



CASE REPORT

Incarcerated appendix within femoral hernia



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Summary De Garengeot's hernia is a rare condition that involves acute appendicitis of an incarcerated femoral hernia. We report a 74-year-old female patient who presented with severe and painful right groin swelling. An incarcerated appendix within the femoral hernia was discovered.

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1. Introduction

De Garengeot's hernia is a rare condition that involves acute appendicitis of an incarcerated femoral hernia. Surgery for groin hernias is common, and nearly all abdominal organs as well as a variety of unusual pathologies can be discovered in the hernia sac. However, a femoral hernia sac containing the appendix is a rare condition that was first described by Rene Jacques Croissant De Garengeot in 1731.¹ Preoperative diagnosis of De Garengeot's hernia is generally difficult; however, accurate diagnosis is critical for reducing morbidity. In this study, we report a 74-year-old female patient who presented with severe and painful right groin swelling.

2. Case report

A 74-year-old woman visited our out-patient department because of severe pain over the right side of the groin, which had persisted for 4 days. Two days prior to admission, the patient arrived at the emergency department, where a femoral lymphadenopathy was diagnosed. Based on the clinical findings and the bedside ultrasound results, the patient was treated with broad-spectrum antibiotics. The patient reported that the protruding bulge around her right groin area had been present for approximately 6 months. The patient also expressed increasing pain and redness in this area. The patient had no significant medical or surgical history. An abdominal examination revealed a soft non-distended abdomen with an erythematous mass in the right inguinal region, measuring 3 cm × 3 cm, approximately 3 cm below the inguinal ligament. The mass was mildly tender on palpation and nonreducible (Fig. 1). The patient underwent blood tests, which revealed a borderline rise in

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Figure 1 A photograph showing erythema secondary to De Garengeot's hernia.



Figure 2 The appendix observed after opening of the hernia sac, which is shown held by a forceps.

white blood cell (WBC) count of $13.2 \times 10^3/\mu\text{L}$, and the remainder of the hematological results were within normal limits. A clinical examination revealed a femoral hernia. Ultrasonography confirmed that the bowel was present in the hernia sac. Therefore, an emergency hernioplasty was arranged.

Based on the diagnosis of an irreducible femoral hernia, open exploration using a low inguinal incision was performed under general anesthesia. When the hernia sac was opened, a 17-cm noninflamed appendix was observed. Intraoperative findings confirmed a noninflamed appendix protruding through the femoral hernial sac (Fig. 2). A small focal area on the tip of the appendix appeared mildly ischemic. A routine appendectomy was performed through the hernial sac. The femoral defect was then closed between the inguinal and pectineal ligament using nonabsorbable sutures.

3. Discussion

The appendix is rarely observed in the femoral hernia sac. De Garengeot reported the first instance of acute appendicitis within a femoral hernia in the early 18th century.² De Garengeot's hernia represents an unusual finding and is typically diagnosed intraoperatively as a result of an atypical clinical presentation and nonspecific radiological findings. Based on a review of the literature, Kalles et al³ determined that ultrasound examination exhibited a 20% diagnosis rate, with variable findings such as bowel content in the hernia sac, cystic lesions, or fluid collection. Computed tomography (CT) studies have successfully diagnosed femoral hernia appendicitis in 44% of patients.³ The differential diagnosis of femoral hernias based on clinical findings includes inguinal lymphadenopathy, lipoma, femoral artery aneurysm, psoas abscess, hydrocele, and cutaneous lesions.⁴ CT is useful for distinguishing these conditions from a femoral hernia⁴; nevertheless, the final diagnosis is most often determined intraoperatively. Sharma et al² observed seven patients with De Garengeot's hernia, and reported that none of the patients were diagnosed preoperatively. Despite its rarity, emergency physicians must always consider the possibility of a femoral hernia to decrease the morbidity caused by late diagnosis of De Garengeot's hernia.

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