CASE REPORT

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Amyand's hernia associated with acute appendicitis

Pedro Nogarotto Cembraneli, Julia Brasileiro de Faria Cavalcante, Renata Brasileiro de Faria Cavalcante, Gabriel Ambrogi, José Edison da Silva Cavalcante

ABSTRACT

Introduction: Amyand's hernia (AH), a rare form of inguinal hernia, is characterized by finding the cecal appendix within the hernial sac. It is observed in 0.4-0.6% of inguinal hernias and complications such as acute appendicitis or perforated appendicitis can occur in 0.1% of the cases. The diagnosis is most often performed intraoperatively and its classification and management depend on the degree of appendix involvement. Case Report: A 53-year-old male patient presenting with right iliac fossa pain for two days associated with a mass in the right inguinal region. Physical examination revealed an irreducible right inguinal hernia, leading to the diagnosis of incarcerated inguinal hernia. Surgical treatment was proposed and performed. It evidenced the presence of the cecal appendix within the hernial sac with clear signs of inflammation (type II of the Losanoff and Basson classification). The cecal appendix was reduced, an appendectomy was performed via McBurney incision, and the right inguinal abdominal wall was repaired with no need for prosthetic mesh. Conclusion: Although AH is a rare condition, it should be considered among the differential diagnoses in cases of pain in the iliac fossa, inguinal swelling, and signs of infection.

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INTRODUCTION

Amyand's hernia is an inguinal hernia in which the vermiform appendix, whether inflamed or not, is located within the hernial sac. It was first diagnosed in an 11-yearold boy and described by Claudius Amyand in 1735 as an incarcerated inguinal hernia containing the perforated appendix. The patient underwent ligation of the hernial sac and appendectomy simultaneously [1, 2].

Although AH includes two frequent clinical entities, it only accounts for approximately 0.4–0.6% of all inguinal hernias, and is even more rare (0.1%) in cases of acute appendicitis [3–6]. Preoperative diagnosis of AH is rare and, in most cases, this condition is only diagnosed during urgent surgical interventions [7]. Here we report the case of a 53-year-old male patient intraoperatively diagnosed with AH associated with acute appendicitis.

CASE REPORT

A 53-year-old male patient was admitted to the emergency service complaining of pain in the right iliac fossa for two days. He reported the presence of a mass in the same region for 20 days, at first painless. However,

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two days before, he started feeling pain, which worsened and was associated with nausea and vomiting, with no signs of obstruction. Physical examination revealed an irreducible right inguinal hernia, leading to the diagnosis of incarcerated inguinal hernia. Therefore, immediate surgical treatment was proposed. In the intraoperative period, a hernial sac containing the cecal appendix with clear signs of inflammation, categorized as type II of the Losanoff and Basson classification, i.e. acute appendicitis within an inguinal hernia, with no abdominal sepsis. The cecal appendix was reduced, the appendectomy was performed via McBurney incision (Figures 1 and 2), and the right inguinal abdominal wall was repaired with no need for prosthetic mesh. The diagnosis of acute appendicitis was confirmed by pathological examination. The patient had a good evolution and was discharged on the third postoperative day.



Figure 1: Inflamed appendix showing signs of necrosis and purulent discharge. Appendectomy performed via McBurney incision.



Figure 2: Appendectomy specimen with signs of inflammation and necrosis.

DISCUSSION

Amyand's hernia is more common during childhood because inguinal hernias are often caused by patency of the processus vaginalis. About 2% of appendectomies are due to AH in the pediatric population. It predominantly occurs in males and most cases are located on the right side. The exact mechanism of AH is not fully understood [8, 9].

Preoperative diagnosis of AH is a challenge given the considerable variation of symptoms that patients present with [8]. Additionally, its clinical signs and symptoms are normally indistinct and this entity lacks typical radiological diagnostic characteristics [9]. Hence, it is rare to make a clinical diagnosis of AH preoperatively. In general, it is detected incidentally intraoperatively, after opening the hernial sac [10]. Patients often undergo emergency operation with a presumptive diagnosis of either incarcerated or strangulated inguinal hernia [11], inasmuch as AH may mimic a strangulated inguinal hernia, testicular torsion, epididymo-orchitis, or inguinal lymphadenitis [12]. Some of the most common complaints are sudden onset of epigastric or periumbilical pain, tenderness in the right lower quadrant, tender irreducible mass in the inguinal or inguinoscrotal region [12], acute onset of right groin pain [13], anorexia, nausea, and vomiting [4]. Physical examination shows a painful and irreversible protuberance in the groin area [11–13].

Most surgeons do not recommend imaging exams such as ultrasound and computed tomography (CT) for preoperative diagnosis, due to lack of typical radiological features [8] and also because inguinal hernia repair is mandatory and immediate therapeutic intervention is indicated [5, 10, 14]. Nonetheless, preoperative diagnosis can be incidentally made using CT with oral contrast in patients with suspicion of appendicitis [14].

Losanoff and Basson proposed a classification for AH, establishing different types of surgical management for each of them. In type I, AH is a normal appendix within an inguinal hernia. The recommended approach is hernia reduction with mesh repair, and appendectomy if the patient is young. Type II is characterized by acute appendicitis within an inguinal hernia, but with no signs of peritonitis. Appendectomy through the hernia and primary endogenous repair of hernia without mesh are mostly performed in these cases. Type III AH is acute appendicitis within an inguinal hernia complicated by abdominal wall or peritoneal sepsis. It is mandatory to perform appendectomy through laparotomy and primary repair of hernia without using mesh. In type IV, acute appendicitis within an inguinal hernia is associated with other related or unrelated abdominal pathologies. These cases require the same management adopted for types I-III AH, and it is necessary to investigate and/or treat the second pathology as appropriate [2, 3, 9, 13–16].

If surgical treatment is delayed, a natural history of acute appendicitis may include perforation and abscess formation (types III and IV of Losanoff and Basson). Therefore, prompt treatment contributes to a better prognosis and rapid postoperative recovery [5].

CONCLUSION

Despite being a rare condition and primarily found incidentally during surgery, AH should be among the differential diagnoses in patients presenting with acute pain in the iliac fossa region, irreducible right inguinal hernia, and signs of infection. Hence, it is of paramount importance that surgeons and residents become familiar with incarcerated appendixes within hernias. The management of AH varies according to its classification, but it is always surgical and when associated with acute appendicitis, it has absolute indication of appendectomy and hernia repair without using mesh, according to the classification proposed by Losanoff and Basson.

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Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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