

# An uncommon entity: De Garengeot hernia

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## ABSTRACT

De Garengeot hernia is a rare type of femoral hernia that presents with appendicitis. This clinical condition that usually occurs in the 7<sup>th</sup> decade, mostly in women, requires urgent surgery. Here, we present a 73-year-old patient with acute appendicitis within the femoral hernia sac.

**Keywords:** Acute abdomen; acute appendicitis; De Garengeot hernia

## INTRODUCTION

A total of 439 cases of De Garengeot hernia have been reported in the literature since it was first described in 1731 by the surgeon Rene Jacques Croissant De Garengeot. The majority of patients are women over the age of 70 years.<sup>[1]</sup> Multiparity, smoking, constipation, chronic cough, muscle and connective tissue disorders, pelvic appendix, and low-lying cecum have been suggested to play roles in the etiology of De Garengeot hernia.<sup>[2]</sup>

## CASE REPORT

A 73-year-old female patient was admitted to the emergency department with a painful red lump in the right groin that had persisted for 4 days. The patient had known chronic obstructive pulmonary disease, hypertension, and a history of the left hip replacement. Physical examination revealed a firm and erythematous lump measuring 8 cm × 6 cm in the right inguinal region. Laboratory test results were as follows: White blood cell count = 12300/L (normal, 3400–9500/L) and C-reactive protein level = 53.2 mg/dL (normal, <0.5 mg/dL). Computed tomography (CT) revealed bowel loops estimated to have a blind end within the right femoral hernia sac, and contamination of surrounding tissues (Fig. 1). The patient was taken urgently into the operating room with a

preliminary diagnosis of incarcerated femoral hernia, and the femoral hernia sac was reached through right inguinal oblique incision. As the hernia sac was incarcerated, the inguinal ligament was cut and the sac was exposed. When the hernia sac was opened, a congested and inflamed appendix was observed (Fig. 2). The radix was intact and appendectomy was performed. The inflamed hernia sac was partially excised and closed with a purse suture. Mesh was not considered because the tissues were inflamed. The defect was repaired through McVay repair. The patient had an uneventful recovery and was discharged on the third postoperative day.

## DISCUSSION

De Garengeot hernia is a rare subtype of femoral hernia that contains a vermiform appendix. It accounts for <1% of all femoral hernias and acute appendicitis is found in the majority of patients. The underlying cause may be extraluminal obstruction due to the tight neck of the hernia sac. A common finding is the incarceration and inflammation of the distal part of the appendix, while the remaining proximal part is unaffected.<sup>[3]</sup> Ultrasonography and CT can be used for diagnosis. A review of 36 patients with De Garengeot hernia indicated that ultrasound and CT were diagnostic in 20% and 44% of cases, respectively.<sup>[4]</sup> With advances in imaging methods, the number of cases detected after 2010 has amounted

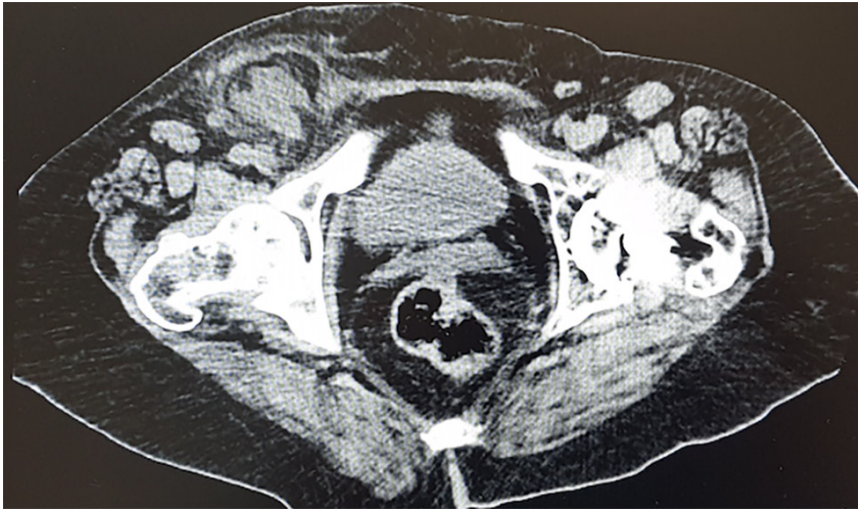
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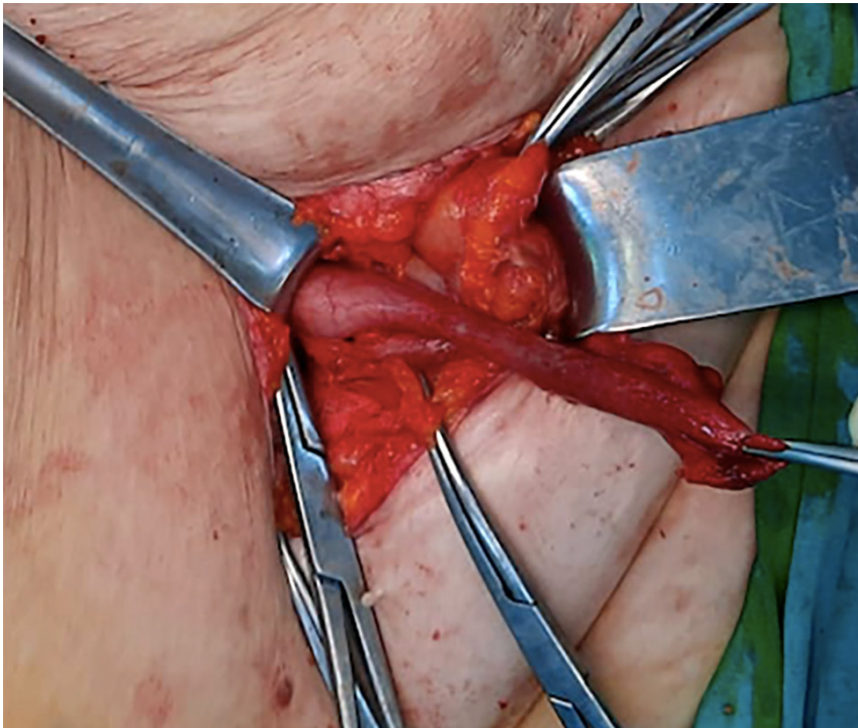
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**Figure 1.** Computed tomography scan of the pelvis demonstrating a mass within a femoral hernia sac with some surrounding fat stranding.



**Figure 2.** Intraoperative image showing the inflamed and congested appendix within the femoral hernia.

to approximately 64% of the total number of cases in the literature.

Given its rarity, there is no preferred surgical technique for the treatment of De Garengeot hernia. Anterior, posterior (preperitoneal approach such as Stoppa or McEvedy's technique), and laparoscopic approaches may be adopted. The two most frequently specified methods are the McVay and Cooper ligament suture techniques in anterior approach. The use of mesh is assessed depending on the condition of the operation site. Placing mesh in an infected environment

is not recommended as it may lead to mesh infection.<sup>[5]</sup> Among cases with a normal appendix, appendectomy may be postponed for another session. Hybrid surgery which included laparoscopic appendectomy and anterior hernia repair has been recommended in patients with De Garengeot hernia with appendicitis and a concurrent groin subcutaneous inflammation.<sup>[6]</sup> The reported rate of postoperative surgical site infection is approximately 29%. Although rare and severe complications, such as necrotizing fasciitis and death, have been encountered in cases of delayed treatment.<sup>[7]</sup>

## Conclusion

De Garengéot hernia is a very rare type of hernia that can result in necrotizing fasciitis and death if diagnosed late. It is very important to consider this type of hernia and its complications in cases with the right incarcerated hernia. Surgical treatment should be managed according to the condition of the hernia defect, the presence of acute appendicitis, surgical site condition, and the surgeon's experience.

**Informed Consent:** Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

**Peer-review:** Internally peer-reviewed.

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**Conflict of Interest:** None declared.

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## OLGU SUNUMU - ÖZ

### Nadir görülen bir antite: De Garengéot hernisi

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De Garengéot Herni femoral herni içerisinde apendiks olmasıyla prezente olan nadir bir herni türüdür. Genellikle 7. dekatta, büyük çoğunlukta kadın olgularda ortaya çıkan acil cerrahi gereksinimi olan klinik antitedir. Bu yazıda, 73 yaşında femoral herni kesesi içerisinde akut apandisit tablosu ile başvuran olgu sunuldu.

Anahtar sözcükler: Akut abdomen; akut apandisit, De Garengéot Hernisi.

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