

High Small Bowel Obstruction Secondary to Femoral Hernia; Case Report and Review of the Literature

Md. Humayun Kabir¹, Salah-Al-Alawi¹, Shabnam Mustari¹, Umme Farhana¹, Sadia Siddika¹

¹ Queen's Hospital, Rom Valley Way, Romford, RM7 0AG, London, UK

Abstract

Femoral hernias account for 2% to 4% of inguinal hernias, are more common in women, and are more likely to cause strangulation and necessitate emergency surgery. Bowel obstruction or strangling symptoms, as well as bowel resection-anastomosis, may occur as a result of this illness. To the best of our knowledge, there are few cases with strangulated femoral hernia. We present a 92-year-old lady who was admitted with a 5-day history of generally feeling unwell, reduced eating & drinking, urinary incontinence & one episode of vomiting(non-bloody). On examination, abdomen was soft, non-tender & not distended. The working diagnosis at that time was Urosepsis with possible gut obstruction. A computed tomography scan revealed-Right femoral hernia causing high grade SBO. The patient was successfully treated with surgical therapy and hernia was repaired. The postoperative course was uneventful,

and 2-weeks follow-up was arranged. Obstructing femoral hernia of the small bowel is uncommon, the doctor should suspect femoral hernia as the source of bowel obstruction. Our example demonstrates the significance of thorough history taking and clinical examination, since any delay in diagnosis increases the patient's risk of mortality and morbidity. If someone have abdominal pain or obstruction, hernias should always be considered.

Introduction

Femoral hernias are caused by a defect in the femoral ring and extend into the femoral canal and exit through the saphenous opening[1]. It is the third-most common hernia in women and occurs more frequently on the right side of multiparous women[1]. There are four ligaments lining the femoral ring: the inguinal ligament, the iliopectineal

ligament, the lacunar ligament, and the femoral vessels. The narrow femoral canal and rigid femoral ring are the main causes of bowel incarceration, strangulation and gut resection causing increased mortality & morbidity[1]. Moreover, intestinal obstruction is significantly associated with mortality, which is mainly in patients undergoing emergency surgery[6]. The underlying cause is unclear and may be congenital or acquired. The acquired theory is attributed to increased abdominal pressure from chronic bronchitis and constipation, resulting in stretching of the femoral ring from a dilated femoral vein manifested as swelling in the groin. In severe cases, incarceration and obstruction of the small intestine cause severe abdominal pain and vomiting. A hernia can be found below and lateral to the pubic tubercle; it may be generally irreducible and may be tender. The groin hernia can be distinguished clinically from other lumps in the groin, like the inguinal hernias, saphenous varicocele, groin lymphadenopathy, lipomas, femoral artery aneurysms, and psoas muscle abscesses. The diagnosis is usually made clinically; however, imaging techniques such as ultrasound, CT, MRI, or diagnostic laparoscopy may be helpful. An enormous amount of tissue necrosis occurs in

femoral hernias due to strangulation and tissue necrosis of the protruding viscous. Femoral hernias should be electively repaired as soon as possible after diagnosis. Surgical repair of the defect should be done with either the McEvedy procedure or the totally extraperitoneal approach (TEP) or the transabdominal preperitoneal approach (TAPP). However, in some cases intestinal obstruction may happen after repairing the femoral or inguinal hernia[7]. A femoral hernia is a rare cause of gastrointestinal obstruction and is prone to strangulation due to the narrow femoral canal and femoral ring. This report describes a case of obstruction of the small bowel in the right femoral canal[1].

Case Presentation

92 years old lady, independent with ADLs was admitted to QH with 5-day H/O of generally feeling unwell, reduced eating & drinking, urinary incontinence & one episode of vomiting(non-bloody). During admission, observation was normal. Investigation revealed-raised inflammatory markers. Initially treated as Urosepsis. Subsequently she developed sudden onset of continuous vomiting (faecal coloured, foul smelling) & without having any abdominal symptoms. Gradually she

became hypotensive, tachycardic, tachypnoeic & increased O₂ requirements. After that, case was discussed with ITU & surgical team & requested CT-AP without contrast that shows-Right femoral hernia causing high grade SBO. Finally, patient is accepted by surgical team & emergency hernia repair was done & patient improved gradually after that.

Investigations

Laboratory analysis revealed Neutrophilic leucocytosis with leucocytes $16.6 \times 10^9/L$ (reference range: $3.8-11 \times 10^9/L$) and Neutrophil $14.1 \times 10^9/L$ (reference range: $2-7.5 \times 10^9/L$), impaired kidney function (estimated glomerular filtration rate, eGFR $27.3 \text{ ml/min/L} \times 1.73 \text{ m}^2$ (normal value: $>60 \text{ ml/min/L} \times 1.73 \text{ m}^2$), CRP-40, Amylase-75 with other electrolytes including phosphate in the normal limit. She had an abnormal Abdominal X-ray that shows-mildly dilated small bowel loop to 3.8 cm. & abnormal CT-AP that shows Right femoral hernia causing high grade SBO

Investigations

The patient was treated initially with intravenous fluids, intravenous antibiotics & subsequently treated surgically with right femoral hernia repair (MESH repair).



CT Image

Outcome and follow-up

The patient's symptoms improved and all laboratory abnormalities including inflammatory markers had normalised after operation. A follow-up appointment was made in surgical outpatient clinic in 2 weeks.

Discussion

Among all hernias, strangulated femoral hernias are quite uncommon. In two studies, bilateral strangulated femoral hernias have been reported¹. Hernias can affect stomach, omentum, colon, small intestines (the partially strangulated wall of the small intestine called Richter's hernia), the

appendix (De Garengeot hernia), urinary bladder, fallopian tube, and ectopic testis. There are several differential diagnoses for femoral hernia, such as inguinal lymph nodes, inguinal hernia, hydrocele of the cord or canal of Nuck, greatest saphenous vein varices, femoral artery aneurysm, ectopic testis, and psoas abscess. Strangulation of a femoral hernia is a potentially life-threatening event. The most common symptom is a painful bulge on the medial part of the thigh, which is often difficult to palpate in obese people. Clinical signs are frequently ambiguous and depend on the contents of the hernia sac. The patient in the preceding clinical case had symptoms that were specific to gastrointestinal blockage (constipation and obstruction). Hernia repair surgery was done in the presented case because the source of the symptoms was uncertain. Because of the significant danger of incarceration and strangulation this case report emphasises the importance of early diagnosis of femoral hernia. Patients with intestinal symptoms should be monitored closely, especially if they are evocative of gut obstruction. Patients who are elderly and frail, especially those with obstructed femoral hernias, may have unusual stomach pain, nausea, and vomiting. For diagnosing this kind of hernias, thorough

clinical examination, including methodical inspection of both inguinal sites, is required, as well as a proper radiological study. Any delay or failure to make this diagnosis would put the patient at a significant risk of morbidity and fatality. Any case with abdominal pain and signs of obstruction, femoral hernia should be considered as a possible cause. Performing emergency repair surgery of femoral hernia has a higher rate of morbidity and mortality. This emphasises the importance of treating femoral hernias in an elective setting.

In addition, this shows that in patients with femoral hernias, even those who are asymptomatic and stable, watchful waiting should not be considered as a treatment option. To summarise, strangulated femoral hernia of the small bowel is uncommon, but physicians should contemplate femoral hernia as a possible source of intestinal obstruction¹.

Moreover, elective hernia surgery is considered to be a low-risk operation. Emergency operation are seen to be 3 times more common in femoral hernia than in inguinal hernia. Femoral hernia repair surgery have higher mortality risk in emergency setting if bowel resection is performed, high ASA score and postoperative complications. On the other

hand, recurrent operation, which is a possible consequence of any hernia surgery including elective surgery, does not affect the risk of death. Hence, elective surgery for femoral hernia should be strongly considered when first presentation in primary care setting[3].

In addition, it is worth keeping in mind, there has been few cases, where incidental appendicitis was found in femoral hernia sac intraoperatively in femoral hernia repair surgery. It is named as De Garengeot hernia. In this kind of hernias, absence of typical symptoms of appendicitis leads to delayed diagnosis, contributing to high morbidity[4]. Early radiological input specially computed tomography can help preventing delay in diagnosis.

Conclusion

Although strangulated femoral hernias of the small bowel are uncommon, medical and surgical teams should be aware of the possibility of femoral hernia as a source of intestinal obstruction[2]. When a patient presents with gastrointestinal symptoms, femoral hernia should be ruled out especially if the symptoms are suggestive of a small or large bowel obstruction. In order to diagnose this kind of hernia, a thorough clinical examination, including a

thorough inspection of both inguinal sites, is required, along with suitable haematological and radiographic studies. Any delay or failure to make this diagnosis would put the patient at a much higher risk of morbidity and mortality[2]. Primary care set up should be more prompt and make early referral for managing any groin hernia, especially femoral hernia as high mortality rate among elderly in emergency presentation. Ambulatory routine elective hernia repairs in primary care setting should come into consideration, as this can be performed as day cases under local anaesthesia safely and with excellent outcome[5].

Conflict of Interests

The authors' declare that there are no conflicts of interests.

Acknowledgments: None

Funding information was not available.

Keywords: Obstruction, hernia, hypotensive, tachycardic, tachypnoeic.

Correspondence:

Salah-Al-Alawi MD

Queen's Hospital, Rom Valley Way,
Romford, RM7 0AG, London, UK.

salah.al-alawi@nhs.net

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