MEDVIX PUBLICATIONS

Journal of Medical and Clinical Case Reports
Case Report | Open Access | ISSN 2997-6022 | Volume 01 | Issue 10

Amyand's Hernia with Appendicitis in Palestinian Infant. A Case Report

Ghaleb A.G. Hajmohammad[1*], Eman A.S. Omari[1], Hamza H.H. Sondoqah[1], Duaa S.A. Abdelrahman[1], Hatem S.K. Shaweesh[1], Fatima M.R. Yacoub[1], Hadil A.M. Elhafi[1], Ahmad R.H. Awwad[1], Diya Asad[1], Afnan W.M. Jobran[1]

[1]Al-Quds University, College of Medicine.

Received date: 23 August 2024; **Accepted date:** 03 September 2024; **Published date:** 09 September 2024.

Corresponding Author: Ghaleb A.G. Hajmohammad, Al-Quds University, College of Medicine. Main Campus, Abu-Dis, P.O. Box 89, Palestine.

Citation: Ghaleb A.G. Hajmohammad, Eman A.S. Omari, Hamza H.H. Sondoqah, Duaa S.A. Abdelrahman, Hatem S.K. Shaweesh, Fatima M.R. Yacoub, Hadil A.M. Elhafi, Ahmad R.H. Awwad, Diya Asad, Afnan W.M. Jobran. Amyand's Hernia with Appendicitis in Palestinian Infant. A Case Report. Journal of Medical and Clinical Case Reports 1(10). https://doi.org/10.61615/JMCCR/2024/SEPT027140908

Abstract

Amyand's hernia (AH) is an uncommon form of inguinal hernia, found in about 1% of these cases, involving the appendix in the hernia sac. Often symptom-free and discovered during surgery, early detection through imaging is key, with surgery being the primary treatment. We report a case of a two-month-old boy with right inguinoscrotal swelling since birth, presenting with vomiting and irritability for a two-day duration. An ultrasound revealed a right-sided inguinoscrotal hernia. Surgery uncovered a hernia sac with the cecum and an inflamed, enlarged appendix, necessitating appendectomy. AH, typically diagnosed during surgery, represents a minority of inguinal hernias. Its management depends on the appendix's condition, abdominal sepsis, and patient comorbidities. Laparoscopy is effective for diagnosing and treating AH.

Abbreviations: AH, Amyand's hernia

Keywords: Amyand's hernia, Appendectomy, Inguinal hernia, acute appendicitis.

Introduction

Hernias are abnormal protrusions of an organ from its enclosing cavity. It is one of the most frequently carried out operations worldwide. **[1]** Inguinal hernias form 80% of abdominal wall hernias. **[2]** When the vermiform appendix is trapped inside the inguinal hernia sac, it's called an Amyand hernia (AH). **[1]** In 1735, Dr. Claudius Amyand was the first surgeon to describe an 11-year-old boy with an incarcerated inguinal hernia that included a vermiform appendix. AH is a rare condition, with only about 1% of all occurrences of inguinal hernia. **[3]** AH is usually asymptomatic. Nevertheless, hernias can be strangulated, which leads to tissue cell death, appendix rupture, or perforation. **[4]** Few cases of AHs were recognized pre-operatively, with the majority of cases being an intra-operative finding. Although CT and ultrasonography are helpful for the diagnosis, laparoscopy should be used to make the conclusive determination. Important to know that AH management is still controversial. **[5]** In this manuscript, we reported a 2-month-old boy with AH and details about a special strategy of management, to serve as a guide for the surgical management of Amyand's hernia.

Case Presentation

Two-month-old preterm male infant who was born at 35 gestational age, had a history of right-side inguino-scrotal swelling since birth. He was presented to the emergency department by his family due to right-sided abdominal swelling, vomiting, and irritability of two days duration. There was no history of difficulty feeding or changes in bowel habits. The family mentioned that the swelling gradually increased in size and did not return to normal over the past 48 hours. Laboratory tests revealed a white blood cell count of 12.5, and a C-reactive protein value of 32.6 mg/L. Physical examination showed right side inguino-scrotal swelling 1x2 cm that was firm, tender to palpation, and irreducible with minimal overlying bluish skin discoloration. The rest of the examination was normal. Ultrasound showed a right inguinal defect measuring 1.4 cm with a herniated bowel reaching the right scrotum associated with hydrocele. Both testicles and epididymis appeared normal in size, shape, and echotexture with detected vascularity. Bowel vascularity could not be assessed properly, but there was suspicion of bowel wall thickening. The patient was prepared for surgery. The decision of surgery was made due to the presence of an irreducible hernia of more than 48 hours and the presence of skin bluish discoloration, in addition to the inability to appropriately assess bowel vascularity. The patient was in the operating room within 1 hour of presentation. Due to a lack of expertise, equipment, and trained staff, open instead of laparoscopic, hernia repair was decided. Intraoperatively we found a hernial sac that contained the cecum and appendix. The appendix was hypervascularized and hypertrophied and the cecum was edematous. Appendectomy and herniotomy were performed. Exploration of testicles was done. The right testicle had a minimal bluish discoloration and mild swelling, with a return to its normal color shortly afterward. Right testicular fixation in the scrotum was done just to make sure of preserving the right testicular position. The patient was kept under close observation. Oral intake was started gradually after full recovery post-operatively. His postoperative course was uneventful, the patient tolerated feeding, passed stool, and was discharged in good general condition.

Discussion

Amyand's hernia (AH), characterized by the inclusion of the vermiform appendix within a hernial sac, was initially described by Dr. Claudius

Amyand in 1735, marking a seminal milestone in surgical history and understanding.**[6]** Notably, pediatric AH cases are identified in approximately 1 in 1,000 instances and are frequently recognized during surgical interventions.**[6]**

AH diagnosis primarily occurs during surgical exploration; nevertheless, ultrasound exhibits promise in diagnosing AH and revealing intricate anatomical insights.**[7]** Another study underscores ultrasound's diagnostic role, identifying AH through the visualization of a blind-ending intestinal loop.**[8]** In complex scenarios, a CT scan emerges as a potential tool for enhanced visualization of the appendix.**[9]**

Treatment for AH predominantly entails hernia repair and appendectomy via an inguinal incision.**[10]** Pertinently, some authors Argue against appendectomy in cases lacking overt inflammation.**[7]** The Losanoff and Basson classification categorizes Amyand's hernia into four types, Type 1 involves a normal appendix in the hernia sac with considerations for appendectomy, Type 2 features septic changes confined to the sac, influencing repair choices, Type 3 involves sepsis extending beyond the sac, requiring cautious surgical decisions, Type 4 includes severe concurrent pathology outside the sac, demanding tailored approaches, This system offers valuable guidance for managing diverse Amyand's hernia presentations.**[11]** Considering the Losanoff and Basson classification, our case falls into the category of Type 2 Amyand's hernia.

Conclusion

In summary, our report illustrates the rare occurrence of Amyand's hernia in a 2-month-old infant and emphasizes the value of clinical suspicion, imaging modalities, and surgical intervention in diagnosing and managing this condition. Additionally, our case aligns with Type 2 of the Losanoff and Basson classification, highlighting the diverse presentations of Amyand's hernia and the importance of tailoring treatment strategies accordingly. This case adds to the limited literature on pediatric Amyand's hernia and contributes to the understanding of its diagnostic and management challenges.

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