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Case Report

Amyand's hernia complicated with cecal necrosis: presentation of a case and surgical treatment

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ABSTRACT

The presence of the vermiform appendix, inflamed or not, within a hernial sac is known as Amyand's hernia (AH). This represents 1 percent of all inguinal hernias and one third of these are associated with acute appendicitis. This presentation is a rare entity and most of the times it presents as a finding during the surgical event. We report a male patient in his fifth decade of life who consulted for a 10-day history of increased volume in the right inguinal region associated with pain and inability to reduce. An exploratory laparotomy was performed that required a right hemicolectomy. AH represents a diagnostic challenge, in most cases it is considered an incidental intraoperative diagnosis. There is no protocolized treatment, however, the inflammatory degree of the appendix is what will guide the surgical approach.

Keywords: Abdominal hernia, Inguinal hernia, Appendix, AH

INTRODUCTION

An inguinal hernia is a protrusion of the contents of the abdominal cavity through the inguinal canal. The sac of an inguinal hernia can contain any abdominal organ, including the small or large intestine. Amyand's hernia is a very rare and uncommon form of inguinal hernia in which the vermiform appendix is present within the hernial sac.[1] This condition was first described by the french surgeon Claudius Amyand, who performed a successful aappendectomy in the 1735.[1,2] Amyand's hernia has an incidence of 1% and only 0.8 to 0.13 percenatges of cases are complicated by acute appendicitis.[1,3,4] Risk factors for this type of hernia include advanced age, male gender, decreased body mass index, history of prostatectomy, or radiation therapy.[5] The diagnostic approach to Amyand's hernia can be challenging, as it can be asymptomatic, lead to incarceration, or even become acute appendicitis within the hernial sac and this can result in perforation and/or abscess formation, being a casual finding during a surgical intervention.[1,3,4,6] Amyand's hernia can be classified using the system created by Losanoff and Basson, which addresses the recommended surgical treatment for different types of Amyand's hernia. This approach makes it possible to recognize and manage HA presentation variations (Table 1), but in general, appendectomy within the hernial sac together with repair of the defect and antibiotic therapy is a curative treatment.[7]

Table 1: Losanoff and Basson classification.

Clasification	Description	Surgical management
Type 1	Normal appendix within inguinal hernia	Hernia reduction, mesh repair, and appendectomy
Type 2	Acute appendicitis within an inguinal hernia, with no abdominal sepsis	Appendectomy through hernia, primary repair of hernia, no mesh
Type 3	Acute appendicitis within an inguinal hernia, abdominal wall o peritoneal sepsis	Laparotomy, appendectomy, primary repair of hernia, no mesh
Type 4	Acute appendicitis within an inguinal hernia, related or unrelated abdominal pathology	Manage as hernia types 1 to 3, investigate or treat pathology as appropriate

CASE REPORT

A 41-year-old male, native and resident of the state of Nuevo León, he went by his own means to the emergency department with symptoms of 10-day evolution, presenting pain and increased volume in the right inguinal region associated with fever and nausea that led to vomiting of gastrointestinal content. During his anamnesis it was verified that he was no significant medical history, no previous hospital admissions and no surgical history. On physical examination, he had a temperature of 38°C, normotensive, tachycardic at 110 beats per minute, and tachypneic with a respiratory rate of 22 breaths per minute. On palpation, the abdomen presented an increase in painful volume in the inguinal and right scrotal region, which was not reducible, with no evidence of peritoneal irritation. Biochemically, a high white blood cell count was found 26.9×10^9/L due to neutrophilia of 87%. Given clinical findings, suspicion of incarcerated inguinoscrotal hernia was integrated, surgical management was decided. Among the intraoperative findings, a hernial sac containing the loop of the cecum and the cecal appendix was observed with ischemic changes, necrosis at its base and abundant inflammatory reaction fluid (Figure 1), so it was decided to convert to laparotomy by performing a right hemicolectomy plus elaboration of a Brooke-type ileostomy (Figure 2). The patient received antibiotic treatment with third-generation cephalosporin and was discharged on the third postoperative day.

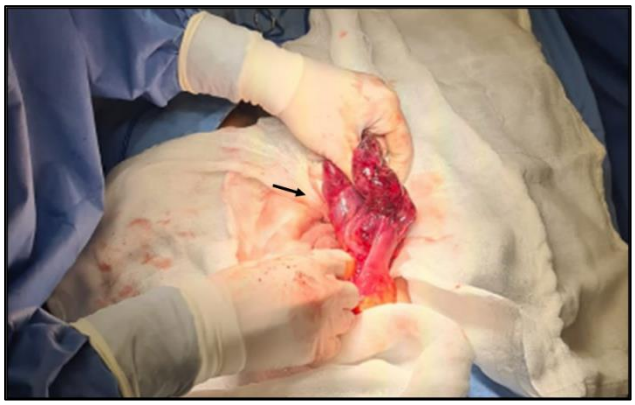

Figure 1: Intraoperative findings, showing necrosis at the base of the appendix, as well as ischemic changes at the level of the cecum.

Figure 2: Image during surgery, showing the result of the right hemicolectomy.

DISCUSSION

AH is a rare type of inguinal hernia with a prevalence of less than 1%, it is associated with complicated appendicitis in 0.1% of cases.[8] It should be suspected in all incarcerated inguinal hernias with septic data and signs of peritonitis.[1,6] The diagnosis is considered a challenge, a formal clinical history accompanied by a thorough physical examination is essential; Computed tomography is useful in adults, as well as ultrasound in pediatric patients.[6] However, it should be emphasized that the gold standard in the detection of this type of hernia is a surgical exploration due to the variety of differential diagnoses.[9,10]

According to the state of the appendix, the hernia is classified into 4 types according to the Losanoff and Basson classification, depending on the transoperative findings, an adequate surgical management will be decided.[1,6,7] In addition to the findings, the decision to preserve or not the appendix will depend on age and the risk of evolution to generalized peritonitis. Young people are much more likely to suffer from acute appendicitis in

contrast to adulthood or elderly patients.[11] The main management is open surgery, but in recent years the laparoscopic approach is adding cases; giving benefits of less hospital stay, faster recovery, less postoperative pain, among others.[1,6] There is controversy regarding the use of mesh for primary hernia repair. Infection rates of up to 50% have been reported with primary mesh repair, making its use controversial.[12]

In the present case, it was decided to perform a surgical exploration, finding an AH with complicated acute appendicitis; given the risk of evolution to generalized peritonitis and/or leakage of the appendiceal stump, right hemicolectomy and herniorrhaphy were performed without the use of mesh, according to the recommendations of Losanoff and Basson. Postoperative evolution was normal.

CONCLUSION

AH is a rare presentation of inguinal hernia, it represents a diagnostic challenge due to the variety of symptoms and differential diagnoses; in most cases it is considered an incidental intraoperative diagnosis. There is no protocolized treatment, however, the inflammatory degree of the appendix is what will guide the surgical approach, so management must be individualized.

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