Minimally Invasive Approach for De Garengeot Hernia: A Case Report

Sadie Larsen DO PGY3, Bradley Wise DO

Health ONE Sky Ridge Medical Center® Beyond Your Expectations

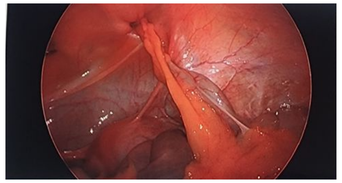
Background

- De Garengeot hernias are defined by the presence of the appendix within a femoral hernia, first described by Dr. De Garengeot in 1731(1). There have been < 450 cases since the first description (4). These hernias are more common in women, often present with groin pain and a bulge, and can be difficult to diagnose preoperatively. Surgical management typically involves appendectomy and hernia repair.
- This is a case report of a 45-year-old female with tip appendicitis caused by strangulation in a right femoral hernia.

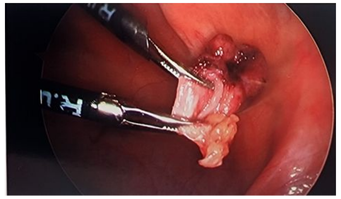
Case

- A healthy 45-year-old female presented with 4 days of right groin pain with associated tender, nonreducible bulge. CT demonstrated a right femoral hernia containing fluid-filled, distended appendiceal tip with periappendiceal fat stranding.
- She was urgently taken for a diagnostic laparoscopy. The appendix was seen entering a small femoral defect. The femoral space was opened to reveal the strangulated, gangrenous appendiceal tip. Appendectomy was performed in the usual fashion. She was discharged with a course of Amoxicillin/clavulanic acid.
- She returned 13 days after her initial surgery for a robotic-assisted Transabdominal Preperitoneal (TAPP) inguinal hernia repair. The femoral defect contained incarcerated preperitoneal fat. A mesh was placed to cover the direct, indirect, and femoral spaces. She discharged the same day and has followed up without any complications.









- **Image 1:** CT demonstrating right sided femoral hernia
- **Image 2:** laparoscopic view of appendix incarcerated in femoral space
- **Image 3:** staple coming across appendiceal base
- **Image 4**: necrotic tip of appendix removed from femoral space

Discussion

- De Garengeot hernias are more common in women (81.1%) (3). Signs and symptoms include groin bulge (82.4%) and tenderness (79.4%), or bulge erythema (33.3%-56%)(2,3). Preoperative diagnosis has been reported to be 31.5%; imaging diagnosis rate of 20% with US and 44% with CT (2).
- Most surgical management has been by combination of appendectomy as appendix inflamed in 44.1% (3) and open femoral hernia repair; 81% of patients underwent primary herniorrhaphy and 19% had a mesh repair(2).
- This is a noteworthy case that was managed in a two-step laparoscopic fashion, a less common approach. By removing the appendix and treating the infection before repairing the small defect, it allowed for the use of synthetic mesh without being in a contaminated field. Mesh usage from a laparoscopic approach provides coverage from hernia development in all three potential spaces but typically must be avoided in initial cases given elevated chance of infection.
- Potential complications of the two-step approach includes possible recurrent incarcerated/strangulated bowel before hernia repair, potential loss to follow up, and mesh infection.

Conclusion

- Small number of fully laparoscopic approaches have been described for de Garengeot hernias (4). With advancements of robotics, along with surgeon expertise it seems safe and a feasible approach. When pursuing treatment for symptomatic de Garengeot hernias, one should consider a minimally invasive approach and for those with signs of contaminated field, consider a staged 2-step approach to minimize risk of mesh infection.

References

1. De Garengeot RJC (1731) Traité des operations de chirurgie, 2 nd Ed. Huart, Paris, pp 369–371
2. Kalles V, Mekras A, Mekras D, Papapanagiotou I, Al-Harethee W, Sotiropoulos G, Liakou P, Kastania A, Piperos T, Mariolis-Sapsakos T. De Garengeot's hernia: a comprehensive review. Hernia. 2013 Apr;17(2):177-82. doi: 10.1007/s10029-012-0993-3. Epub 2012 Sep 16. PMID: 22983696.
3. Guenther TM, Theodorou CM, Grace NL, Rinderknecht TN, Wiedeman JE. De Garengeot hernia: a systematic review. Surg Endosc. 2021 Feb;35(2):503-513. doi: 10.1007/s00464-020-07934-5. Epub 2020 Sep 2. PMID: 32880011; PMCID: PMC7855214.
4. Gómez-Portilla A, Merino E, López de Heredia E, Gareta A, Ojeda M. De Garengeot's hernia patients entirely treated laparoscopically: a safe and feasible alternative-a systematic review. Langenbecks Arch Surg. 2023 May 2;408(1):171. doi: 10.1007/s00423-023-02889-2. PMID: 37129694; PMCID: PMC10154269.

This research was supported (in whole or in part) by HCA Healthcare and/or an HCA Healthcare affiliated entity. The views expressed in this publication represent those of the author(s) and do not necessarily represent the official views of HCA Healthcare or any of its affiliated entities.

HCA Healthcare®