

Case Report

De Garengot hernia: Is appendectomy necessary?

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Abstract. Incarcerated femoral hernias are uncommon and incarceration of the appendix in femoral hernia is named as "De Garengot hernia." It is generally an incidental finding in hernia repair. We operated that incarceration with right femoral hernia and direct right inguinal hernia without appendectomy. A 58-year-old female patient who had been monitored for 2 months in another clinic with the diagnosis of right inguinal lymphadenopathy was admitted to our hospital. In the superficial ultrasonography, they observed 17x10 mm reactive lymph nodes, right femoral hernia with tubular structure located in the hernia sac, and inguinal hernia in its superior. On elective conditions, the patient was operated upon and an oblique incision was made on the right inguinal ligament, then it was observed that the appendix was incarcerated with right femoral hernia and direct right inguinal hernia. The femoral and inguinal hernia were repaired with a prolene mesh graft and the appendix was sent into the abdomen. In conclusion, differential diagnoses must be considered for patients diagnosed with inguinal lymphadenopathy.

Keywords: Femoral hernia, inguinal hernia, De Garengot, appendectomy

Introduction

Incarcerated femoral hernias are uncommon and incarceration of the appendix in femoral hernia is named as 'De Garengot hernia.' It is generally an incidental finding in hernia repair. We operated a case of incarceration with right femoral hernia and direct right inguinal hernia without appendectomy.

Case report

A 58-year-old female patient who had been monitored for 2 months in another clinic with the diagnosis of right inguinal lymphadenopathy was admitted to our hospital. The physical examination showed 2x2 cm and 1x1 cm solid mass images in the right inguinal and there was no finding regarding the inflammation in the physical examination. The abdominal examination was normal. The laboratory test results were within the acceptable limits. In the superficial ultrasonography, they observed 17x10 mm reactive lymph nodes, right femoral hernia with tubular structure located in the hernia sac, and inguinal hernia in its superior. On elective conditions, the patient was operated upon and an oblique incision was made on the right inguinal ligament, then it was observed that the appendix was incarcerated with right femoral hernia and direct right inguinal hernia, and there was also a 15x10 mm lymph node (Fig. 1). The femoral and inguinal hernia were repaired with a prolene mesh graft and the appendix was sent into the abdomen. The patient was discharged on the

first postoperative day.

Discussion

Inguinal hernias are generally classified as indirect, direct, and femoral based on the site of herniation relative to surrounding structures. Femoral hernias protrude through the small and inflexible femoral ring. The borders of the femoral ring include the iliopubic tract and inguinal ligament anteriorly, Cooper's ligament posteriorly, the lacunar ligament medially, and the femoral vein laterally. The Nyhus classification categorizes hernia defects by location, size, and type: Type I Indirect hernia; internal abdominal ring normal and typically occurs in infants, children, small adults. Type II Indirect hernia; internal ring enlarged without impingement on the floor of the inguinal canal and does not extend to the scrotum. Type IIIA Direct hernia; size is not taken into account. Type IIIB Indirect hernia; that has enlarged enough to encroach upon the posterior inguinal wall; indirect sliding or scrotal hernias are usually placed in this category because they are commonly associated with extension to the direct space; also includes pantaloon hernias. Type IIIC Femoral hernia. Type IV Recurrent hernia; modifiers A–D are sometimes added, which correspond to indirect, direct, femoral, and mixed, respectively [1]. According to the Nyhus classification, our patient was classified as type IV direct and femoral hernia.

The differential diagnosis of inguinal hernia includes

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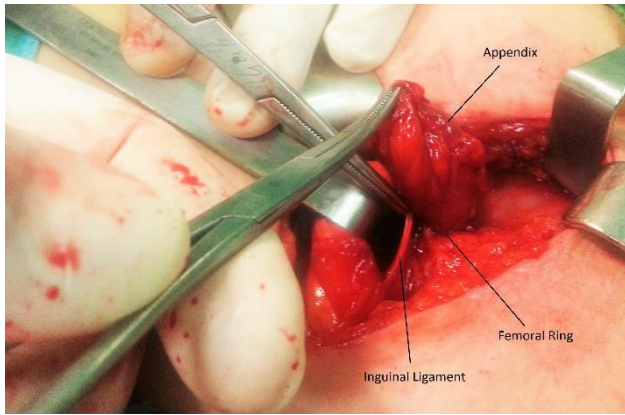


Figure 1 Appendix incarcerated with right femoral hernia and direct inguinal hernia.

malignancy (lymphoma, retroperitoneal sarcoma, metastasis testicular tumor), primary testicular pathology (varicocele, epididymitis, testicular torsion, hydrocele, ectopic testicle, undescended testicle), femoral artery aneurysm or pseudoaneurysm, lymph node, sebaceous cyst, hidradenitis, cyst of the canal of Nuck (female), saphenous varix, psoas abscess, hematoma, ascites [1]. Our patient had been monitored by another clinic for two months with the diagnosis of inguinal lymph node. We believe that radiological evaluations together with physical examination are important in inguino-femoral pathologies. Femoral hernias comprise less than 10% of inguinal hernias and they are formed by herniation of the peritoneum below the inguinal ligament via the femoral triangle [2].

The risk of incarceration and strangulation is high in femoral hernia due to the narrow and rigid ring [3]. 50% of the cases emerge with incarceration. Intra-abdominal omentum and intestinal incarceration are frequently seen and the incarceration of the appendix in femoral hernia is observed 0.8-1% and named as 'De Garengeot hernia' [4]. De Garengeot groin hernias usually emerge with nonspecific findings like continuous swelling in the hernia, pain, redness, and increased temperature. Laboratory tests may not give exact results [5]. Our patient was monitored with the diagnosis of inguinal lymph node for two months and the laboratory findings were normal. Radiological findings are usually nonspecific. Ultrasonography, tomography, and MRI are usually preferred for imaging. CT is useful in planning the preoperative diagnosis and treatment. According to literature, though CT is more successful than ultrasonography, ultrasonography is cheaper and more easily accessible than CT and MRI [6, 7]. We must emphasize that the only disadvantage of ultrasonography is subjective evaluation. Treatment of De Garengeot hernia is immediate surgery. Since the disease is

rarely seen, there is no standard treatment. In the absence of appendiceal perforation or abscess formation, synthetic grafts can be used to repair hernias. Cooper's ligaments can be used in the presence of infection. Firstly appendectomy and then hernia repair; appendectomy and hernia repair via inguinitomy; appendectomy via hernia sac and femoral hernia repair; hernia repair and laparoscopic appendectomy at the same stage are among the operative options [8]. In the absence of a strangulation image in the appendix, only femoral hernia repair can be made, as it is in the case with our patient. Because of swelling in the inguinal region the applicant and after physical examination with radiologic evaluation, differential diagnoses must be considered for patients diagnosed with inguinal lymphadenopathy. In this way, De Garengeot hernias that are less common than 1% can be treated by taking the diagnosis without the development of morbidity and mortality.

Conflict of Interest

The authors declare no conflicts of interest.

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