in a closed-loop segment, suggestive of bowel obstruction. The clinical diagnosis of a femoral hernia was confirmed based on the location of the swelling below the inguinal ligament and medial to the femoral artery. Other diagnostic considerations, such as inguinal hernia (located above the ligament) and incisional hernia (near the Pfannenstiel scar), were ruled out.

Therapeutic Intervention

Preoperative Management: The patient's relatives consented to surgery after a detailed discussion of the diagnosis and potential complications. Informed written consent was obtained, and the patient was prepared for emergency laparotomy under spinal anesthesia.[(4)]

Surgical Procedure: A horizontal incision was made over the femoral hernia site. The hernia sac's contents could not be reduced due to the narrow neck and bowel strangulation. A lower midline laparotomy incision was made below the umbilicus to access the incarcerated bowel segment. The involved bowel loop, located approximately 30 cm proximal to the ileocecal junction, was found to be gangrenous with associated inflammation. Triple-layer hand-sewn anastomosis was performed after resecting the affected segment. The femoral canal defect was repaired using three sutures: one medial suture from the inguinal to the pectineal ligament and two lateral sutures from the inguinal and pectineal ligaments. The surgical site was irrigated thoroughly, and the incision was closed in layers.[(5-7)]

Postoperative Care and Follow-up

Immediate Recovery: Postoperatively, the patient received intravenous antibiotics, antacids, analgesics, and supportive care. Dressing on day three showed no signs of infection. On day seven, a purulent discharge of 8–10 mL was noted at the wound site, necessitating Betadine and hydrogen peroxide irrigation, along with normal saline (NS) washes. A wound swab for culture was refused by the patient's relatives.

Late Recovery: Regular dressing resulted in a significant reduction in discharge, and the wound healed completely by postoperative day 20. The patient's recovery was uneventful, with no signs of recurrent hernia or systemic complications during follow-up.

Discussion

Femoral hernias are a rare cause of bowel obstruction but have a high risk of complications due to the narrow femoral canal. Strangulation occurs more commonly in femoral hernias than in other types, underscoring the need for prompt diagnosis and intervention. This case involved a strangulated bowel segment requiring resection and anastomosis, highlighting the importance of recognizing clinical signs such as a painful groin swelling, localized tenderness, and systemic symptoms of obstruction (e.g., nausea, vomiting).[8-10]

The surgical approach to femoral hernia repair depends on the viability of the hernia sac's contents. In cases of bowel compromise, prosthetic mesh is contraindicated due to the risk of infection. Instead, primary closure of the femoral canal is performed. The Cooper ligament repair, a tension-free method, is a reliable approach for femoral hernia closure and minimizes recurrence.[11]

The patient's postoperative wound infection was managed successfully with regular dressing and antimicrobial care. This complication highlights the challenges associated with emergency laparotomy and intestinal obstruction, where infection risks are elevated.[12]

Conclusion

In conclusion, this case underscores the critical importance of early diagnosis and timely surgical intervention in managing strangulated femoral hernias. Prompt recognition of symptoms such as groin swelling, abdominal pain, and nausea can prevent serious complications like bowel ischemia and necrosis. Surgical approaches, including bowel resection, anastomosis, and tension-free femoral hernia repair, are highly effective and can result in favorable patient outcomes. Postoperative care, including wound management and infection prevention, plays a vital role in ensuring recovery and minimizing complications. This case highlights the need for clinical vigilance in diagnosing and managing rare but life-threatening conditions like strangulated femoral hernias.

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