

Case Report
Open Access

Claudius Amyand's Hernia in Children: About Two Cases in the Pediatric Surgery Unit in the General Surgery Department at Ignace Deen Chu

Keita Doubany Mariame^{1,2*}, Diawara Mohamed Albert¹, Guirassy Mariama II¹ and Toure Balla Moussa²

¹General surgery department at the Ignace Deen University Hospital, Faculty of Health Sciences and Techniques, Gamal Abdel Nasser University of Conakry, Guinea

²Pediatric surgery unit in the general surgery department at the CHU Ignace Deen, faculty of health sciences and techniques, Gamal Abdel Nasser University of Conakry, Guinea

SUMMARY

Acute intussusception is a rare manifestation in adults, most often of malignant tumoral origin occurring on a small intestine loop. Its presence in a pregnant woman with a complication such as peritonitis by ileal perforation is an extremely rare case. We report a clinical case concerning a 32-year-old woman, amenorrhoeic for 24 weeks, referred to the general and visceral surgery department of the Ignace Deen National Hospital for acute intestinal obstruction in pregnancy in whom, after performing an X-ray of the abdomen without preparation which revealed mixed hydro-aeric levels and a biological assessment, she was taken to the block, at the celiotomy purulent liquid flowed out and the exploration revealed a pudding of ileo-coeco-colic intussusception whose disinvagination revealed three ileal perforations with respective diameters of 1.5cm, 2cm and 3cm located respectively 10cm, 30cm and 50cm from the ileo-cecal junction with pre-perforation zones. We performed a resection removing the perforations followed by an end-to-side ascending ileocecal anastomosis. The post-operative course was marred by complications such as evisceration, disembowelment and the birth of a full-term stillborn.

*Corresponding author

Keita Doubany Mariame, General surgery department at the Ignace Deen University Hospital, Faculty of Health Sciences and Techniques, Gamal Abdel Nasser University of Conakry, Guinea. Tell: +00224-622-61-29-20.

Received: July 01, 2023; **Accepted:** July 15, 2023; **Published:** August 01, 2023

Keywords: Claudius Amyand Hernia, Ignace Deen Hospital, Appendectomy

Introduction

Claudius Amyand's hernia is defined by the presence of an inflammatory or non-inflammatory vermiform appendix in an inguinal hernia sac. It is a rare pathology in children found in less than one percent of cases of inguinal hernia [1]. It was first described by Claudius Amyand in 1735 at Saint George's Hospital in London in an 11-year-old child who was admitted with a right inguinal hernia complicated by right scrotal stercoral fistula [2, 6]. Advances in medical imaging, in particular computed tomography, now make it possible to suggest the diagnosis of HCA preoperatively. However, in a situation of limited or emergency resources, the indication for surgery in front of a strangulated groin hernia does not always await the results of imaging and for many authors, the discovery of HCA is a "surprise". » intraoperatively. In order to improve the prognosis, since 2007, Losanoff and Basson had proposed a system of classification of HCA into four types, making recommendations adapted to each type for surgical treatment [5]. Its preoperative diagnosis is rarely made, it is a fortuitous intraoperative discovery pathology [2]. It is often misdiagnosed as a strangulated hernia [6]. The diagnosis is intraoperative. Management consists of an appendectomy, completed by parietorrhaphy in adults and closure of the peritoneal-

vaginal canal in children [1]. The aim of this study was to describe the management of two cases of Claudius Amyand's hernia in the pediatric surgery unit of the general surgery department at Ignace Deen University Hospital.

Patients and Comments

Comment 1

This is a 4-month-old infant, with no particular history, who we received for crying, right inguinal scrotal swelling evolving for 3 hours. The onset of the symptoms dates back to one month of his birth with the appearance of an intermittent right inguinal swelling. In front of this sign the parents consult in our service where the diagnosis of an inguinal hernia had been made but the parents refused the surgery on the pretext that their child is small despite the explanations of the consequences linked to this pathology, 3 months after the infant was admitted to our department urgently for crying and right inguinal scrotal swelling. On physical examination, permanent inguinal scrotal swelling was noted, non-expanding and impulsive on exertion, painful, with a shiny scrotum (Figure 1). Examination of other devices was unremarkable.

At the end of the physical examination, the diagnosis of a strangulated inguinal scrotal hernia was retained and a biological assessment was requested, which found hyperleukocytosis with

neutrophilic polymorphonuclear (> 12,000 mm³). No imaging workup was requested.



Figure 1: Right Inguinal Scrotal Swelling

The patient was admitted to the theater on the operating table under general anesthesia, the inguinal approach by making an incision in the lower abdominal folds. The exploration allowed us to highlight the cecum and a catarrhal appendix (Figure 2), we proceeded to the appendectomy plus the closure of the peritoneo vaginal canal. Postoperatively, he received analgesics (paracetamol syrup) and an antibiotic based on amoxicillin syrup. The postoperative course was simple and the patient was discharged on the third postoperative day.

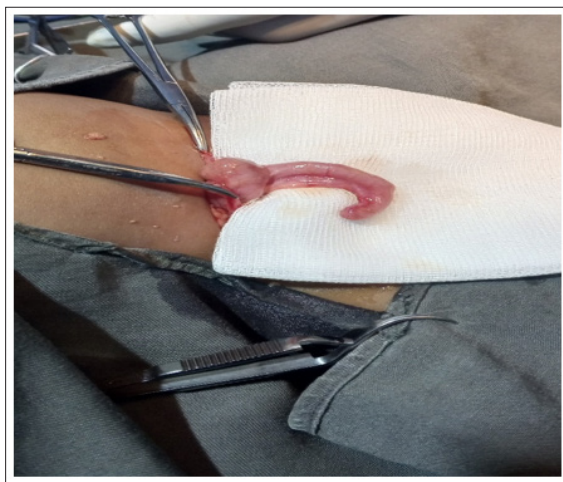


Figure 2: Catarrhal Appendix Intraoperatively after opening the hernia sac

Comment 2

This is a one-month-old infant who was admitted to our department for a right inguinal scrotal swelling that had been evolving for 4 hours. The beginning of the symptoms dates back to 3 weeks of his birth marked by the observation by the parents of a right inguino scrotal swelling, in front of this sign they are consulted in a clinic of the place where the diagnosis of a right inguinal hernia had been laid. They were referred to our service for care but for lack of financial means, they preferred to stay at home. A few days later, the same sign mentioned above reappears accompanied by tears; in front of this table, the infant was admitted to our department for care. The clinical examination allowed us to objectify an

irreducible right inguino scrotal swelling, non expansive and impulsive to efforts, painful (Figure 3). The examination of the other devices is unremarkable. Overall, the diagnosis of a right inguino scrotal hernia was retained. The biological assessment requested, which had the particularity of neutrophilic polynuclear leukocytosis (> 11,000 mm³), no imaging assessment had been requested.



Figure 3: Strangulated Inguinal Scrotal Hernia

The patient had been taken to the theater under general anesthesia, the approach by incision in the lower inguinal folds. We highlighted a catarrhal appendix in the hernial sac (Figure 4) and we performed an appendectomy plus closure of the peritoneo vaginal canal. The postoperative course was simple, the patient was discharged on the fourth postoperative day.



Figure 4: Catarrhal Appendix Intraoperatively After opening the hernia sac

Discussion

First described in 1735, Claudius Amyand's hernia is named after the surgeon who first described it in an 11-year-old child. While inguinal hernia is very common in children, Claudius Amyand hernia remains very rare. Its reported incidence ranges from 0.19 to 1.7%. Often reported in children, it is nevertheless described in subjects aged 3 weeks to 92 years in the literature [6]. The anatomical variations of the cecum in the peritoneal cavity and of the appendix on the cecum can cause the appendix to be found in all hernias of the anterolateral wall of the abdomen [5]. Amyand's hernia has also been described on the left in connection with cases of intestinal malrotation and situs inversus [3]. In our study, the hernia was on the right in both patients; these agree with the data in the literature that inguinal hernias are most often on the right.

The pathogenesis of the presence of a vermiform appendage in a hernial sac is not clearly defined. It could be explained by: compression at the neck resulting from ischemia or infection which occurs in 0.1% of cases of inguinal hernia; the presence of the appendix in the hernia sac predisposes to the development of adhesions between its serous membrane and the hernia sac, resulting in irreducible hernia [6]. The clinic is most often that of a strangulated hernia complicated or not by febrile occlusive syndrome. The positive diagnosis is made intraoperatively by the demonstration of a vermiform appendage in the hernial sac, whether inflammatory or not. The biological and radiological assessment aims respectively to assess the hydro-electrolyte impact and to look for possible complications [1]. In our context, the clinical signs were dominated by inguinal scrotal swelling that was not expansive and impulsive to effort, painful, irreducible. The biological assessment requested had observed neutrophilic polymorphonuclear leukocytosis in both cases, which confirms the data in the literature. The diagnosis was made intraoperatively by highlighting a catarrhal appendix.

The practical attitude to take before a Claudius Amyand hernia is conditioned by the appearance of the vermiform appendix in the hernial sac and the clinical picture. Appendectomy via inguinal herniotomy followed by closure of the peritoneal-vaginal canal is the ideal treatment for uncomplicated Claudius Amyand hernia [6]. A classification of HCA according to symptoms and the status of the appendix can help determine the therapeutic attitude [5]. (Table I)

Classification of Losanoff and Basson for the Management of HCA

Type of Hernia	1	2	3	4
Characteristic appendix	normal appendix	Acute appendicitis in the hernial sac	Appendicitis with peritonitis	Appendicitis associated with another abdominal pathology.
Treatment surgical	Reduction or Appendectomy through the bag, hernioplasty with prosthesis.	Appendectomy through hernia hernioplasty without prosthesis.	Appendectomy by laparotomy, hernioplasty without prosthesis.	Exploratory laparotomy with targeted treatment of the associated pathology.

In our context, our patients were in category 2. We performed an appendectomy plus resection and closure of the peritoneo vaginal canal. In several African studies, particularly in Gabon, Benin and Morocco, the same gestures have been performed [1, 6, 4]. Some prefer to limit themselves to simple hernia repair when the appendix is normal, because opening the digestive tract increases the risk of postoperative infection [5]. In our study, the appendix was pathological so we opted to do the appendectomy plus resection and closure of the peritoneo vaginal canal. In adults, the standard treatment for inguinal hernias by the elective route remains hernioplasty with a prosthesis in order to reduce the risk of recurrence. The management of the HCA must necessarily take into account the state of the appendix and the parietal repair. The decision to perform an appendectomy in the presence of acute suppurative appendicitis rules out the use of prostheses because of the risk of infection [6, 7]. The postoperative follow-up was simple and the patients were discharged on the third postoperative day for the first case, on the fourth postoperative day for the second case.

Conclusion

Claudius Amyand's hernia is a rare entity; it can occur at any age. Clinical diagnosis is difficult in the absence of imaging such as computed tomography. The management is surgical which consists of appendectomy plus resection and closure of the peritoneo vaginal canal in children.

Conflict of interest: No conflict of interest.

References

1. Ngakani Offobo S, Nguete Ndjota, Ondo JD, Ekogha JC, Owono JP, et al. (2021) La Hernie De Claudius Amyand : A Propos De 5 Cas Au Centre Hospitalier Regional Amissa Bongo De Franceville. *RECAC* 4: 58-61.
2. Dobos S, Thill V, Mottart K (2020) L'hernie d'Amyand, une présentation clinique rare. Une mise au point diagnostique et thérapeutique sur le rôle de la coelioscopie. *Rev Med Brux* 41: 19-009.
3. Raouf Fayisall Geraldo, Hugues Ndasu Matendo, Liviu Musteata, Valériu Krasovski, Valentin Nitu, et al. (2020) Hernie De Amyand Compliquee De Gangrene De Fournier

- : A Propos D'un Cas Et Revue De La Littérature. *European Scientific Journal* June 2020 edition 16: 1857-7881.
4. Hind Cherrabi, Salahoudine Idrissa, Hind Abouljaoud, Abdoulaye Harouna, Karima Atarraf, et al. (2018) Appendicite aigue sur hernie de Claudius Amyand chez un nouveau-né dans un tableau d'occlusion neonatale. *Pan African Medical Journal* 29: 96.
5. Adamou H, Adakal O, Amadou Magagi I, James Didier L, Habou O1, et al. (2021) Hernie de Claudius Amyand : à propos de deux observations à l'hôpital national de Zinder. *Rev.Afr.Chir.Mai* : 33-36.
6. Metchihoungbe CS, Gbessi DG, Goudjo Euem, Yassegoungbe MG, Noukpozoukou SB, et al. (2022) Hernie De Claudius Amyand Chez L'enfant : A Propos De Quatre Cas. *Journal de la Société de Biologie Clinique du Bénin* 64-68.
7. Inan I, Chilcott M, Voiglio E, DiDio F, Irmay F, et al. (2003) Appendiciteaiguë a typique : herniede Amyand. *Med Hyg* 61: 1319-1321.

Copyright: ©2023 Keita Doubany Mariame, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.