

AMYAND'S HERNIA TREATED BY MINIMALLY INVASIVE SURGERY: A CASE REPORT

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Abstract: Introduction: Amyand's hernia is defined as the presence of the cecal appendix within the inguinal hernia sac, with or without inflammation. Objective: This article aims to describe a case of rare inguinal hernia, emphasizing its clinical, diagnostic and therapeutic aspects. Case report: A 70-year-old man was admitted to the emergency room with recurrent right lumbar pain, with a previous history of urinary tract lithiasis. Associated with this, he had a history of bulging in the right inguinal region with incarceration and spontaneous reduction, but it had not reduced for 7 days. History of right inguinal herniorrhaphy 40 years ago. No signs of peritonitis, laboratory with mild leukocytosis and PCR 20. EAS without infectious signs. Computed tomography was performed, which showed non-obstructive nephrolithiasis on the right and inguinal hernia on the right with a portion of the cecal appendix, of normal appearance, inside the hernial sac. He underwent videolaparoscopic right inguinal hernioplasty with tactical videolaparoscopic appendectomy. Discussion: The pathophysiology is related to an enlarged inguinal canal, favoring the probability of inflammation of the cecal appendix. The most common clinical presentation is a reducible inguinal hernia, with bulging in the inguinal region, which is slightly painful. The diagnosis is most often made intraoperatively. Treatment is surgical and consists of appendectomy or not followed by hernia repair with or without the use of a propylene prosthesis. Conclusion: A case of Amyand's hernia, a surgical entity of unusual character and with operative management, was presented.

Keywords: Inguinal hernia; appendicitis; Amyand's hernia.

INTRODUCTION

Amyand's hernia was first described in 1735 by Claudius Amyand, which is defined as an inguinal hernia that contains the appendix, with or without inflammation, within the hernial sac. It occurs in approximately 1% of all inguinal hernia cases, and in only 0.13% of cases the appendix is inflamed (1). It is mostly asymptomatic. In symptomatic cases, the clinical signs are the same as those of a reducible inguinal hernia. However, when entrapment and obstruction of the appendix occurs, causing acute appendicitis, the picture resembles that of an incarcerated or strangulated inguinal hernia.

The diagnosis of Amyand's hernia is difficult, as data from the anamnesis, physical examination and even complementary tests are generally not sufficient for its conclusion. Therefore, in most cases the diagnosis occurs intraoperatively. In this context, Sharma et al. performed a retrospective analysis of 18 patients with Amyand's hernia who were treated from 1991 to 2005 and found that none were diagnosed preoperatively (2). The treatment of this pathology is surgical and the technique used depends on the specificities of each case (5).

The aim of this study was to present an unusual case of inguinal hernia treated at the "Universidade Hospital Maria Aparecida Pedrossian". The study and discussion were complemented by a search for scientific articles published in UpToDate and PubMed.

CASE REPORT

Patient J.R., male, 70 years old, referred from the UPA with a history of intermittent low back pain on the right, which had worsened for the last 3 days, without urinary symptoms and history of urolithiasis. He also mentioned bulging (hernia) and intermittent pain in the right inguinal region for months, but that did not motivate him to seek care.

He did not report stopping to pass flatus or stool. For years the hernia had been trapped and reduced spontaneously, but 7 days ago it did not reduce. History of right inguinal herniorrhaphy about 40 years ago, technique unknown. Smoker 30 pack years. He denied comorbidities.

He was admitted in good general condition, hemodynamically stable. Semi globose abdomen, present bowel sounds, normotympanic to percussion, absence of abdominal distension. Painless palpation, no signs of peritonitis. Bulging of the right inguinal region, painful on palpation, not reducible. No signs of peritonitis, negative sudden decompression, negative Blumberg and Giordano. Laboratory showed mild leukocytosis (12,840 + 4% rods) and CRP 20mg/L. EAS without infectious signs and presence of 3 red blood cells per field.

Contrast-enhanced computed tomography was performed with the following report: Bilateral, non-obstructive kidney stones, the largest located in the upper third of the right kidney, measuring about 8.0 mm in the longest axis. Inguinal hernia on the right containing fat and a portion of the cecal appendix, without evident inflammatory signs at the method, cervix measuring approximately 3.4 cm – figures 1, 2, 3, 4 and 5.

We opted for a conservative approach regarding urinary calculi and the patient was then submitted to videolaparoscopy for hernia repair, confirming right inguinal hernia with cecal appendix (without inflammatory signs) in the hernia orifice – Amyand's hernia (figure 6). The cecal appendix was released from the hernial sac, hernioplasty with preperitoneal repair (TAPP), followed by uneventful laparoscopic tactical appendectomy. The patient was discharged the day after the surgery, with no complaints.

In an outpatient follow-up 20 days after discharge, the patient had no complaints

regarding the surgical procedure. Anatomopathological examination of the specimen (cecal appendix) was consulted, with no signs of malignancy.



Figure 1: final portion of the cecum in the right iliac fossa.



Figure 2: cecal appendix.



Figure 3: cecal appendix.



Figure 4: Cecal appendix entering inguinal canal.



Figure 5: cecal appendix within the hernial sac.

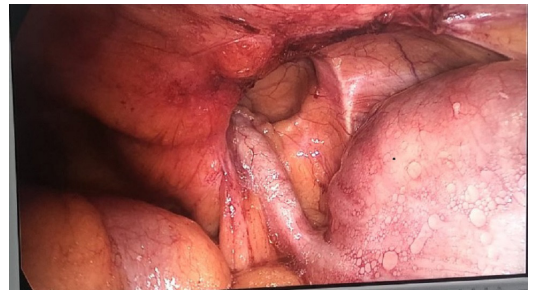


Figure 6: videolaparoscopic image – cecal appendix inside the hernial orifice.

DISCUSSION

According to Manatakis et al., the incidence of Amyand's hernia has a bimodal distribution, between the first month and the first year of life and after 70 years, since in these age groups the inguinal ring is more likely to be enlarged (3). Furthermore, like other hernias, it occurs more frequently in males (6). Thus, the patient in the reported case is within the presented epidemiology.

Its pathophysiology is still unknown, but in cases where there is associated appendicitis, inflammation may occur due to increased intra-abdominal pressure or due to increased pressure directly in the inguinal ring due to an extra luminal obstruction (5). The mechanism of inflammation in these cases is explained by the reduction in blood flow to the appendix, which generates bacterial growth (6).

The most common clinical presentation, approximately 77% of cases, is a reducible inguinal hernia, with bulging in the inguinal region, slightly painful. Only 20% of cases present with a strangulated or incarcerated inguinal hernia. Because it is a condition similar to inguinal hernia, the diagnosis is most often made only intraoperatively. However, tomography and ultrasound of the abdomen can facilitate the diagnosis in the preoperative period (4). In the reported case, the diagnosis was made based on a tomography image, which showed the presence of part of the appendix inside the hernia.

The treatment is surgical, but there are several ways to approach it. In cases where appendicitis is associated with Amyand's hernia, appendectomy and hernioplasty are performed. Regarding the decision to place a mesh for hernia repair, the condition of the appendix must be considered, since the use of meshes is contraindicated in cases where the appendix is perforated and contradictory in those in which the appendix is inflamed (6). In cases where the appendix is normal, only hernia repair is performed with mesh placement, either open or laparoscopically. In young patients, even in the absence of appendicitis, appendectomy may be indicated (5).

To facilitate the choice of the type of surgical approach performed, classifications of Amyand's hernias were created, such as that of Losanoff and Basson (Table 1). One more type of hernia was added to this classification,

which was then named Amyand's Hernia Classification after Rikki's modification (Table 2).

| Classification | Description | Management |
|----------------|--|---|
| Type 1 | Normal appendage in an inguinal hernia | Reduction and appendectomy (depending on age) and mesh hernioplasty |
| Type 2 | Acute appendicitis in inguinal hernia without peritonitis | Appendectomy through hernia, meshless hernioplasty |
| Type 3 | Acute appendicitis in inguinal hernia with peritonitis | Laparotomy, appendectomy and meshless hernioplasty |
| Type 4 | Acute appendicitis in inguinal hernia with concomitant abdominal pathology | Laparotomy, appendectomy, meshless hernioplasty and management of concomitant pathology |

Table 1 - Classification of Amyand's Hernia by Losanoff and Basson

| Classification | Description | Management |
|----------------|--|---|
| Type 1 | Normal appendage in inguinal hernia | Hernia reduction, mesh hernioplasty, and appendectomy in young people |
| Type 2 | Acute appendicitis in inguinal hernia without abdominal sepsis | Meshless appendectomy and hernioplasty |
| Type 3 | Acute appendicitis in inguinal hernia local or diffuse peritonitis | Laparotomy, appendectomy and meshless hernioplasty |
| Type 4 | Acute appendicitis in inguinal hernia with concomitant abdominal pathology | Manage as per Type 1, 2 or 3 and investigate and treat concomitant pathology when appropriate |
| Type 5a | Normal appendage in incisional hernia | Appendectomy through the hernia and mesh hernioplasty |

| | | |
|---------|---|---|
| Type 5b | Acute appendicitis in incisional hernia without peritonitis | Appendectomy through the hernia and meshless hernioplasty |
| Type 5c | Acute appendicitis in incisional hernia with peritonitis | Equal handling Type 4 |

Table 2 - Classification of Amyand's Hernia after modification by Rikki.

In the reported case, although it was a type 1 Amyand hernia in an elderly patient, the inguinal hernia was corrected, with mesh placement, and tactical appendectomy. Due to excessive manipulation of the appendix during the process of its release from the hernial orifice, we opted for appendectomy to avoid further complications.

CONCLUSION

It appears that Amyand's hernia, an uncommon diagnosis in a surgical routine, presents with a variable clinical picture and a management that depends on the characteristics of the appendix and the conditions found during the operation. In this case, the conduct was videolaparoscopic hernioplasty with use of prosthesis and tactical appendectomy in view of the computed tomography examination without evidence of inflammatory signs and intraoperative vision, confirming such information. It is recommended that Amyand's hernia form part of the differential diagnosis of direct inguinal hernia with signs of entrapment or strangulation.

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