

Amyand's Hernia: Case Report of a Rare and Challenging Finding in Surgical Practice

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ABSTRACT

Amyand's hernia is a rare condition in which the vermiform appendix is found within an inguinal hernia. This clinical entity is exceptionally infrequent, accounting for less than 1% of all inguinal hernias. Early diagnosis can be challenging due to its similarity to other common abdominal pathologies, such as acute appendicitis or conventional hernias. The present case report describes a male patient who presented with a right inguinal hernia complicated by appendicitis within the hernia sac. The diagnosis was made through preoperative imaging, and surgery consisting of hernioplasty with appendectomy was performed. Through this case, the clinical implications of Amyand's hernia are highlighted, as well as the importance of appropriate diagnostic suspicion and surgical considerations in the treatment of this rare condition. This case underscores the need for a multidisciplinary approach in the management of patients with Amyand's hernia to avoid serious complications.

KEYWORDS: Amyand's hernia, appendicitis in inguinal hernia, appendectomy, general surgery, surgical diagnosis, inguinal hernia, surgical management, surgical complications.

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INTRODUCTION

Amyand's hernia is a rare and complex pathology in which the vermiform appendix is located inside the sac of an inguinal hernia. First described in 1735 by the British surgeon Claudius Amyand, this clinical condition has been the subject of numerous studies and reports due to its low incidence, accounting for less than 1% of all inguinal hernias. Despite its rarity, early recognition and proper management of this entity are essential to avoid serious complications such as complicated appendicitis, appendix perforation, and peritonitis.¹

The clinical presentation of Amyand's hernia can be confusing and easily mistaken for other more common abdominal conditions, such as conventional acute

appendicitis, simple inguinal hernia, or even intestinal obstructions. In many cases, the disease does not present specific symptoms, making diagnosis difficult and delaying appropriate surgical intervention. In fact, a definitive diagnosis of Amyand's hernia can only be made with certainty through preoperative imaging techniques or, in many cases, during the surgical intervention.

The treatment of Amyand's hernia generally involves the repair of the inguinal hernia and appendectomy. However, surgical decisions may vary depending on the state of the appendix and the severity of appendicitis, requiring an individualized approach. Factors to be considered include the presence of acute appendicitis, the risk of perforation, and the patient's condition, which may influence the surgical

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technique used and the choice of whether to address the hernia or the appendix first.²

In the medical literature, only a few cases of Amyand's hernia have been documented, highlighting the importance of high clinical suspicion, especially in patients with inguinal hernias and symptoms that could suggest appendicitis. Most of the reported cases have been successfully managed with surgery, but postoperative complications, such as infections, abscesses, and hernia recurrences, have also been described. Due to its complexity, it is essential that surgeons and healthcare professionals are familiar with this condition to ensure timely diagnosis and proper treatment.³

This article aims to discuss a rare case of Amyand's hernia, examine its clinical, diagnostic, and surgical features, and provide a detailed review of the existing literature. Through this report, we aim to contribute to the knowledge about this rare entity in order to improve outcomes for patients presenting with this unusual condition.⁴

A 68-year-old male patient presented to the clinic with abdominal pain in the right inguinal region, which had been ongoing for 5 weeks. The pain was intermittent, accompanied by a sensation of heaviness, and had intensified in the last week. Additionally, the patient noticed the presence of a palpable mass in the right inguinal area, which had not changed in size but caused discomfort. He denied fever, vomiting, or alterations in bowel movements. His medical history included controlled hypertension and type 2 diabetes on oral medication, with no prior surgical history. On physical examination, a soft, reducible right inguinal mass was noted, with mild tenderness to palpation. The rest of the abdominal exam was normal, with no signs of distension or palpable masses in other areas. The digital rectal exam was unremarkable, and vital signs were stable. An abdominal ultrasound was ordered, which showed a right inguinal hernia with a tubular structure inside, which appeared to correspond to the appendix. A subsequent abdominal CT scan confirmed the presence of the appendix within the hernia sac, with signs of inflammation, suggesting appendicitis. Thus, a diagnosis of Amyand's hernia complicated by acute appendicitis was made.

CASE REPORT



Figure 1. Amyand Hernia.



Figure 2. Appendix removal product.

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The patient was scheduled for emergency surgery. **(Figure 1)** The procedure consisted of reduction of the inguinal hernia and repair of the abdominal wall using a polypropylene mesh. Additionally, a conventional appendectomy was performed. **(Figure 2)** The surgery was completed under general anesthesia without intraoperative complications, and the inflamed appendix was successfully removed. The patient was monitored in the post-anesthesia recovery unit for the first few hours without any acute complications, and the following day, he began mobilizing and drinking fluids without difficulty.

During his postoperative course, the patient showed favorable recovery. He was instructed to use a suspensory garment for the first few weeks to provide support to the inguinal region and reduce the risk of complications. Pain management was appropriate with oral analgesics, and control of his diabetes and hypertension continued. The patient was discharged on the third postoperative day with instructions for follow-up to assess wound healing and general condition. At the 10-day follow-up visit, appropriate wound healing was observed with no signs of infection. The patient was in good general condition with no additional complications. Amyand's hernia, although rare, was correctly diagnosed and successfully treated with combined hernioplasty and appendectomy surgery. The use of the suspensory garment contributed to a complication-free recovery in the inguinal region, allowing for favorable progression.

DISCUSSION

Amyand's hernia is an uncommon condition defined as the presence of the vermiform appendix within the hernia sac, representing less than 1% of all inguinal hernias. This condition was first described in 1735 by British surgeon Claudius Amyand, and its diagnosis and treatment remain a clinical and surgical challenge due to its rare presentation and the diagnostic difficulties it presents.^{5,6}

In the presented clinical case, a 68-year-old male patient presented with a right inguinal hernia accompanied by appendicitis within the hernia sac. The diagnosis of Amyand's hernia was confirmed through imaging studies (ultrasound and CT scan), which allowed for identification of the inflamed appendix within the hernia. This clinical manifestation is characteristically challenging, as the patient's symptoms could have been mistaken for conventional acute appendicitis or a simple inguinal hernia, highlighting the importance of proper differential diagnosis.⁷

Amyand's hernia is usually diagnosed through imaging techniques such as ultrasound, CT scan, or, in some cases, MRI, which help visualize the appendix within the hernia and determine the degree of associated inflammation or complications.⁸

The treatment of Amyand's hernia, as shown in this case, generally involves the repair of the inguinal hernia and appendectomy. However, surgical management can vary depending on the condition of the appendix and the presence

of acute appendicitis. In our patient, as the appendix was inflamed but not perforated, a conventional appendectomy and hernioplasty with mesh were performed. This surgical approach is considered the standard as it allows simultaneous treatment of both conditions, minimizing the risk of postoperative complications and ensuring adequate recovery.⁸

It is important to note that the use of mesh in the repair of inguinal hernias is a common practice in modern surgery as it reduces the risk of hernia recurrence, especially in complicated cases such as Amyand's hernia. The polypropylene mesh used in this case provided adequate reinforcement of the abdominal wall and contributed to the patient's rapid recovery with minimal risk of complications. Despite the rarity of Amyand's hernia, it is essential for surgeons to maintain a high index of suspicion when encountering a patient with an inguinal hernia with atypical symptoms or persistent abdominal pain. Early identification and appropriate surgical intervention are crucial to prevent serious complications such as appendix perforation, peritonitis, or sepsis. Furthermore, adequate postoperative follow-up, which in this case included the use of a suspensory garment, is vital to prevent hernia recurrence and facilitate a complication-free recovery.⁹

Regarding the postoperative evolution, our patient experienced favorable recovery with no signs of infection or complications. The use of a suspensory garment during the postoperative period is a common recommendation in inguinal hernia surgery as it provides additional support to the inguinal region, reduces pain, and helps prevent complications such as hernia recurrence.

Although Amyand's hernia is a rare condition, it presents significant challenges in its diagnosis and treatment. It is essential for surgeons and physicians to be familiar with this condition to ensure early diagnosis and appropriate management. The reviewed literature shows that although most cases are resolved successfully with surgical treatment, patients may experience postoperative complications such as infections, abscesses, hernia recurrence, or injury to adjacent structures, highlighting the importance of thorough preoperative and postoperative evaluation.¹⁰

CONCLUSION

Amyand's hernia, though rare, represents a clinically relevant condition in general surgery due to its diagnostic complexity and the need for appropriate surgical management. This pathology is characterized by the presence of the vermiform appendix within a hernia sac, posing a challenge for both diagnosis and treatment. The presented clinical case highlights the importance of maintaining a high index of suspicion in patients with atypical inguinal hernias and persistent abdominal pain, as the symptoms, although similar to other common conditions such as acute appendicitis or simple inguinal hernias, can lead to serious complications if not managed properly.

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The diagnosis of Amyand's hernia is primarily made through imaging techniques, such as CT scan or abdominal ultrasound, which allow identification of the anomaly and aid in planning surgical intervention. The combined surgery of hernioplasty and appendectomy remains the treatment of choice as it allows both conditions (inguinal hernia and appendicitis) to be addressed simultaneously, minimizing the risk of postoperative complications. The use of mesh for hernia repair is crucial to reduce the risk of recurrence and facilitate early recovery.

It is essential that surgeons have a clear understanding of the risks associated with this rare and complex pathology. Although most cases are resolved satisfactorily with surgery, complications such as appendix perforation, peritonitis, or postoperative infections can occur if not properly managed. In this regard, appropriate postoperative follow-up and the use of supportive measures, such as the suspensory garment, are critical to ensure a complication-free recovery and a lower rate of hernia recurrence.

In conclusion, Amyand's hernia is a rare pathology that requires high clinical suspicion for early diagnosis. Proper surgical management, including hernia repair and appendectomy, is crucial to prevent serious complications and ensure a favorable recovery for the patient. Given its low frequency, continued research and medical education on this condition are necessary to improve clinical outcomes and provide optimal treatment for affected patients.

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