

Case Report

Amyand's Hernia: A Case Report on Diagnosis and Surgical Management at Tripoli Central Hospital

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Abstract

Pauper :An Amyand's hernia is a rare type of inguinal hernia in which the appendix is trapped within the hernial sac. It is named after Claudius Amyand, a French surgeon who performed the first successful appendectomy in 1735 on a patient with an Amyand's hernia.

Aims of the case report: In this case report we highlight a rare case that contributes less than 1% of all inguinal hernias and how should be managed by the surgeon.

Conclusion: As a surgeons we should expect even the rarest cases although this condition may remain asymptomatic and behave like a normal inguinal hernia, as a result, this type of hernia most of the times diagnosed during the procedure

Management of this type of hernia should be individualized according to appendix's inflammation stage

Keywords: Hernial Sac, Inguinal Hernia, Hernia Repair, Pediatric Amyand's Hernia, Herniotomy

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INTRODUCTION:

Amyand's hernia is a rare form of inguinal hernia characterized by the presence of the vermiform appendix within the hernial sac. This condition was first described in 1735 by Claudius Amyand, a French-born surgeon who performed the first successful appendectomy on an 11-year-old boy with an incarcerated inguinal hernia containing a perforated appendix and a fecal fistula. Since then, this

uncommon entity has been named Amyand's hernia in his honor. Despite advances in surgical techniques and diagnostic tools, Amyand's hernia remains infrequently encountered in clinical practice, accounting for only 1% (0.19–1.7%) of all inguinal hernia cases⁽¹⁾. Its rarity, coupled with the non-specific clinical presentation, often leads to its diagnosis being made incidentally during surgery for a

presumed routine inguinal hernia. Amyand's hernia tends to occur more commonly in the pediatric population—approximately three times more frequently than in adults—primarily due to the persistence of the processus vaginalis, a developmental remnant that increases susceptibility to herniation in children. In adults, risk factors for inguinal hernias in general, such as increased intra-abdominal pressure, connective tissue disorders, and previous surgeries, may contribute to the development of Amyand's hernia, although the condition remains exceedingly rare. Clinically, patients may present with symptoms typical of an inguinal hernia, such as groin swelling and discomfort, but when the appendix is inflamed, signs of acute appendicitis, including localized tenderness, fever, and leukocytosis, may be present, complicating the clinical picture. The management of Amyand's hernia is largely guided by the classification system and surgical protocol proposed by Losanoff and Basson in 2007⁽²⁾. This classification divides Amyand's hernias into four distinct types based on the condition of the appendix within the hernial sac: **Type 1** involves a normal, non-inflamed appendix within the hernia sac, typically managed with hernia repair without appendectomy unless the patient is young.

Type 2 includes an inflamed appendix without signs of perforation or other sources of abdominal sepsis, warranting appendectomy followed by primary hernia repair without mesh.

Type 3 is associated with complicated acute appendicitis, such as perforation or abscess formation, along with intra-abdominal sepsis; in these cases, appendectomy and hernia repair without mesh are recommended to minimize infection risks. **Type 4** refers to Amyand's hernia accompanied by unrelated intra-abdominal pathologies, requiring a tailored surgical approach based on the specific findings⁽³⁾. Due to its rarity and variable presentation,

CASE PRESENTATION:

We present the case of 21-year-old Libyan male who presented with a right-side inguinal hernia. He had no known chronic illnesses and his physical examination and laboratory tests were within normal range. The patient underwent right-side inguinal hernia repair. However, during the

Amyand's hernia poses diagnostic and management challenges. Preoperative imaging, particularly with computed tomography (CT), may occasionally suggest the diagnosis, but most cases are identified intraoperatively. As such, awareness of this condition is crucial for surgeons to make informed decisions regarding the need for appendectomy and the appropriate hernia repair technique. In this report, we present a rare case of Amyand's hernia, contributing to less than 1% of all inguinal hernias, and discuss the surgical management strategies tailored to the intraoperative findings.

MATERIALS AND METHODS:

This case report was prepared following the CARE (CAse REport) guidelines to ensure clarity, transparency, and completeness in reporting. Data were collected through a detailed review of the patient's medical records, including clinical presentation, diagnostic workup, intraoperative findings, and postoperative outcomes. The patient's history, physical examination results, laboratory investigations, and imaging studies were thoroughly analyzed to provide a comprehensive overview of the case.

Intraoperative details were obtained directly from the operative notes, describing the surgical approach, the condition of the appendix, and the specific techniques used for hernia repair and appendectomy. Postoperative follow-up data were gathered from the patient's hospital records, including recovery progress, complications, and discharge status.

Ethical considerations were strictly observed, with informed consent obtained from the patient for the publication of clinical details and images (if applicable). All patient identifiers were removed to maintain confidentiality. The report also includes a review of relevant literature to compare the case with similar reports, highlighting variations in presentation and management strategies.

procedure, it was discovered that the appendix in the content of the hernia. The surgeon decided to perform a herniotomy and appendectomy. The appendix was found to be normal and there were no complications during the surgery. The patient had a good outcome and was discharged from the hospital on the third day after surgery.



An image taken during the procedure

Showing long vermiform appendix protruding from the right inguinal hernial sa

DISCUSSION:

The presence of the appendix within the hernial sac is an uncommon occurrence, known as Amyand's hernia ⁽⁴⁾. Although it can present at any age, it is more frequently observed in children due to the persistence of a patent processus vaginalis, which is considered the primary underlying cause of Amyand's hernia ⁽⁶⁾. In adults, risk factors such as increased intra-abdominal pressure, chronic constipation, and previous abdominal surgeries may contribute to its development, although the exact mechanism remains unclear. Diagnosing Amyand's hernia preoperatively can be particularly challenging because its clinical presentation often mimics that of a typical inguinal hernia. Patients may present with groin swelling, tenderness, or signs of incarceration. However, when appendicitis is present within the hernial sac, the clinical picture may overlap with symptoms of acute appendicitis, including

localized pain, fever, and leukocytosis, adding to the diagnostic complexity. Imaging modalities such as ultrasound and computed tomography (CT) can be valuable tools in identifying Amyand's hernia preoperatively ⁽⁶⁾. A study by Ivashchuk et al. highlighted the usefulness of CT scans in diagnosing complicated cases, especially when there are signs of appendiceal inflammation or abscess formation, while ultrasound may be more effective in pediatric populations due to their thinner abdominal walls. Despite these advancements, many cases are still diagnosed intraoperatively during routine hernia repair. The definitive treatment for Amyand's hernia is surgical intervention ⁽⁵⁾. This typically involves performing a herniotomy to reduce the hernia contents, with appendectomy being necessary if the appendix is inflamed or perforated. The management strategy often depends on the Losanoff and Basson classification, which guides surgeons on whether to perform an appendectomy and the type of

hernia repair required. In cases with a normal appendix (Type 1), some studies recommend preserving the appendix, especially in younger patients, to avoid unnecessary complications. However, other reports, such as a study by Sharma et al., suggest that prophylactic appendectomy may be justified to prevent future appendicitis, particularly in settings where access to emergency care is limited⁽⁶⁾The overall prognosis for patients with Amyand's hernia is favorable. The surgical procedure is generally straightforward, and postoperative complications are rare. A comparative study by Michalinos et al. demonstrated that early diagnosis and prompt surgical intervention significantly reduce the risk of complications such as wound infection, sepsis, or recurrence. Most patients recover fully and can resume normal activities shortly after surgery. Nevertheless, the prognosis may vary depending on the severity of appendiceal

inflammation and the presence of complications such as perforation or abscess formation.⁽⁴⁾

CONCLUSION:

This case report highlights the importance of early diagnosis and treatment of Amyand's hernia, as it can prevent complications. As a surgeons we should expect even the rarest cases although this condition may remain asymptomatic and behave like a normal inguinal hernia. As a result, this type of hernia most of the times diagnosed during the procedure. Management of this type of hernia should be individualized according to appendix's inflammation stage. In our experience we would highly recommend a second opinion during the procedure itself, since this is a rare case and the decision making process may be quite complicated. Our recommendation that early treatment of inguinal hernia can prevent complications of such cases

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