

Research Article

DIAGNOSTIC ASPECTS AND RESULTS OF SURGICAL TREATMENT OF AMYAND HERNIA: A SERIE OF 5 CASES.

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**Abstract
Introduction**

Amyand hernia (AH) is a rare clinical entity corresponding to the presence of the appendix in a herniated sac. Sporadic descriptions or short series are recorded in the literature.

The authors propose to identify the diagnostic aspects and determine the prognosis of the surgical treatment of AH at the University Hospital of Libreville in Gabon.

Materials and methods: This was a descriptive retrospective study. The collection was produced over a period of 4 years and 6 months. The files of patients operated on for a AH were retained. The following parameters were hospitalization and complications.

Results

Five patient files, all male, were selected. Average age 61.2 years [55-70 years]. The preoperative diagnosis was single inguino-scrotal hernia (3 cases) and strangulated (2 cases). The diagnosis was still per operative. Four patients were type 1 and one patient was type 2. The appendectomy was performed systematically. It was followed by a repair using Mac Vay (2 cases) or according to Lichtenstein (3 cases). Type 2 AH had been cured, according to Mac Vay. The average length of hospitalization was 2.4 days. A parietal suppuration was recorded. No deaths were reported.

Conclusion

AH is a rare condition. The diagnosis is often intraoperative. The management is surgical and is well codified. The results are satisfactory.

Keywords: Amyand Hernia- Appendectomy- Herniary Cure

**RESUME
Introduction**

La hernie d'Amyand (HA) est une entité clinique rare correspondant à la présence de l'appendice dans un sac herniaire. Des descriptions sporadiques ou des séries courtes sont recensées dans la littérature.

Les auteurs se proposent de relever les aspects diagnostiques et de déterminer le pronostic du traitement chirurgical de la HA au CHU de Libreville au Gabon

Matériel et méthode

Il s'agissait d'une étude rétrospective descriptive. Le recueil était réalisé sur une période de 4 ans et 6 mois. Les dossiers des patients opérés d'une HA étaient retenus. Les paramètres suivants étaient étudiés : l'âge, le sexe, le diagnostic, le type de HA, le type de traitement chirurgical, la durée d'hospitalisation et les complications.

Résultats

Cinq dossiers de patients, tous de sexe masculin, étaient retenus. L'âge moyen 61,2 ans [55-70 ans]. Le diagnostic pré opératoire était la hernie inguino-scrotale simple (3 cas) et étranglée (2 cas). Le diagnostic était toujours per opératoire. Quatre patients correspondaient au type 1 et un patient au type 2. L'appendicectomie était réalisée systématiquement. Elle était suivie d'une réparation selon Mac Vay (2 cas) ou selon Lichtenstein (3 cas). La HA de type 2 avait bénéficié d'une cure selon Mac Vay. La durée moyenne d'hospitalisation était de 2,4 jours. Une suppuration pariétale était enregistrée. Aucun décès n'était recensé.

Conclusion

La HA est une affection rare. Le diagnostic est souvent peropératoire. La prise en charge est chirurgicale et est bien codifiée. Les résultats sont satisfaisants.

Mots clés

Hernie d'Amyand- Appendicectomie- Cure herniaire

Introduction

Amyand Hernia (AH) is a rare clinical entity whose operation was first performed in 1735 in an 11-year-old child by the English surgeon Claudius Amyand [1]. It corresponds to the presence of the inflamed vermiform appendix, perforated or not in a herniated sac [2]. Sporadic descriptions or series of a few dozen cases at most, are often encountered in the literature.

The authors propose to identify the diagnostic aspects and determine the prognosis of the surgical treatment of Amyand's hernia at the University Hospital of Libreville in Gabon.

MATERIAL AND METHOD

This was a descriptive retrospective study conducted in the Department of Visceral Surgery of the University Hospital Center of Libreville in Gabon. The collection was produced over a period of 4 years and 6 months, between April 2015 and November 2019.

The records of patients operated on with Amyand hernia (the presence of the appendix in the herniated sac) were retained. Patients operated on for AH with incomplete records and the records of patients with AH but not operated were not retained.

Table I: Characteristics of patients operated on for Amyand's hernia.

	Age (years)	Sex	Preoperative diagnosis	Type of Amyand Hernia	Indications Surgical (treatment)	Hospit (days)	Complications
Case 1	55	M	SISH	1	Appendectomy + Mac Vay cure by inguinal route	3	No
Case 2	62	M	ISH	1	Appendectomy + Lichtenstein treatment by inguinal route	2	No
Case 3	70	M	SISH	2	Appendectomy + Mac Vay cure by inguinal route	3	Wall suppuration
Case 4	61	M	ISH	1	Appendectomy + Lichtenstein treatment by inguinal route	2	No
Case 5	58	M	ISH	1	Appendectomy + Lichtenstein treatment by inguinal route	2	No

M: male - ISH : InguinoScrotal Hernia - SISH : Strangulated Inguinoscrotal Hernia – Hospit: Hospitalisation delay

All the patients retained were informed of our study and gave their consent before we included them.

The following parameters were identified from patient records and recorded on a data collection sheet: age, sex, pre-operative diagnosis, type of AH, type of surgical treatment, length of hospitalization and complications.

The analysis of the results was carried out by simple comparison on the Excel version 2013 software.

RESULTS

Five patient files were retained. They were five men. Average age 61.2 years with extremes of 55 and 70 years. The preoperative diagnosis was right inguino-scrotal hernia in 3 cases and right inguino-scrotal hernia strangled in 2 cases (Table I). No morphological examinations had been requested in pre-operative procedures. The diagnosis of AH was made in per-operative procedure in all cases. Four patients were type 1 and one patient was type 2 (Table I). The appendectomy was performed in all cases. It was followed by a repair according to Mac Vay in 2 cases and according to Lichtenstein in 3 cases (Table I). Type 2 AH had been cured, according to Mac Vay (Figure 1). The average length of hospitalization was 2.4 days. A parietal suppuration was found in type 2 cases. There were no deaths.

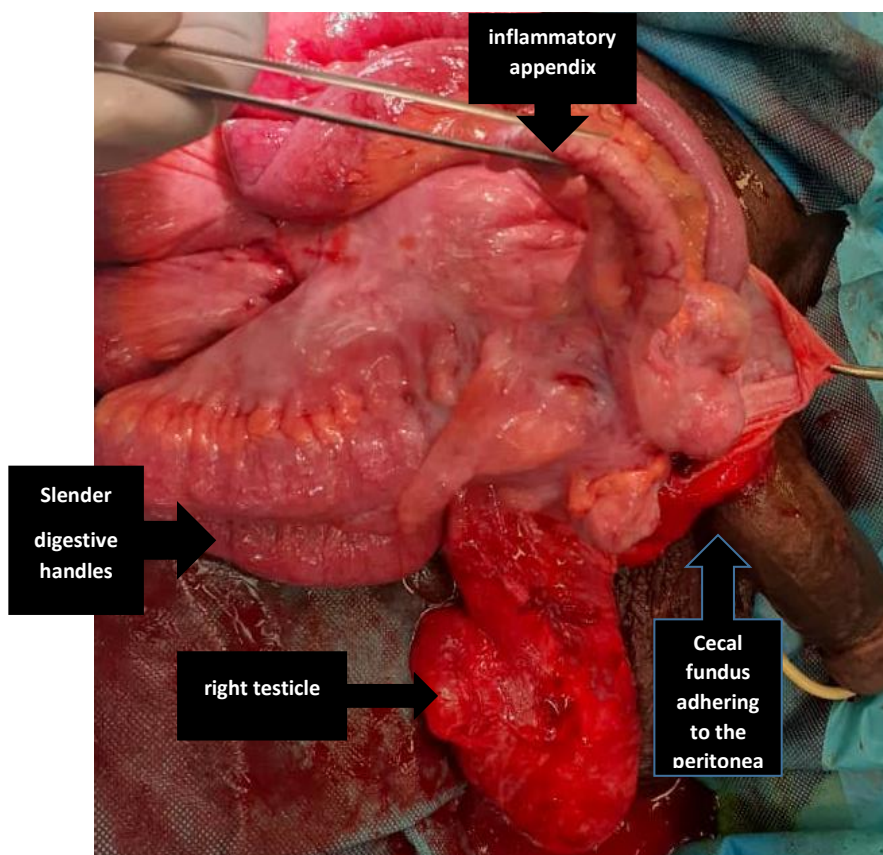


Figure 1. Intraoperative view. When the hernial sac is opened (placed on forceps), we find an inflammatory appendix (acute hernial appendicitis, a type 2 of Amyand's hernias) with slender handles and the cecum, indicating a sliding hernia.

DISCUSSION

With 5 cases recorded in 4 years, AH is relatively rare, as noted by some authors [1, 3].

The average age of patients around the 6th decade in our series confirms the preponderance of the occurrence of this condition in the elderly. It is rare in children.

The preponderance of the male sex, exclusively found, can be explained by the weakness of our sampling. The description in women, however, is found in the literature [5].

Losanoff and Basson in 2008 [6] established a classification to guide surgical management in AH cases. Type 1 corresponds to the presence of a normal appendage in the herniary sac, a form most commonly encountered in our series; Type 2 corresponds to the presence of localized appendicitis in the herniated sac, a form found once in our series; Type 3 is acute appendicitis with peritonitis and type 4 is appendicitis associated with another digestive pathology

Table II: Pathological types of Amyand's hernia and respective management.

Type of hernia	1	2	3	4
Salient features	Normal appendix	Acute appendicitis localized in the sac	Acute appendicitis, peritonitis	Acute appendicitis, other abdominal pathology
Surgical management	Reduction or appendectomy (depending on age), mesh hernioplasty	Appendectomy through hernia, endogenous repair	Appendectomy through laparotomy, endogenous repair	Appendectomy, diagnostic workup and other procedures as appropriate

The clinical picture of AH is that of an atypical inguinal painful mass without occlusive syndrome [3]. The low use of pre-operative imaging can be explained by the low incidence of the disease [7]. The use of medical imaging in this condition eliminates differential diagnoses such as adenophlegmon inguinal, Richter hernia. Diagnosis of AH is very often made in per-operative [3, 8, 9]. During the surgery, the opening of the herniated sac allows to highlight the appendix, normal or inflamed, within the various anatomical elements.

The treatment of AH is surgical. The classification of Losanoff and Basson allows you to choose the best treatment option based on the type. In our series, the use of prosthesis using Lichtenstein's technique for herniated treatment in type 1 cases was carried out in accordance with the recommendations [6] in 3 patients. Mac Vay parietoraphy was used in the 2 patients who presented a herniated strangulation chart (a type 1 patient and a type 2 patient). The use of parietal reinforcement prostheses in type 2 cases is strongly discouraged due to the high risk of infection of prosthetic material [6, 10]. However, some authors recommend, after appendectomy and prosthetic reinforcement in this case, intravenous administration of broad-spectrum antibiotics for a period of 3 to 5 days to prevent infection of prosthetic material [11]. The lack of availability of prosthetic equipment explains this same strategy (Mac Vay technique), given the high cost and the urgency of the care.

The evolution of the operated AH depends heavily on the type according to the classification of Losanoff. Morbidity is represented by parietal supuration recorded at the following of type 2 AH treatment, presumably due to contact with the abdominal wall of the infected appendix.

CONCLUSION

AH is a rare condition. The diagnosis is intraoperative most of the time. Management is surgical and is well codified currently including appendectomy with herniated treatment by prosthesis or not. The results are satisfactory depending on the type of AH.

INTEREST CONFLICT / ETHIC CONSIDERATION

The authors do not declare any conflicts during the completion of this work and have all validated the final version.

Ethic committee of our hospital accords us to realize that study in respects of human rights.

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