

Case Series

Clinical, radiological and surprise diagnosis of femoral hernia

Chinmay Sumatilal Gandhi*, Dajiram G. Mote

Department of General Surgery, BVDUMC and H, Sangli, Maharashtra, India

Received: 09 May 2023

Accepted: 14 June 2023

*Correspondence:

Dr. Chinmay Sumatilal Gandhi,

E-mail: chinmaygandhi00@yahoo.co.in

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

The author has treated three cases of femoral hernias over the years. Femoral hernias are rare compared to inguinal hernias. Here, there were varied clinical presentations of all femoral hernias. Obstruction, strangulation and groin swelling were the presentations observed. Management of all varies according to presentation. Because of narrow neck and stiff femoral canal chances of complications are more. Use of minimal access techniques may reduce the morbidity of surgical treatment in emergency.

Keywords: Femoral hernia, Open femoral hernia repair, Hybrid femoral hernia repair, Laparoscopic femoral hernia repair

INTRODUCTION

Incidence of femoral hernias are less than 2-4% of all groin hernias operated in emergency or elective setting.¹ Femoral hernia descends from abdominal cavity through femoral canal towards saphenous opening.² Due to tortuous course femoral hernia usually becomes irreducible and liable for incarceration, obstruction and strangulation. Femoral hernia had 15-20% risk of strangulation.² There are different open and laparoscopic surgery choices. Lockwood (sac is dissected out below inguinal ligament), McEvedy, Lotheissens are open approaches while TAPP, TEP are laparoscopic options for repair of femoral hernia.³

CASE SERIES

Case 1

A 65-year female came with signs and symptoms of intestinal obstruction. A X-ray erect abdomen revealed multiple air and fluid levels (Figure 1). Laparotomy revealed gangrene of small bowel as a content in femoral canal (Richter's type hernia). After resection and anastomosis of small intestine, femoral canal was opened from infra inguinal incision (Lockwood's approach), sac

reduced and femoral ring was obliterated with suturing inguinal ligament to iliopectineal line using Prolene 2.0 suture material. Patient had uneventful recovery. In this case a minimal access approach would reduce the morbidity of laparotomy incision. Mesh repair was not done considering CDC-4 wound condition.



Figure 1: X-ray erect abdomen and intra-op bowel gangreen.

Case 2

A 60-year female came with sign and symptoms of intestinal obstruction. CT scan abdomen showed intestinal obstruction due to femoral hernia (Figure 2). Emergency diagnostic laparoscopy was done and obstructed bowel was reduced from femoral canal (Figure 3). As the bowel was viable, mesh plug repair of femoral hernia was done with infra inguinal approach. In this case morbidity of surgery was less as laparotomy was avoided. Mesh plug made from 3 cm circular Polypropylene mesh and fixed (superomedial and inferomedial to femoral ring) to lacunar ligament to prevent mesh migration.

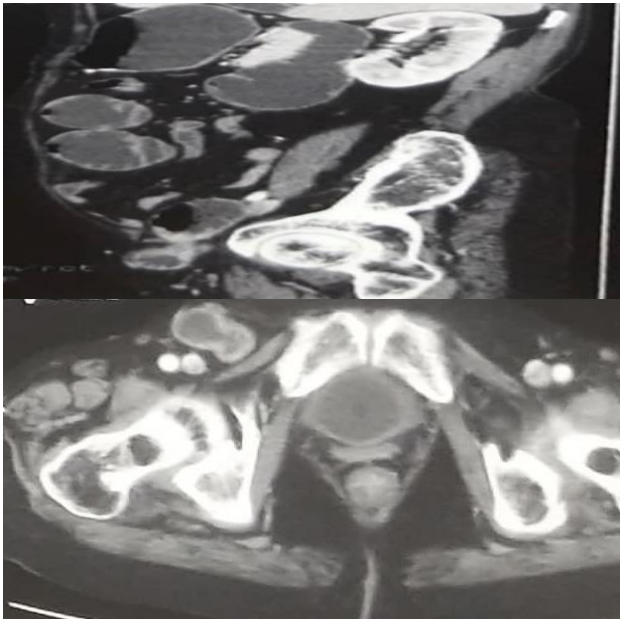


Figure 2: CT scan finding femoral hernia.

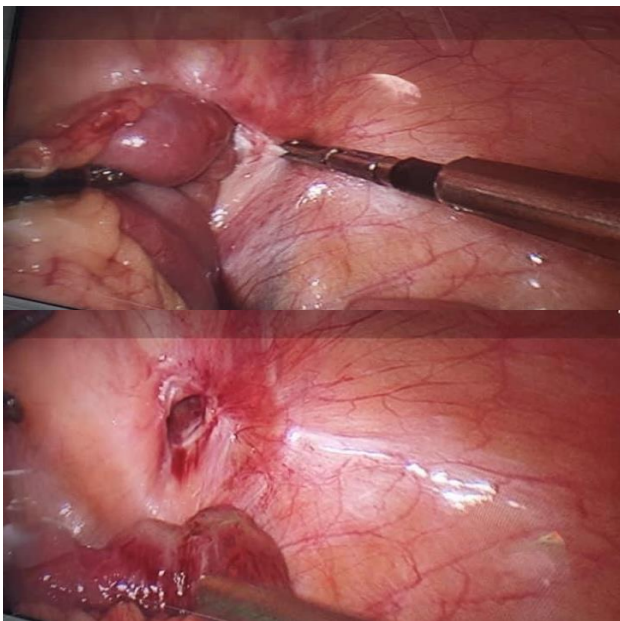


Figure 3: Intra operative laparoscopic finding small bowel obstructed in femoral hernia.

Case 3

A 62-year male came with groin swelling in femoral region (Figure 4). Pre operative clinical diagnosis of femoral hernia was made. Infra inguinal incision was given and mesh plug repair of femoral hernia was done (Figure 4). Patient had uneventful postoperative recovery.



Figure 4: Femoral hernia sac and mesh plug repair of femoral hernia.

EHS guidelines recommend laparoscopic repair of elective femoral hernias.

DISCUSSION

Femoral hernia is a protrusion of a part of abdominal viscus or pre peritoneal fat through the femoral ring and canal. Femoral canal forms medial most compartment of femoral sheath. The boundaries of femoral ring consist of inguinal ligament(anteriorly), lacunar ligament (medially), septum separating femoral vein (laterally), pectineal fascia(posteriorly) separates it from iliopectineal ligament, pubic bone.

Femoral hernia is more common in females due to wide pelvis. Advancing age increases the incidence. The complications like incarceration, obstruction and strangulation are associated with morbidity and mortality. Incarceration with absent cough impulse, acute abdominal pain, distension of abdomen, vomiting are typical clinical presentations. Hernia usually starts below and lateral to pubic tubercle. Rarely appendix, Meckel's

diverticulum, ectopic testis, bladder and fallopian tube are reported as contents in the literature.^{4,5}

Clinical diagnosis requires high index of suspicion and many times remains inconclusive. The ultrasound, computed tomography and magnetic resonance imaging helps in identifying suspected cases of femoral hernias.

Elective repair should be undertaken once the diagnosis is made because of the risk of strangulation. Complications like obstruction and strangulation reported in 30 to 86% cases in the literature, having 10 to 14% mortality.⁶⁻⁸ The hernia repair can be done by different open and laparoscopic approaches, with some advantages and disadvantages. The choice of repair can be influenced by surgeons' preferences, patients' condition, elective and emergency situation.

In first case McVay repair was performed to approximate the transversalis fascia to the pectineal ligament. Because of tension created, this repair is known for high recurrence. If defect is more than 3 cm, it requires synthetic absorbable mesh in CDC class 4 wound.⁹

In second case as the bowel was viable and there was no contamination, open mesh plug repair was done. The mesh plug repair offers tension free easy repair with low recurrence rate and less post operative pain.¹⁰

First two cases had complications of femoral hernia and presented as emergency cases. The third case was presented as routine without any complications. laparoscopic surgery can be offered with advantages of minimal access surgery, like excellent exposure, identification of occult hernia, less post operative pain and faster recovery with large mesh (15 by 12 cm) in pre peritoneal plane. In low resource setting open mesh plug with Lockwood's approach had excellent results.

CONCLUSION

In emergency situation hybrid approach including laparoscopic and open (Lockwood's approach) can reduce morbidity of femoral hernia repair. In elective cases, laparoscopic repair should be offered as better alternative whereas in low resource setting open mesh plug with Lockwood's approach has equally acceptable results.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Coelho JCU, Hajar FN, Moreira GA, Hosni AVE, Saenger BF, Aguilera YSH et al. Femoral hernia: Uncommon, but associated with potentially severe complications. *Braz Arch Digestive Surg.* 2021;34(2):e1603.
2. Goethals A, Azmat CE, Adams CT. Femoral Hernia. In: StatPearls. Treasure Island (FL): StatPearls Publishing. 2023.
3. Shamim M. Femoral Hernia: Open and Laparoscopic Surgery Approaches [Internet]. *The Art and Science of Abdominal Hernia.* Intech Open. 2022;1.
4. Marcos-Santos P, Bailon-Cuadrado M, Choolani-Bhojwani E, Pacheco-Sanchez D. Femoral hernia containing the right fallopian tube: chronic pain with menstruation. *Ann R Coll Surg Engl.* 2019;101(7):e157-9.
5. Paasch C, De Santo G, Look P, Boettge K, Hünerbein M. Laparoscopic Treatment of an Incarcerated Meckel's Diverticulum in a Femoral Hernia. *Case Rep Surg.* 2019;2019:3140706.
6. Garg P, Ismail M. Laparoscopic total extraperitoneal repair in femoral hernia without fixation of the mesh. *J Society Laparoendoscopic Surgeons.* 2009;13(4):597-600.
7. Hachisuka T. Femoral hernia repair. *Surg Clin North Am.* 2003;83(5):1189-205.
8. Naude GP, Ocon S, Bongard F. Femoral hernia: the dire consequences of a missed diagnosis. *Am J Emerg Med.* 1997;15(7):680-2.
9. Lockhart K, Dunn D, Teo S. Mesh versus non-mesh for inguinal and femoral hernia repair. *Cochrane Database Syst Rev.* 2018;9(9):CD011517.
10. Kulacoglu H. Mini-mesh repair for femoral hernia. *Int J Surg Case Rep.* 2014;5(9):574-6.

Cite this article as: Gandhi CS, Mote DG. Clinical, radiological and surprise diagnosis of femoral hernia. *Int Surg J* 2023;10:1213-5.