

Amyand's hernia with appendicitis presented as an inguinal abscess: A case report

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Abstract

Amyand's hernia, defined as the presence of the appendix, inflamed or not, in an inguinal hernia sac is a rare condition. The diagnosis is difficult because the symptoms are unspecific, and the diagnosis is generally made in the operating room. Controversy remains about the surgical management. This article presents the case of a complicated Amyand's hernia for which a three-stages surgical procedure was necessary.

Keywords

Amyand's hernia; inguinal hernia; appendix; appendicitis

Introduction

First described by Claudius Amyand in 1735, Amyand's hernia is defined as the protrusion of the vermiform appendix in an inguinal hernia sac [1]. The clinical presentation is variable, from a healthy appendix to an abscess formation due to the appendix perforation [2]. It is a rare condition, occurring in 1% of the inguinal hernias and even more rare is an Amyand's hernia with appendicitis [2,3]. We will discuss about the case of a patient presenting this rare condition occurring in 0.13% of all inguinal hernias and for who we realised a laparoscopic appendectomy first and an herniorrhaphy with a mesh in a second time with successful outcomes.

Case Report

A 79-years-old woman with no medical history excepted an auricular fibrillation treated by apixaban was admitted to the emergency room of our hospital because she suffered from fever (maximal temperature registered at home: 38.5°C) and right iliac fossa pain. She described no nausea or vomiting episodes and no genitourinary symptoms. The physical examination revealed an indurated, irreducible and erythematous mass located in the right groin. The rest of the abdomen was depressible and unpainful. The admission blood

test showed a hyperleukocytosis ($29000 \text{ WBC}/\text{mm}^3$) and a CRP higher than $270 \text{ mg}/\text{l}$. An abdominal CT was then carried out and revealed a subcutaneous mass located near the right inguinal ligament (Figure 1). The conclusions were at this moment inguinal abscess versus infected inguinal hernia. A second analysis of the images permit to identify the Amyand's hernia and the inflammation of the appendix (Figure 2). Because of the anticoagulation treatment and the presence of the inguinal abscess, we decided to go to the operating room for a local draining. An antibiotic treatment (Ciproxin 500 mg twice a day) was started and two days after the last dose of anticoagulation, a laparoscopy was realised and confirmed the diagnosis of Amyand's hernia (Figure 3), with an inflamed appendix but without peritonitis. We proceed to the appendectomy, but we didn't repair the parietal defect. No drain was left in the abdomen. There were no postoperative complications. We continued antibiotherapy and irrigation through the inguinal drain and the patient was dismissed in day five. The hernioplasty with a polypropylene mesh application according to Rives technique was organised three months later, no complications during and after the surgery were noticed.



Figure 1: Abdominal CT scanner revealing a right inguinal mass (red arrows).

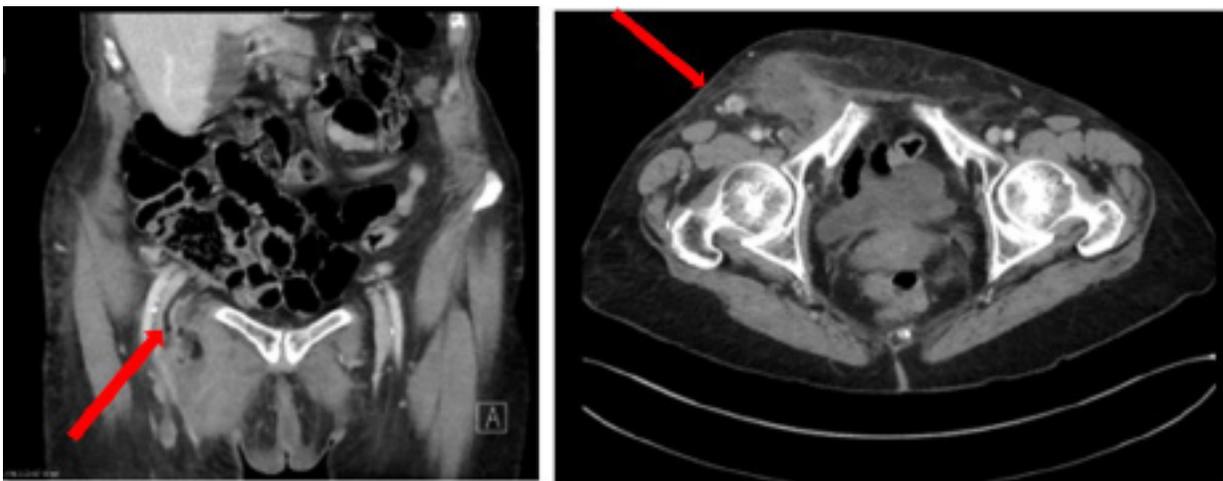


Figure 2: Abdominal CT scanner exposing the appendix in the hernia sac (red arrows).

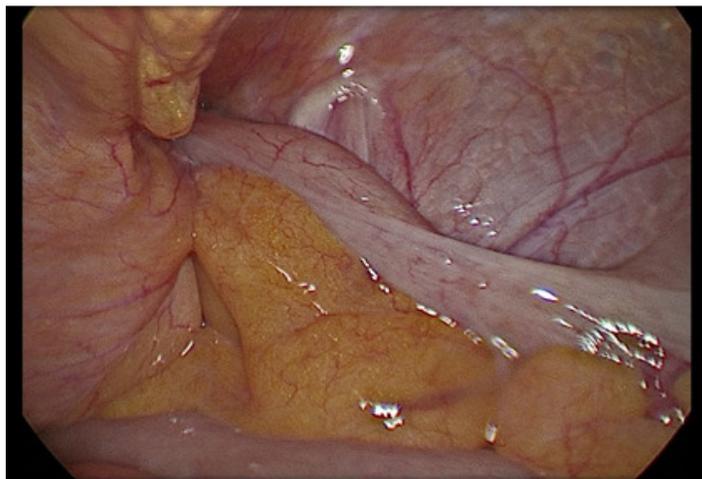


Figure 3: Laparoscopic picture showing the appendix in the inguinal hernia.

Discussion

Inflamed appendix in an Amyand's hernia is a very rare condition (0.3% of the inguinal hernias) [3]. It can occur between 1 month and 88 years and is more frequent in the population of male patients [2-5]. It usually occurs on the right side, but some cases have been described on the left side, related to a situs invertus or a hypermobility of the caecum [4,6]. The physiologic bases of Amyand's hernia appendicitis are not clear: according to some authors it is the result of the compression of the appendix by the neck of the hernia causing vascular obstruction [3] and according to others, the inflamed appendix enters the inguinal sac and forms adhesions which cause irreducible hernia [7]. The diagnosis is challenging because Amyand's hernia is clinically indistinguishable for an incarcerated or strangulated hernia [2,3,4]. In fact, the main symptom is pain in the right lower quadrant associated with a tender and irreducible mass [3]. Even with the help of imaging, cases of definitive preoperative diagnosis are rare [2,8] and the delay of diagnosis can lead to complications such as inflammation, perforation of the appendix or peritoneal sepsis [3]. Mortality ranges from 14% to 30% due to the peritoneal spread of sepsis [5]. The treatment of an Amyand's hernia is always surgical, but it depends of the appendix condition, as shown by the Losanoff and Basson's classification (Table 1) [9]. Due to the rarity of this disease, there are no standardized approaches and controversy remains about practicing an appendectomy for a macroscopically normal appendix and about the use of a mesh for the hernioplasty if appendectomy is performed [2,3,10]. In most of the cases reported in the literature, the appendectomy and the hernia repair are made in a same operating time, if no abdominal contamination is found, through the herniotomy [4,5]. In our case, we faced an Amyand's hernia type 2. However due to the local infection, the inguinal approach was not realisable, and we believe that the three-stages procedure was the optimal choice to prevent surgical site infection. Laparoscopic approach in Amyand's hernia remains rarely described in the literature but seems to be an efficient tool for the diagnosis as well as for the treatment. According to R. Akaishi et al., laparoscopic approach reduces manipulation of the appendix and avoids the enlargement of the hernia defect, reducing the risk of recurrence [11]. However, comparing laparoscopy and herniotomy in terms of morbidity and long terms results is difficult according to the infrequency of this disease.

Table 1: Losanoff and Basson's classification [9].

Classification	Description	Surgical management
Type 1	Normal appendix in an inguinal hernia	Hernia reduction, mesh repair
Type 2	Acute appendicitis in an inguinal hernia, without abdominal sepsis	Appendectomy, primary repair of hernia without mesh
Type 3	Acute appendicitis in an inguinal hernia, with abdominal wall or peritoneal sepsis	Laparotomy, appendectomy, primary repair without mesh
Type 4	Acute appendicitis in an inguinal hernia, with abdominal pathology	Manage as Type 1-3, investigate pathology as needed

Conclusion

Amyand's hernia is a rare condition. The diagnosis is difficult and generally made in the operating room. Controversy remains about the surgical management, even if the Losanoff and Basson's classification can provide some tools.

References

1. Amyand C. Of an inguinal rupture, with a pin in the appendix caeci, incruited with stone, and some observations on wounds in the guts. *Philos. Trans. R. Soc. Lond.* 1736; 39: 329–336.
2. Sharma H, Gupta A. Amyand's hernia: a report of 18 consecutive patients over a 15-year period. *Hernia.* 2007; 11: 31-35.
3. Michalinos A, Moris D, Vernadakis S. Amyand's hernia: a review. *The American Journal of Surgery.* 2013; 207: 989-995.
4. Meinke A. Review Article: Appendicitis In Groin Hernias. *Journal of Gastrointestinal Surgery.* 2007; 11: 1368-1372.
5. D'Alia C. Amyand's hernia: case report and review of the literature. *Hernia.* 2003; 7: 89-91.
6. Mongardini M, Maturo A. Appendiceal abscess in a giant left-sided inguinoscrotal hernia: a rare case of Amyand hernia. *SpringerPlus.* 2015; 4: 378-382.
7. Weber R, Hunt Z, Kral J. Amyand's hernia: etiologic and therapeutic implications of two complications. *Surgical Rounds.* 1999; 22: 552–556.
8. Lyass S, Kim A, Bauer J. Perforated appendicitis within an inguinal hernia: case report and review of the literature. *American journal of Gastroenterology.* 1997; 192: 700-702.
9. Losanoff JE, Basson M: Amyand hernia: a classification to improve management. *Hernia.* 2008; 12: 325-326.
10. Torino G, Campisi C. Prosthetic repair of a perforated Amyand's hernia: hazardous or feasible? *Hernia.* 2007; 11: 551-552.
11. Akaishi R, Nishimura R: Amyand's hernia complicated with appendix perforation treated by two-stage surgery consisting of laparoscopic appendectomy followed by elective inguinal hernioplasty: A case report. *International Journal of Surgery Case Report.* 2018; 47: 11-13.

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