CASE REPORT – OPEN ACCESS

International Journal of Surgery Case Reports 33 (2017) 8–11

Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

De Garengeot hernia with perforated appendicitis and a groin subcutaneous abscess: A case report

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ARTICLE INFO

Article history:
Received 17 January 2017
Received in revised form 16 February 2017
Accepted 16 February 2017
Available online 20 February 2017

Keywords:
De Garengeot hernia
Femoral hernia
Acute appendicitis
Subcutaneous abscess
Appendectomy
McVay's technique

ABSTRACT

INTRODUCTION: De Garengeot hernia is rare. Although previous reports have suggested various surgical options according to patient condition, comorbidities, surgeon preference, and clinical findings during surgery, a treatment strategy has not been established.
PRESENTATION OF CASE: An 81-year-old woman presented with an irreducible tender mass that was subsequently diagnosed as an incarcerated femoral hernia with a subcutaneous abscess in the right groin. Intraoperative findings revealed a necrotic and perforated appendix strangulated by the femoral ring for which an appendectomy and herniorrhaphy was performed concurrently through the hernia sac. The subcutaneous abscess cavity was washed thoroughly and a drainage tube was placed within it. The patient recovered uneventfully.
DISCUSSION: We suggest that the approach through the inguinal incision in both appendectomy and herniorrhaphy with drainage may be useful in avoiding intra-abdominal contamination in cases of de Garengeot hernia with subcutaneous abscess.
CONCLUSION: Here, we described a case of de Garengeot hernia with a subcutaneous abscess in the groin. Clinicians should consider de Garengeot hernia in patients with a groin hernia, make an early diagnosis, and promptly provide surgical treatment to reduce the risk of complications.

1. Introduction

De Garengeot hernia, a femoral hernia containing the vermiform appendix, is rare [1]. Preoperative diagnosis of de Garengeot hernia is very difficult because it lacks specific symptoms or imaging findings; thus, it is often diagnosed during the surgery following the diagnosis of atypical incarcerated femoral hernia involving any part of the bowel [2].

The optimal treatment strategy for de Garengeot hernia has not been established, possibly due to its rarity. The use of prosthetic mesh in hernia repair and appendectomy of a non-inflamed appendix remains controversial [3,4], and previous reports suggested various surgical options: laparoscopic or open hernia repair, with or without mesh, with or without appendectomy determined according to intraoperative findings, status, comorbidities, and previous abdominal surgeries [3,5–7]. Moreover, there are few reports of de Garengeot hernia with groin subcutaneous abscess [6].

Here we report a case of de Garengeot hernia with perforated appendicitis and groin subcutaneous abscess. This work has been reported in line with the SCARE criteria [8].

2. Presentation of case

An 81-year-old woman with hypertension, dementia, and a history of hysterectomy for uterine prolapse was admitted for evaluation of right groin pain, difficulty in walking, and fever (38.0 °C). These symptoms started 4 days prior to admission. She had neither abdominal pain nor nausea (vomiting), indicating appendicitis or bowel obstruction. On physical examination, an irreducible mass with tenderness bulged out (6 cm in size) and was located inferior and outer side than the pubic tubercle in the right groin. Moreover, redness and swelling of the skin were evident from the right groin to the anterior portion of the femoral region (Fig. 1A). The laboratory data were as follows: white blood cell count, 8900/μL (normal range, 3400–9500/μL); and C-reactive protein level, 7.68 mg/dL

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http://dx.doi.org/10.1016/j.ijscr.2017.02.028

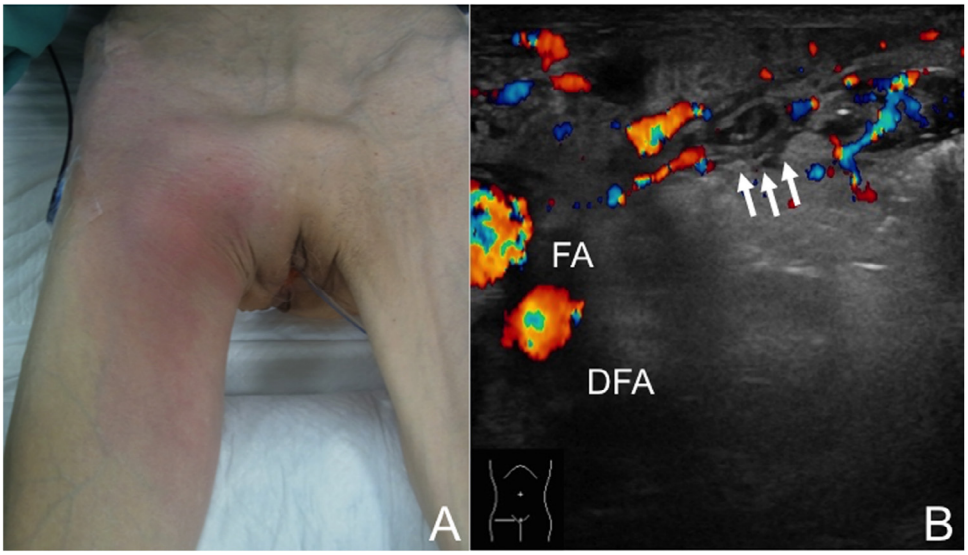

Fig. 1. Physical findings and ultrasonographic image.
(A) An irreducible mass with tenderness bulged out (6 cm in size) and was located inferior and outside the pubic tubercle in the right groin. Redness and swelling of the skin were revealed from the right groin to the anterior portion of the femoral region. (B) A tubular blind-ended structure (*white arrows*) medial to the femoral artery and vein. The femoral vein was displaced. FA, femoral artery; DFA, deep femoral artery.

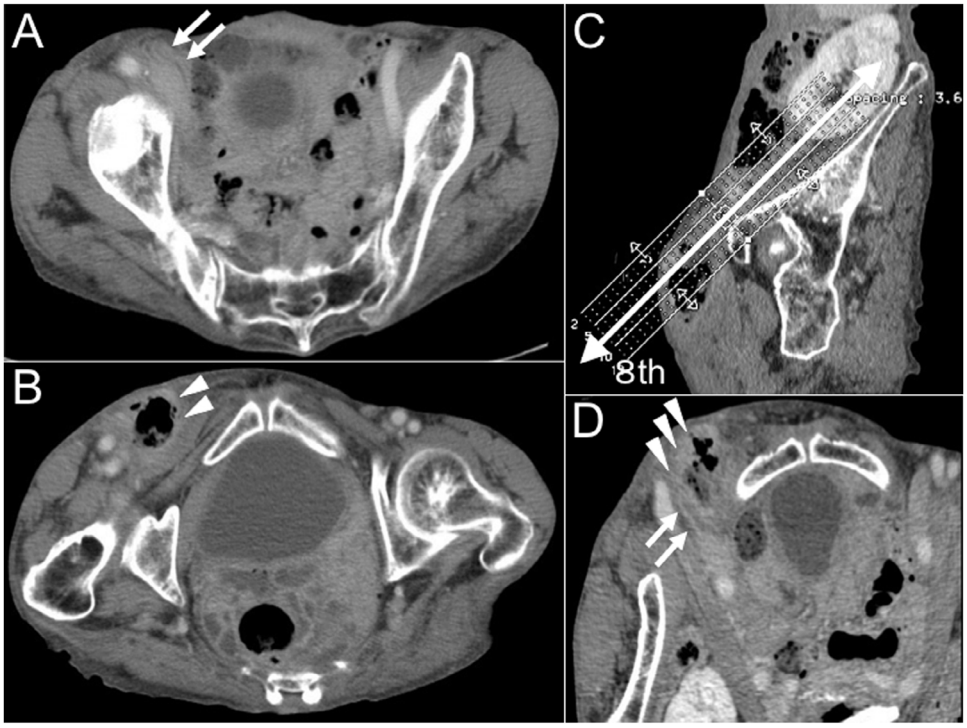

Fig. 2. Computed tomography image.
(A) Contrast-enhanced computed tomography (CT) scan in horizontal view revealing a tubular structure passing through the inside of the right femoral artery (*white arrows*). (B) The CT scan in horizontal view revealing a gas-filled subcutaneous abscess that was adjacent to the tip of the structure and spread to the anterior portion of the femoral region (*white arrow heads*). (C) A schema of reconstructed CT images parallel to the femoral canal. (D) The reconstructed CT images in the 8th section of (C) showing a subcutaneous gas-filled abscess (*white arrow heads*).

(normal range, <0.5 mg/dL). Ultrasonography revealed a tubular blind-ending structure medial to the femoral artery and a displaced femoral vein (Fig. 1B). An incarcerated femoral hernia involving any part of the bowel was suspected. Abdominal contrast-enhanced computed tomography (CT) revealed a tubular structure passing through the inside of the femoral artery. Moreover, a subcutaneous gas-filled abscess was adjacent to the tip of the structure and spread to the anterior portion of the femoral region (Fig. 2).

Under the diagnosis of an incarcerated right femoral hernia involving the perforated bowel and groin subcutaneous abscess, the patient consented to undergo emergency surgery. The inguinal canal was opened using the anterior approach and the posterior wall was transected to reach the preperitoneal space. The hernia sac was irreducible and strangulated by the femoral ring. When the inguinal ligament was amputated to open the femoral ring, pus was drained, and the contaminated and decaying hernia sac that con-