

DE Garegeot Hernia

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ABSTRACT

Croissant de Garegeot's hernia is a rare condition and occurs mostly in females. The presence of an appendix in a femoral hernia is uncommon, and the presence of appendicitis is even more infrequent. The presence of appendix in femoral hernias as an incidental finding occurs in about 0.9%, and the incidence of appendicitis is 0.08%-0.13%. A 49 year old woman presented in the emergency department with an acutely painful lump in her right groin. Examination revealed a non-reducible, tender right femoral hernia with redness of the overlying skin. Intra-operative findings were a femoral hernia sac containing appendix with strangulation of its distal third. Appendectomy and repair of the femoral hernia were done and patient made an uneventful recovery and discharged home on the 3rd postoperative day.

Keywords: De Garegeot, Hernia, Females.

INTRODUCTION

Femoral hernia is commoner in females¹. The presence of an appendix in a femoral hernia is uncommon, and the presence of appendicitis is even more infrequent². It was first described by Rene Jacques Croissant de Garegeot, a French surgeon in the 18th century³. In about 0.9%, appendix in femoral hernias occurs as an incidental finding while appendicitis occurs in 0.08% - 0.13%^{4,5}. In his personal series of 655 femoral hernia repairs, Wakely reported an incidence of <1% of de Garegeot hernia⁶. Femoral hernias occur in the upper part of the thigh, just below the inguinal ligament. They are most common in women over the age of 65. Because they don't cause a visible bump, they are often not noticeable at first. The first sign is usually pain instead. Femoral hernias are sometimes confused with inguinal hernias, but are more painful.⁷ Inguinal hernias can occur if there's a weak point in the inguinal canal in the front abdominal wall. This canal runs diagonally from the hip bone down to the pubic bone, connecting the abdomen with the groin area. It contains nerves, blood vessels and lymphatic vessels. In women, it also contains the round ligament that supports the uterus (womb). Inguinal hernias occur when part of the peritoneum, bowel, or fat tissue bulges through a gap in the abdominal wall.^{8,9} The peritoneum is the membrane that lines the abdominal cavity and (completely or partly) encloses most of the organs in the abdomen.¹⁰

We report a case of the successful management of a 49-year-old female who presented in the emergency department with acute onset of painful lump in her right groin, which turned out to be a femoral hernia containing an inflamed appendix. Hernia operations are among the most commonly performed surgical procedures in Germany. Although complications are rare, side effects are possible. And anesthetics are always associated with risks. Pain resulting from surgery in the groin area usually goes away within a few days. But about 10 out of 100 people have long-term pain following the surgery. The pain may be caused by nerve damage or reactions to the synthetic mesh. This kind of long-term pain is more common in women than in men.¹¹

To diagnose a femoral hernia, a physical examination of the groin area is performed. In obese patients, imaging in the form of ultrasonography, CT or MRI may aid in the diagnosis. In female patients, an abdominal x-ray showing both a painful groin lump and small bowel clearly suggests a femoral hernia. It can be difficult to determine if a hernia is a femoral hernia or an inguinal hernia. They are different only in their location relative to the inguinal ligament. A hernia in the groin area above the inguinal ligament is an inguinal hernia; below the ligament a femoral hernia. A highly skilled and experienced surgeon who does the procedure in high volume is helpful to determine what type of hernia is present. Sometimes this is only evident at the time of surgery.¹²

Femoral hernia is a bulge, protrusion, or projection of a part of an organ or an organ through the femoral ring. It is relatively

rare, with a reported incidence of only 4% in all abdominal hernias. It is more frequently seen in females, especially among parous women. Femoral hernias commonly present with incarceration, with a risk of viscus strangulation carrying the morbidity and mortality up to 30% and 10% respectively.¹³ It frequently contains omentum or small bowel, in a rare occurrence, it can contain a vermiform appendix making the presentations and complications are more challenging. A femoral hernia can be mistaken as an inguinal hernia because of its tendency to move upwards above the inguinal ligament. In cases of incarceration, it is even more difficult to differentiate inguinal hernia from the femoral hernia. Hereby, we discuss a 44-year-old lady with an unexpected irreducible femoral hernia on the table and we will discuss the best surgical approach for her.

CASE REPORT

A 49 year old woman was referred by her general practitioner in the month of October, 2013 to the surgical outpatient department for a complaint of a lump in her right groin which she noticed two weeks previously with associated slight discomfort. Clinical diagnosis of femoral hernia was made and was confirmed on ultrasound (Figure 1). Operative treatment was recommended and discussed with patient, but she opted to postpone the surgery until after the Christmas holidays. However, she presented in the emergency department a month after the initial surgical outpatient consultation with an acutely painful lump in her right groin; there was no abdominal pain or vomiting.

Examination revealed a non-reducible, tender, right femoral hernia with redness of the overlying skin; the rest of the abdomen was normal and the plain film of abdomen (Figure 2) was normal. Patient was then taken urgently to theatre and a femoral hernia repair was done through a low approach (Lockwood). Intra-operative findings were a femoral hernia sac containing acutely inflamed appendix (Figure 2). Appendectomy via the groin incision and repair of the femoral hernia by approximating coopers ligament to inguinal canal with 2/0 Ethilon suture were done. Post-operative hospital course was uneventful, and she was discharged home on her third post-operative day. Histology of the appendix confirmed an acutely inflamed appendix. (Fig. 3-4)

On physical examination, her heart rate was 76 beats/minute, blood pressure 152/76 mm Hg, respiratory rate 18, weight 53 kg, and her temperature was 36°C. She did not appear to be in distress. There was a fixed, round, nontender mass with a 4-cm diameter in the right groin, below the inguinal crease. By this time, the erythema had resolved, and there was no overlying skin changes and no evidence of drainage. There were no skin lesions or infection in the lower extremities. Examination of her head, neck, lungs, and heart were within normal limits. Her abdomen was flat, nontender, nondistended, with no guarding and no rebound tenderness. There were no palpable masses, and no

organomegaly. An old, healed Pfannenstiel incision was noted. A presumptive diagnosis of a chronically incarcerated femoral hernia versus lymphadenopathy was made with plans for a right groin exploration. Unasyn was administered preoperatively. An infrainguinal incision was made through which a femoral hernia was indentified. Once the hernia sac was opened, an inflamed appendix was seen along with omentum. The appendix was thickened and inflamed, but there was no perforation. The mouth of the hernia was wide with no strangulation of the contents. Although the omentum plugged the mouth of the hernia sac, it too was not strangulated. An appendectomy and partial omentectomy . The right lower quadrant was thoroughly washed with an irrigation-suction device. The hernia sac was closed and the pro-peritoneal space was developed and thoroughly irrigated. The femoral space hernia defect was then repaired with a pro-peritoneal plug and onlay mesh closure. The patient was discharged home later that day with prescriptions for trimethoprim-sulfamethoxazole, metronidazole, and cephalexin. The pathology report was consistent with the intraoperative assessment.

RESULTS

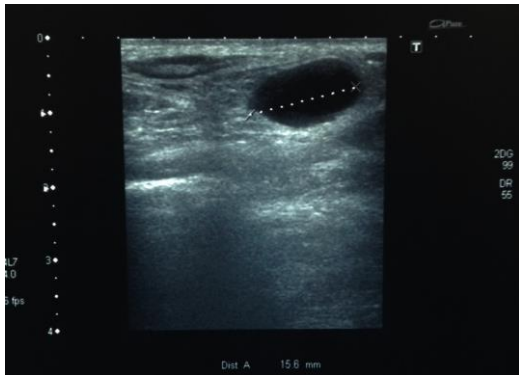


Figure 1 Hernial sac with appendix

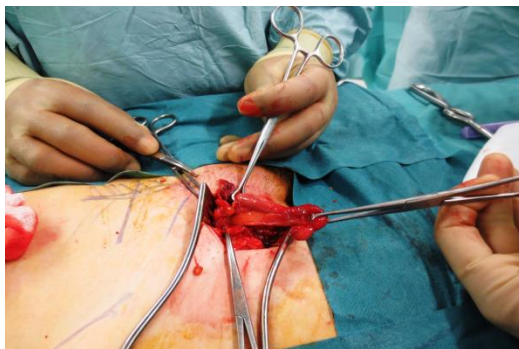


Figure 2 Inflamed appendix in a femoral hernia

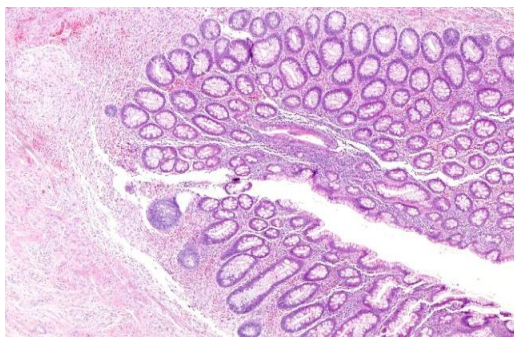


Figure 3 acute, luminal inflammation & mild, acute inflammation of the muscularis propria with diffuse wall thickening and neutrophil infiltration.

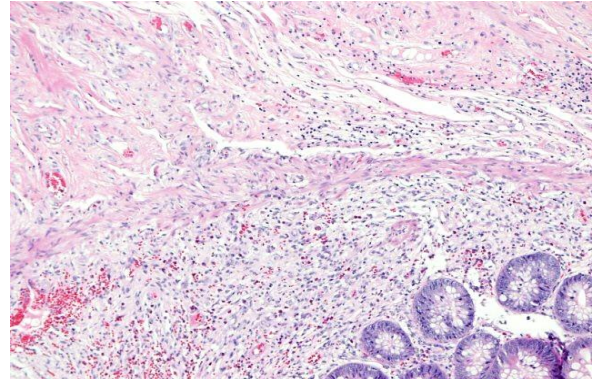


Figure 4 acute, luminal inflammation & mild, acute inflammation of the muscularis propria with diffuse wall thickening and neutrophil infiltration.

DISCUSSION

A femoral hernia should always be considered as one of the differential diagnoses for groin hernia in parous women. In suspected or ambiguous cases, it is recommended to use an incision 1 cm above the inguinal ligament so that both inguinal and femoral hernia can be managed at the same time. The inguinal canal should not be explored in femoral hernias because the inguinal structures can be damaged and weakened, predisposing to an inguinal hernia in the future. It is difficult to speculate if appendicitis arises spontaneously, or secondary to strangulation of the appendix at the hernia neck. The disease is walled-off by the tight hernia neck and masks the signs of appendicitis. Peritonitis does not usually result from perforation of the appendix due to the walling-off by the tight hernia neck. Localised rupture could lead to abscess formation¹⁴, necrotising fasciitis¹⁵, necrosis of the hernia contents¹⁶, or bowel obstruction. Localized rupture or perforation is indicated in cases where the area shows signs of subcutaneous gas, even though the bowel function may be normal. CT scan has a high sensitivity and specificity (98%) in confirming the diagnosis¹⁷. Femoral hernias have the highest rate of incarceration and strangulation (5-20%) when compared to other abdominal wall hernias, so early surgical intervention is required¹⁸.

No standard treatment exists for de Garengeot hernias due to the rarity of this condition. Treatment varies from initial open drainage of groin abscess followed by interval appendectomy and hernia repair, or appendectomy followed by interval hernia repair or appendectomy and hernia repair at the same time¹⁹. Femoral hernias are more common in women than men but are less common than inguinal hernias in both sexes. They account for only 4 per cent of all groin hernias with a 4:1 to 6:1 female to male ratio. The hernia sac can contain omentum, small bowel, colon, ovaries, and infrequently the appendix. Although there are occasional cases diagnosed preoperatively, typically the appendix is found incidentally during repair without any preoperative signs or symptoms. Several papers propose physical findings such as subcutaneous air, which should raise the suspicion of appendicitis within a femoral hernia. diagnoses for groin hernia in parous women. In suspected or ambiguous cases, it is recommended to use an incision 1 cm above the inguinal ligament so that both inguinal and femoral hernia can be managed at the same time. The inguinal canal should not be explored in femoral hernias because the inguinal structures can be damaged and weakened, predisposing to an inguinal hernia in the future. The classical approach is still beneficial in different hernia conditions and depends on the preference of the surgeon.

CONCLUSION

Present a case of an acute appendicitis in a femoral hernia. Source of sepsis was removed and the hernia defect repaired. And patient made a full recovery. e Garengeot hernia is a rare condition, hence the frequent misdiagnosis.

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