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Case Report

Strangle hernia in the children! not always, amyand hernia with appendicitis

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Abstract

The diagnosis of acute appendicitis is sometimes difficult to make. Among the atypical presentations is Amyand's hernia. This is the development of acute appendicitis within an abdominal hernia. Amyand's hernia is a rare but important disease to know. This pathology bears the name of the English surgeon, Claudius Amyand, operator of the first appendectomy in the history of medicine in 1735, performed for an acute appendicitis inside an inguinal hernia. Here we present a case of Amyand's hernia in a 2-month-old male, who presented as a right-sided congenital hernia with pain in the right groin. He underwent herniotomy, which revealed that the hernia sac containing inflamed appendix.

- Rare pathology
- Very high risk of misdiagnosis: Strangulated hernia.
- The knowledge of this pathology reduces the surprise effect which directly affects the results of the surgery and the postoperative follow-up.
- The article allows to better know the ideal surgical management through a rich discussion (14 references).

Introduction

The description of an abdominal hernia can take into account two factors: either the location or the content of the hernia. If the hernia is described according to the location, we can call inguinal, femoral, Spigel, obturator, lumbar, sciatic, diaphragmatic or incisional hernias. Three types of hernia have been described according to their content: Littré's hernia (contains a Meckel diverticulum), Richter's hernia (contains an antimesenteric part of the small intestine) or Amyand's hernia [1]. The latter contains an acute appendicitis and was named in memory of Claudius Amyand, author of the first appendectomy performed in the history of medicine in 1735, at St George's Hospital in London, for acute appendicitis within an inguinal hernia [2].

Cas report

This is a 2-month-old patient with a history of reducible right inguino-scrotal hernia, admitted for management of right inguino-scrotal swelling of irreducible inflammatory

appearance (Figure 1) for 6 hours prior to admission, associated with vomiting and transit disorder, with a fever of 38.7. On general examination, the infant was hemodynamically and respiratorily stable, and on objective local examination there was right inguino-scrotal swelling of irreducible inflammatory appearance with redness and a testis that was not palpable on the right due to local edema (Figure 1). No abnormalities were noted on the biologic (WBC: $10,3 \times 10^9/L$, CRP: 5mg/L) and radiologic work-up. The patient was taken to the operating room for management of a strangulated inguinal hernia.

Intraoperatively the body of the appendix were stuck to the hernia sac. The appendix was perforated with an inflamed distal part (Figure 2). The base of the appendix and the cecum were normal and the testis was viable. An appendectomy and closure of the hernial sac was performed. The patient received 3 days of cefoxitin 80 mg/kg/day. The postoperative sequelae were uneventful. No complications were noted.

Discussion

The positional variations of the cecum and appendix allow

the appendix to reach almost all abdominal hernial orifices. Thus, the discovery of appendicitis inside a hernia obturator [3,4], Spigel's [5,6], umbilical [7], diaphragmatic, intrathoracic [8-10], incisional [11] or in a laparoscopic trocar port [12] has been described. Right inguinal and femoral hernias are the most common site for the development of an Amyand's hernia, but this entity has also been described on the left side [13]. Among



Figure 1: Right inguino-scrotal swelling with an inflammatory appearance.



Figure 2: Intrahernal appendicitis.

incarcerated hernias containing viscera, the presence of the appendix is estimated to be 1% [14,15]. The development of acute appendicitis within a hernia sac (Amyand's hernia) is estimated to be 0.13% of all appendicitis [14].

The clinical presentation of an Amyand's hernia is that of a strangulated hernia, that is, the development of a non-reducible inguinal arch, but without digestive occlusion. An inflammatory syndrome may develop depending on the course of acute appendicitis [16].

The diagnosis of Amyand's hernia is difficult to make and is often discovered intraoperatively if surgery is decided quickly. Delay or failure to treat can be fatal. Indeed, Carrey described a mortality rate of three out of ten patients with Amyand's hernia in the 1960s [13]. Today, diagnostic capabilities have improved significantly and computed axial tomography (CT) scans are available for preoperative diagnosis [17,18] (Figure 3).

Surgically, when a non-inflamed appendix is discovered during elective hernia repair, it is advisable to perform an inguinal appendectomy and hernia repair without the use of prosthetic material because of the risk of bacterial

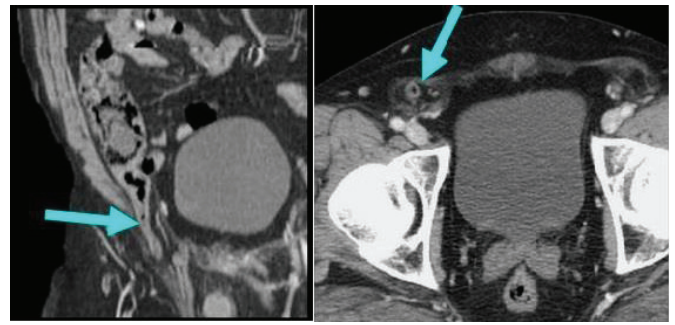


Figure 3: CT image objectivizing an intrahernal appendicitis [17,18].

contamination [1,16,19]. In the case of Amyand's hernia with acute appendicitis, the surgeon will also perform an inguinal or abdominal appendectomy if the periappendicular inflammation is extensive. The cure of the hernia will of course be done without prosthetic material.

A non-reducible incarcerated hernia is a surgical emergency and must be operated on as soon as possible. In case of unavoidable delay, an attempt to reduce the hernial sac must be a considered gesture. Indeed, it is possible to reduce the hernia en bloc with its hernia ring allowing a continuation of the intestinal suffering intra-abdominal with risk of perforation and peritonitis. An attempt of gesture must be carried out by an experienced surgeon, with the possibility of a close clinical supervision and if necessary an emergency intervention.

Conclusion

Amyand's hernia is a rare but important disease to know. Its clinical picture is similar to that of a strangulated hernia. Amyand's hernia generally has a good prognosis, although serious complications have been described. So a surgeons must be prepared to avoid the effect of surprise and ensure adequate care without further complications.

Ethical considerations

The patient's parents confirmed the patient's approval

References

- Hutchinson R (1993) Amyand's hernia. *JR Soc Med* 86: 104-105. [Link: https://bit.ly/3dBayjo](https://bit.ly/3dBayjo)
- Amyand C (1736) Of an inguinal rupture, with a pin in the appendix coeci, incrusted with stone; and some observations on wounds in the guts. *PhilosTr R Soc London* 39: 329-342. [Link: https://bit.ly/35Zylla](https://bit.ly/35Zylla)
- Archampong EQ (1969) Strangulated obturator hernia with acute gangrenous appendicitis. *BMJ* 1: 230. [Link: https://bit.ly/2WsPC8k](https://bit.ly/2WsPC8k)
- Hartley BE, Davies MS, Bowyer RC (1994) Strangulated appendix in an obturator hernia presenting as gas gangrene of the thigh. *Br J Surg* 81: 1135. [Link: https://bit.ly/2xXFzPc](https://bit.ly/2xXFzPc)
- Lin PH, Koffron AJ, Heilizer TJ, Lujan HJ (2000) Right lower quadrant abdominal pain due to appendicitis and an incarcerated spigelian hernia. *Am Surg* 66: 725-727. [Link: https://bit.ly/2Z8nqt4](https://bit.ly/2Z8nqt4)
- Carr JA, Karmy-Jones R (1998) Spigelian hernia with Crohn's appendicitis. *Surg Laparosc Endosc* 8: 398-399. [Link: https://bit.ly/2zB74yy](https://bit.ly/2zB74yy)



7. Doig CM (1970) Appendicitis in umbilical hernial sac. *BMJ* 2: 113-114. [Link: https://bit.ly/3cC4KGo](https://bit.ly/3cC4KGo)
8. Gurses N, Gurses N (1986) Perforating appendicitis within a diaphragmatic hernia: A case report. *Z Kinderchir* 41: 306-307. [Link: https://bit.ly/3bt1Emn](https://bit.ly/3bt1Emn)
9. Sepehri A (1980) Acute appendicitis within a diaphragmatic hernia (author's transl). *Chirurgie* 106: 315-317. [Link: https://bit.ly/3bjj4E](https://bit.ly/3bjj4E)
10. Zerlin JM (1990) Intrathoracic appendicitis in a ten-year-old girl. *Invest Radiol* 25: 1162-1164. <https://bit.ly/2zGy7IH>
11. Horgan PG, O'Donoghue J, Courtney D (1991) Perforated appendicitis in an incisional hernia. *Ir J Med Sci* 160: 350-351. [Link: https://bit.ly/2WYftnG](https://bit.ly/2WYftnG)
12. Bamberger PK (2001) Revisiting Amyand's hernia in the laparoscopic era. *Surg Endosc* 2001 ; 15: 1051. [Link: https://bit.ly/2LrJsPE](https://bit.ly/2LrJsPE)
13. Carey LC (1967) Acute appendicitis occurring in hernias: A report of 10 cases. *Surgery* 1967 ; 61: 236-8. [Link: https://bit.ly/35VcDnJ](https://bit.ly/35VcDnJ)
14. Ryan WJ (1937) Hernia of the vermiform appendix. *Ann Surg* 106: 135-139.
15. Srouji MN, Buck BE (1937) Neonatal appendicitis: Ischemic infarction in incarcerated inguinal hernia. *J Pediatr Surg* 13: 177-179. [Link: https://bit.ly/2Ls7BFH](https://bit.ly/2Ls7BFH)
16. Logan MT, Nottingham JM (2001) Amyand's hernia: A case report of an incarcerated and perforated appendix within an inguinal hernia and review of the literature. *Am Surg* 67: 628-629. [Link: https://bit.ly/35Za18i](https://bit.ly/35Za18i)
17. Zissin R, Brautbar O, Shapiro-Feinberg M (2000) CT diagnosis of acute appendicitis in a femoral hernia. *Br J Radiol* 73: 1013-1014. [Link: https://bit.ly/2SYg6wv](https://bit.ly/2SYg6wv)
18. Luchs JS, Halpern D, Katz DS (2000) Amyand's hernia: Prospective CT diagnosis. *J Comput Assist Tomogr* 24: 884-886. [Link: https://bit.ly/2T33yDQ](https://bit.ly/2T33yDQ)
19. Ofili OP (1991) Simultaneous appendectomy and inguinal herniorrhaphy could be beneficial. *Ethiop Med J* 29: 37-38. [Link: https://bit.ly/2T5EUm6](https://bit.ly/2T5EUm6)

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