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De Garengeot Hernia: A Rare Cause of Acute Abdomen

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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Case Study

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ABSTRACT

De Garengeot hernia is a femoral hernia with an appendix vermiformis within the hernia sac. It is named after a French surgeon Rene Jacques Croissant de Garengeot, who first described the appendix in the femoral hernia sac in the 18th century. De Garengeot hernia is a relatively rare clinical entity and only a few surgeons are aware of it. This case described an older female patient, who presented to the emergency department with an incarcerated right sided femoral hernia, which could not be reduced. An emergency surgery revealed incarcerated appendix vermiformis inside the femoral hernia sac – the so called »De Garengeot hernia«.

Keywords: De Garengeot hernia; femoral hernia; incarceration; emergency surgery.

1. INTRODUCTION

De Garengeot hernia is defined as a femoral hernia containing the appendix vermiformis. It is a rare phenomenon, with only 1% of all femoral hernias containing the appendix vermiformis and is usually found incidentally at surgery. Only 0.08-0.13% of De Garengeot hernias contain an incarcerated acute appendicitis (sometimes detected on pre-operative abdominal computed

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tomography) [1]. It is not to be confused with Amyand hernia, an appendix vermiformis-containing inguinal hernia. De Garengeot hernia is named after Rene Jacques Croissant de Garengeot (1688-1759), Parisian surgeon, who first described this pathology in 1731 [2]. This paper presents a case of an older female patient, who presented to the emergency department (ED) with a painful swelling in her right groin, which proved to be an incarcerated De Garengeot hernia.

2. CASE STUDY

An 84-year-old female patient was referred to the emergency department (ED) due to painful swelling in her right groin. On clinical examination at the ED department, we found a painful swelling in her right groin, which was highly suspicious to be an incarcerated right-sided inguinal or a femoral hernia. The swelling was painful on palpation. The patient did not vomit, she passed a normal stool, but had diffuse abdominal pain. Otherwise, the patient had stable vital signs, normal laboratory test, haemostasis test was normal. She had only arterial hypertension and hyperlipidemia, on per oral medications. She had no prior operation or known allergies. She also had no known groin hernias from the past. On the basis of clinical examination from an experienced abdominal surgeon, it was highly suspicious to be an incarcerated groin hernia, that could not be reduced, so we decided for an emergency surgery. We did not perform any prior imaging diagnostics. The right parainguinal skin incision over the incarcerated hernia was performed. We prepared the hernia sac and found to be an incarcerated femoral hernia. We opened the sac and found inside a tubular structure, that looked like the appendix vermiformis. Macroscopically the appendix was without signs of inflammation. A small lower median laparotomy was performed. The incarcerated appendix vermiformis was reduced from the hernia sac, appendectomy was performed and the femoral opening was closed with sutures. Laparotomy was closed with interrupted resorbable sutures, skin wounds were closed with staples. The postoperative course was uneventful and the patient was discharged from the hospital on the third postoperative day.

3. DISCUSSION

The inguinal or femoral hernia repairs are very common procedures performed by general surgeons. The incarcerated hernia represents an emergency due to possible strangulation and ischemic necrosis with or without perforation of the incarcerated intestine within the hernia sac [3]. Femoral hernias account for 4% of all groin hernias, are more common in female patients and are at higher risk for incarceration and strangulation due to small potential space in the femoral canal. Our patient was an older woman, who presented to the ED with incarcerated De Garengeot hernia, which was diagnosed during emergency surgery. In our institution, the clinically highly suspicious incarcerated groin hernia, that cannot be reduced, is an indication for an emergency surgery, without the need for prior imaging diagnostics. The appendix vermiformis within the femoral hernia sac (De Garengeot hernia) is a rare entity and is usually diagnosed during surgery [4]. This phenomena is thought to occur in 0.5% to 3% of femoral hernia cases. Many general surgeons are not aware of this clinical entity. Preoperative diagnosis of De Garengeot hernia is rare. Clinical examination is of limited value in identifying the content of a femoral hernia. In rare cases, abdominal computed tomography has demonstrated some value, depending on the protocol and expertise of the radiologist [5]. Similar to our case, in other cases, De Garengeot hernia has been diagnosed through surgical exploration. In some cases, exploration was performed through median laparotomy or through parainguinal skin incision [6]. In our case, we used both approaches, because we could not perform appendectomy through parainguinal incision. The treatment of choice of the femoral hernia containing appendix vermiformis is simultaneous appendectomy through hernia incision and a primary hernia repair, to avoid a separate incision for an appendectomy [6]. However, in some cases, as it was also in our case, appendectomy through hernia incision is technically not feasible, so another strategy must be employed. Other skin incisions are described in the literature, such as small lower median laparotomy or the low curved inguinal approach, which provides adequate exposure for the femoral hernia repair and an intraabdominal access for the appendectomy. The laparoscopic approach is still controversial [7]. Choice of repair in a femoral hernia containing pathological appendix vermiformis is debatable. Generally, prostetic material is not preferrred in the contaminated field due to the risk of infection [8]. The most common complications of the De Garengeot hernia repair are wound infections with a rate up to 29%, necrotizing fasciitis and even death have been described [7].

4. CONCLUSIONS

Groin hernia repair is one of the most common procedures performed by general surgeons, but only a few of them are familiar with De Garengeot hernia, which is a rare entity. Every general surgeon should be aware with this rare entity and include it in the differential diagnosis of right lower quadrant pain. The surgeon should also be familiar with basic principles of management of this entity.

CONSENT

As per international standard or university standard, the patient's written consent has been collected and preserved by the author.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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