

A RIGHT INGUINAL APPENDICITIS. A CASE REPORT OPERATED IN A DISTRICT HOSPITAL IN BURUNDI

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Abstract

Goal: To describe the different aspects of Amyand's Hernia through the case treated

We report a case of 8 years old boy who consulted us for a chronic painful right inguinal swelling. We thought first and foremost of a strangulated right inguinal hernia. The diagnosis of Amyand's hernia was peroperative. The treatment modalities are variable and are based on the Lossanoff and Basson classification.

Keywords: Amyand's hernia, appendicectomy, evolution

Introduction:

The presence of a vermicular appendix in an inguinal hernial sac, whether inflamed or not, is called Amyand's hernia. It is an eponymous hernia described for the first time by the Franco-British surgeon Claudius Amyand in 1735 [1, 2]. It is a rare condition with an estimated incidence of 1% of all inguinal hernias. Although its incidence is rare, the appendix can be incarcerated in the hernia of Amyand, which can involve other complications such as strangulation or a perforation [3]. The absence of a specific study on the hernia of Amyand, in Burundi, motivated us to carry out this work.

Observation:

We received a surgery consultation at Nyanza-Lac hospital, in a southern province of the country (Burundi), an 8-year-old boy brought by his

mother. He presented a right inguinal swelling painful on palpation. At the anamnesis, the mother announced that the symptomatology had evolved for a long time. The physical examination was done in an awake child, well collaborating and noted normal vital parameters; right inguinal swelling on inspection; a sensitivity at the level of the right inguinal swelling irreducible to palpation. The rest of the physical examination was unremarkable. The diagnostic hypothesis of a strangulated right inguinal hernia was made. A minimum of preoperative biological assessment was requested urgently and showed a leucocytosis at 12000 GB / ml of blood with predominantly neutrophil; a normal coagulation balance; normal kidney function. In view of these results, an operative decision was taken for probable intestinal necrosis in a hernial sac.

During the operation, we found the presence of an inflamed vermiform appendix in the inguinal canal (right inguinal appendicitis).



Image 1: intraoperative image: right inguinal hernia with appendicular content



Image 2: Appendix view after adhesiolysis

We retained a hernia of Amyand, type 2 of the classification of Lossanoff and Basson. We performed a right inguinal appendectomy, then the peritoneal-vaginal canal was closed followed by the closure of the inguinal wall plane by plane respecting the anatomical structures.



Image 3: Appendix

Antibiotic prophylaxis and analgesics were continued post-operatively with no incidence.

Discussion:

Our objective was to present this case of Amyand's hernia discovered during a course of presumed right inguinal hernia and to describe the various aspects of this pathology through the literature.

The presence of a vermiform appendix in an inguinal hernia known as Amyand's hernia is rare [4].

Amyand's hernia accounts for between 0.4% and 1% of all inguinal hernias, and appendicitis associated with Amyand's hernia represents 0.1% of all cases of appendicitis [2, 5]. In the series by D'Alia et al. [5] as well as that of Anagnostopoulou et al. [6], Amyand's hernia has been reported in patients aged 3 weeks to 92 years. Amy's hernia is most common in males [2, 5, 7, 8].

Amyand's hernia is usually present on the right inguinal side [9]. This is probably due to the normal anatomical position of the vermiform appendix. Its left location can be explained by a situs inversus, a mobile cecum, a poor rotation of the primary intestinal loop or an excessively long appendix [2, 4].

Some favorable factors have been described. Meckel's diverticulum (11%), the persistence of the peritoneal-vaginal canal (amyand's hernia is 3 times more frequent in the pediatric population) and menopause [7, 8, 10] are cited. Our patient had persistent peritoneal-vaginal canal.

The pathophysiology of Amyand's hernia is uncertain. Some theories have been suggested including a congenital hernia of the vermiform appendix due to the combination of a persistent peritoneal-vaginal canal and a fibrous connection between the appendix and the testes; congenital laxity of the right colon since the cases of this hernia contain the cecum in addition to the appendix [9, 10]. The mechanism of acute appendicitis in Amy's hernia is also still controversial. It is usually caused by an extraluminal obstruction due to pressure at the hernia neck rather than an intraluminal obstruction of the appendix. The appendix becomes more vulnerable to trauma in Amyand's hernia and is ultimately retained by the

adhesions when it enters the hernial sac. Contraction of the abdominal muscles and any other sudden increase in intra-abdominal pressure can cause compression of the appendix, which leads to further inflammation. Its vascular supply can be interrupted or reduced significantly, leading to inflammation and bacterial proliferation [9, 11].

The preoperative clinical diagnosis of Amyand's hernia is not straightforward. It is usually intraoperative. An appendix incarcerated inside an inguinal hernia can be inflamed, infected or perforated. When symptoms appear, they usually simulate a strangulated hernia [2, 4]. Infectious complications by inflammation and appendicular perforation and thrombotic complications due to the formation of arterial thrombosis in situ are reported in the literature [12].

Some morphological assessments such as computed tomography, ultrasound and laparoscopy can nevertheless help in the preoperative diagnosis [11, 12].

The treatment is surgical. The approach should be guided by a suspected diagnosis, such as a laparotomy for suspected bowel obstruction or appendicitis and an anterior groin incision for suspected incarcerated inguinal hernia. It may sound intuitive, but techniques vary because preoperative diagnosis remains a challenge [13].

There is no consensus in the literature regarding the best treatment for Amyand's hernia. An appendectomy with simultaneous hernioplasty seems to be the best solution to avoid recurrent hernia and possible future irritation, which can lead to appendicitis [2, 6, 12]. If the appendix is normal, the repair of the inguinal wall can be done with prosthetic reinforcement. Lossanoff et al. [14] proposed a classification of Amyand's hernia to improve treatment (Appendix 1). We performed an inguinal appendectomy in our patient.

Mortality can go up to 30% and is mainly linked to the peritoneal spread of sepsis [6, 8]. The post-operative evolution was favorable for our patient.

Conclusion:

Amyand's hernia is a rare presentation of the inguinal hernia, in which a vermiform appendix is incarcerated in an inguinal hernia sac. Amyand's hernia is a diagnostic challenge due to its low

incidence and indistinct clinical presentation. Its diagnosis is most often made during surgery. Therefore, surgery is frequently more diagnostic than therapeutic. Amyand's hernia is a life-threatening condition that can get complicated in the absence of adequate and timely treatment.

Annex 1: Classification of Lossan off [14]

Classification	Description	Surgical management
Type 1	Normal appendix within an inguinal hernia	Hernia reduction, mesh repair, appendectomy only in young patients
Type 2	Acute appendicitis within an inguinal hernia, no abdominal sepsis	Appendectomy through hernia, primary repair of hernia, no mesh
Type 3	Acute appendicitis within an inguinal hernia, abdominal wall, or 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 types 1 to 3 hernia, investigate or treat second pathology as appropriate

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