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Case Report

Obstructed femoral hernia with an associated De Garengeot hernia

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ABSTRACT

A De Garengeot hernia is the eponymous name to describe a femoral hernia containing the appendix. Imaging may confirm the diagnosis pre-operatively; however, many are identified at the time of surgery. We describe the case of an elderley female patient who presented with a small bowel obtruction due to an incarcerated femoral hernia, with the unexpected finding at the time of surgery of the appendix additionally within the hernia. Following diagnostic laparoscopy, she underwent a laparoscopic appendicectomy and open suture repair of the femoral hernia.

Keywords: De Garengeot hernia, Femoral hernia, Appendix

INTRODUCTION

Rene Jacques de Croissant Garengeot, a Parisian surgeon, first described the appendix within a femoral hernia, what is now known as a De Garengeot hernia, in 1731. Whilst the condition is rare, with fewer than three hundred cases described in the literature since 1925, it is most often described in elderly women in their eighth decade of life.[1]

A femoral hernia is uncommon, comprising of 3% of groin hernias, with a female predominance in the order of 10:1.[2] A femoral hernia usually presents as a lump beneath the inguinal ligament and lateral to the pubic tubercle. It occurs through the femoral canal, which is bound laterally by the femoral vein, medially by the lacunar ligament, anteriorly and superiorly by the inguinal ligament and iliopubic tract, posteriorly and inferiorly by the pectineal ligament.

CASE REPORT

An eighty-seven-year-old nursing home resident, with a known reducible femoral hernia under observation, presented with a 12-hour history of nausea, vomiting and right lower quadrant pain due to an irreducible right femoral hernia. Computed tomography (CT) confirmed an incarcerated right femoral hernia as the cause of a small bowel obstruction (Figure 1).

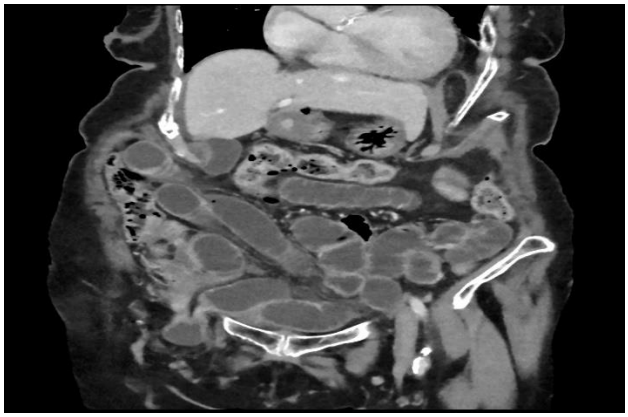

Figure 1: Small bowel obstruction secondary to an incacerated right femoral hernia.

She had previous undergone a hysterectomy via a Pfannenstiel incision. The femoral hernia was reduced after induction of anaesthesia and a diagnostic laparoscopy confirmed viable reduced small bowel; however, the appendix was still present in the femoral hernia. The appendix was reduced and an appendicectomy performed

due to an ischaemic appendiceal mesentery (Figures 2 and 3). The femoral hernia was then repaired via a low open approach with reduction of the sac and closure of the femoral canal by suturing the inguinal ligament to the pectineal ligament with 2-0 prolene sutures. The post-operative recovery was unremarkable, and the patient was discharged on post-operative day three.

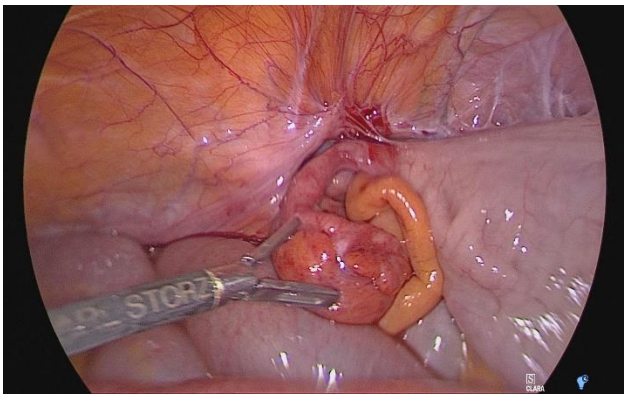

Figure 2: Reduced De Garengeot hernia at laparoscopy.

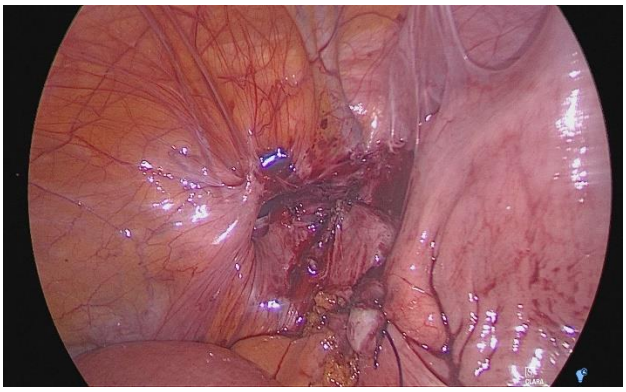

Figure 3: Laparoscopic view of femoral hernia following appendicectomy.

DISCUSSION

Several theories exist as to how a De Garengeot hernia comes to be. An appendix located in the pelvis due to a low lying or mobile large caecum or long appendix length is thought to have an increased chance of entering the femoral canal.[1,3]

Radiologically, a femoral hernia may be distinguished from an inguinal hernia based on its relationship to the inguinal ligament and pubic tubercle. The neck of a femoral hernia arises inferior and posterior to the inguinal ligament and lateral to the pubic tubercle. If the hernial sac is seen medial to the pubic tubercle, it is an inguinal hernia. Characteristically, femoral hernias are funnel shaped, owing to their protrusion into the femoral canal via a tight femoral ring. Compression of the femoral vein may be seen in both femoral and inguinal hernias, however it presents in the majority (>90%) of femoral hernias and only approximately 10% of inguinal hernias.[4] The pre-operative radiological diagnosis of a De Garengeot hernia is variable in the literature, however cross-sectional imaging such as CT or magnetic resonance imaging (MRI) is significantly more sensitive than ultrasound.[1]

The operative approach to a femoral hernia may be open or laparoscopic or a combination of both. Traditionally, three open approaches are employed. The low approach (Lockwood) is via an incision below the inguinal ligament over the hernia and is most commonly used in the elective setting. Once the hernia is reduced, the femoral canal may be augmented either with a mesh plug or by suturing the inguinal ligament to the pectineal ligament. A trans inguinal approach (Lotheissen) is rarely use and requires incision of the posterior wall of the inguinal canal in order to access and repair the hernia. The high approach (McEvedy) involves a supra inguinal incision medial retraction of the rectus abdominus and extraperitoneal dissection of the hernia sac.[5] Laparoscopic approaches include totally extraperitoneal (TEP) or trans-abdominal pre-peritoneal (TAPP). If there is suspected bowel strangulation then the high open approach or diagnostic laparoscopy to assess bowel viability are the favoured approaches. In the case of a De Garengeot hernia, appendicectomy is commonly performed.[1]

CONCLUSION

A De Garengeot hernia is an uncommon finding, and in this particular case was an incidental finding to the presenting pathology of a small bowel obstruction secondary to an incarcerated femoral hernia.

The combined laparoscopic and open approach to diagnosis and repair allows for reduction of the hernia, assessment of any potential bowel ischaemia, and in this case, the diagnosis of the incidental De Garengeot hernia and subsequent appendicectomy, followed by an open low (Lockwood) repair.

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