



## Small Bowel Obstruction Secondary to Femoral Hernia: Case Report and Review of the Literature

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### Abstract

*Femoral hernias account for 3% of groin hernias, and are more common in women, and are more appropriate to present with strangulation and require emergency surgery. Approximately 50% of men with a femoral hernia will have an associated inguinal hernia whereas this relationship occurs in only 2% of women. In this article we report a case of strangulated femoral hernia that presented with features of small bowel obstruction and underwent emergency laprotomy and resection and end to end anastomosis and hernia repair. Postoperative course was uneventful and the patient was doing well. Strangulated femoral hernia of small bowel is rare.*

**Keywords:** Femoral Hernia, Small Bowel Obstruction, Strangulation.

### Introduction

A femoral hernia is an extension of a viscus in the course of the femoral canal and exit via the saphenous opening due to a defect in the femoral ring. It is the third commonest hernia and twenty percent happening in women versus 5% in men. This hernia is more common on the right side of multiparous old women. The predominance of right sided femoral hernia is thought to be caused by tamponading effect of the sigmoid colon on the left side [2]. Strangulation is the most serious complication of hernia and femoral hernia has the highest rate of strangulation (15% to 20%). The walls of a femoral hernia are the femoral vein laterally, the inguinal ligament anteriorly, the pelvic bone covered by the ileopectineal ligament (Astley Cooper's) posteriorly and the lacunar ligament (Gimbernat's) medially. The female pelvis has a different to the male, increasing the

size of the femoral canal and the risk of hernia. In old age the femoral defect increases and femoral hernia is commonly seen in low weight elderly females [3].

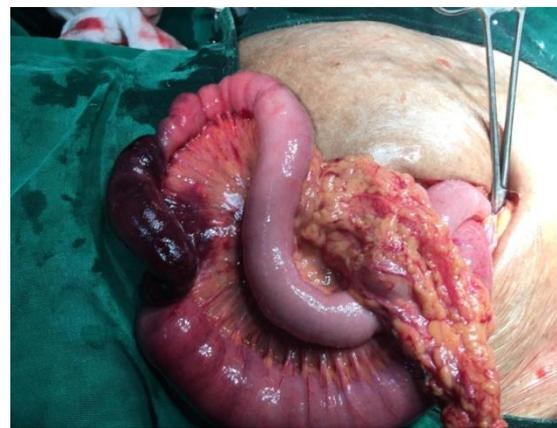
The acquired theory is widely accepted with a general clarification of increased intra-abdominal pressure from chronic bronchitis and constipation leading to stretching of the femoral ring from a dilated femoral vein. Clinical manifestation possibly the sensation of a bulge in the groin. Colicky abdominal pain and vomiting may persevere due to incarceration and obstruction or strangulation of small bowel. On examination, the hernia can be recognized below and lateral to the pubic tubercle; it may be generally irreducible and may be tender. A femoral hernia needs to be distinguished clinically from other groin lump for example inguinal hernia, saphenavaricocele, groin lymphadenopathy, lipoma, femoral artery

aneurysm, and psoas muscle abscess. Generally diagnosis is clinically; but, imaging techniques such as ultrasound, CT, MRI or diagnostic laparoscopy may be useful. The protruded viscous is strangulated and undergoes a tissue necrosis in the femoral hernias more than other types of hernia. When diagnosed, femoral hernias should be electively repaired as soon as possible. The golden standard operative management to repair the defect is using either the McEvedy operation or totally extraperitoneal approach (TEP) or the transabdominal preperitoneal approach (TAPP). This report describes a case of a strangulated small bowel in right femoral canal hernia.

### Case Presentation

A 65 year old woman presented to our emergency department with abdominal pain, nausea and vomiting since 3 days prior to admission. On physical examination, she appeared to be ill, with diffuse abdominal distention (Fig 1 Lump in right

groin region); mild generalized tenderness, there were no clinical signs of peritonitis. All laboratory tests were unrevealing. The case is presented clearly with a coronal computed tomography (CT) (Fig.4 CT showing bowel in the right femoral canal.) and abdominal radiograph images. A hernia occurring medial to the femoral vessels and below the inguinal ligament was consistent with a femoral hernia. The patient underwent emergency laparotomy for resection of obstructed bowel loop and repair of the femoral hernia (Fig 2 & 3 Per-operative findings). There was incarceration of small bowel (short segment) about 100 cm to ileocecal valve in right femoral canal with necrosis and some degree of inflammation. There was fluid field, distended small bowel loop proximal to site of incarceration. Strangulated small bowel in right femoral canal was released and then femoral canal defect was repair via intra-abdominal approach with PDS sutures and figure of eight manner. The postoperative course was unremarkable.



Images from left to right showing 1) Lump in right groin region, 2,3) Per-operative findings, 4) CT showing bowel in the right femoral canal.

### Discussion

Strangulated femoral hernia is not common event. Rogers<sup>5</sup> reported a review on 170 cases of strangulated femoral hernia and its complications. Two study report strangulated bilateral femoral hernia<sup>[6,7]</sup> This hernia could include: stomach, omentum, colon, small intestines (the partially strangulated small intestine wall called Richter's hernia), the appendix (De Garengeot hernia)<sup>9</sup>, urinary bladder, fallopian tube and ectopic testis<sup>8</sup>. The differential diagnosis of femoral hernia includes inguinal lymph nodes, direct and indirect inguinal hernia, and hydrocele of the cord or canal of Nuck, the greatest saphenous vein varices, femoral artery aneurysm, ectopic testis and psoas abscess<sup>10</sup>.

Strangulation of femoral hernia is seriously life threatening event. The most important symptom is typically a painful bulge, placed on the medial aspect of the thigh, regularly not easy to palpate in overweight patients. In the clinical case mentioned above, the patient presented symptoms unique for the gastrointestinal obstruction (constipation and obstipation). In this case first we approached by inguinal approach (Lotheissein) and then made midline incision for the bowel resection.

The other surgery for the femoral hernia is (1) Low approach (Lockwood) is suitable when there is no risk for bowel resection, (2) High approach (McEvedy) is ideal in the emergency situation where the risk of bowel resection is high, and (3) Laproscopic approach which includes TEP and TAPP.

This case report strangulated femoral hernia reinforces the value of femoral hernia because of their high risk of incarceration and strangulation.

### Conclusion

In conclusion, strangulated femoral hernia of the small bowel is rare and the general surgeon should be familiar with femoral hernia as a bowel obstruction source.

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