

## Two Rare Cases of Appendicitis: Amyand's Hernia

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### ABSTRACT:

This case study series looks at two unusual instances of appendicitis masquerading as an Amyand's hernia. Amyand's hernias are infrequent, and they are considerably less prevalent when they are accompanied by appendicitis, perforation, or abscess. There is controversy over whether to do an appendectomy and the therapy of these hernias is not standardised. This case series details the two appendicitis patients that visited the surgery emergency department at MKCG, MCH, Berhampur during a 24-hour period. Appendectomy and hernia repair without mesh were used to treat both patients.

### INTRODUCTION

The extremely unusual condition known as Amyand's hernia is characterised by an inguinal hernia that contains the vermiform appendix. Even less frequently do these hernias develop appendicitis. This case series features two instances of appendicitis in Amyand's hernias that were diagnosed at the surgical emergency Department of the MKCG and MCH in Berhampur. According to earlier research, appendicitis in an Amyand's hernia accounts for 0.1% of all appendicitis and occurs in 1% of all inguinal hernias [1–6]. Recent studies indicate that the prevalence is less common than previously believed, occurring in 0.4% to 0.6% of all inguinal hernias [4].

#### Case 1:

A 32-year-old male with a history of various medical conditions presented to the emergency department with right inguino-scrotal swelling for last 6 months and right lower quadrant pain in the last 3 days with associated nausea, non-bloody vomiting and diarrhoea. He was also complaining of nonproductive cough and backache at the time of evaluation. No history of major surgery in recent past. Further review of systems is negative.

Vital signs were blood pressure of 156/80mmHg, pulse of 74 beats per minute, respirations of 18 bpm, and temperature of 36.7°C. Examination revealed a soft abdomen with right lower quadrant tenderness to palpation with evidence of an inguinal mass that is non reducible. Lab analysis was essentially normal. There was no leucocytosis. A CT scan of his abdomen was obtained due to his back pain and right lower quadrant pain. The CT was interpreted by radiology as a right indirect inguinal hernia containing an inflamed appendix. Refer to Figures 1 and 2 for CT images

Patient was operated on 11<sup>th</sup> may 2023 for rt inguinal hernia and an inflamed appendix was found as content. Open appendicectomy was done and the hernia defect repaired by Bassini's procedure. No mesh was used during repair of hernia. The patient had no intraoperative or postoperative complications with the exception of pain, classified as Clavien-Dindo grade 1. On postoperative day 4, he was discharged to the skilled nursing facility where he resided.



Fig 1 & 2. NCCT of abdomen and pelvis showing Amyand's hernia



Fig 3. intra-op image showing inflamed appendix as content of right inguinal hernia

### Case 2

A 43-year-old male with a history of hypertension, and no prior abdominal surgeries presented to the emergency department with dull, constant right lower quadrant pain for the past week. He saw her primary care physician who ordered an outpatient CT for possible hernia. The CT was concerning for appendicitis and hernia, so the patient was referred to the ED for further management. In the ED, he admitted to subjective fever and melena at home. Review of systems revealed no other symptoms. Vital signs were blood pressure of 118/58 mmHg, pulse of 90 beats per minute, respirations of 16 per minute, temperature of 36.4°C, and oxygen saturation of 96% on room air. Examination revealed a soft abdomen with right lower quadrant tenderness to palpation and a nonreducible, erythematous groin mass. Lab analysis revealed a leucocytosis of 16.7 K/mL with a predominance of neutrophils. Radiology

interpretation of the outpatient CT showed a right inguinal hernia containing vermiform appendix measuring 11mm in diameter.

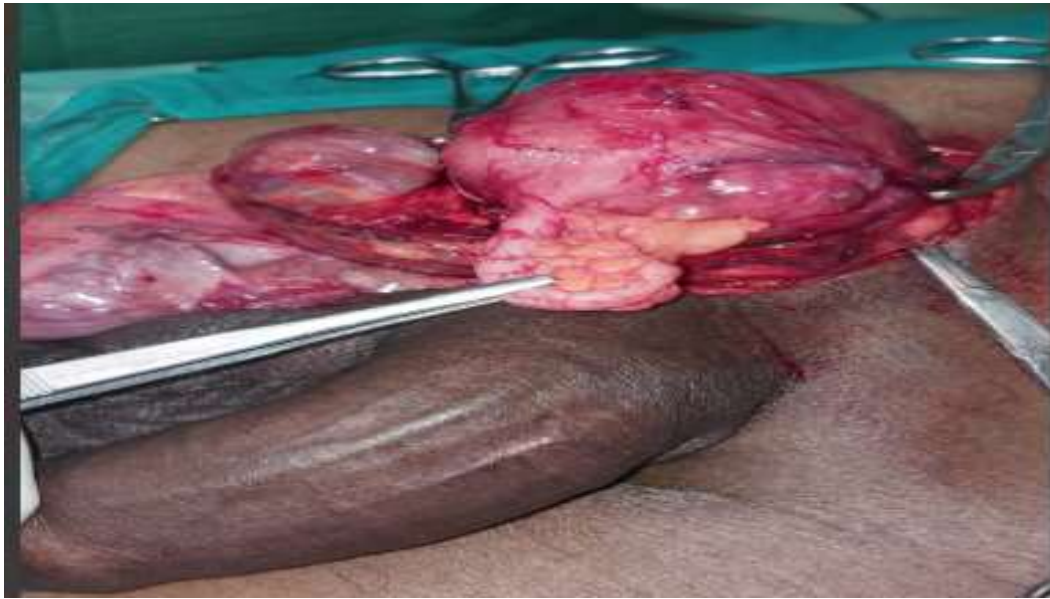


Fig 4: Intra op image showing appendix as content of right inguinal hernia

The patient underwent open surgical management with appendectomy and Bassini hernia repair. The appendix was accessed by way of the groin through the hernia. Intraoperatively, the hernia was found to be below the inguinal ligament. Appendicectomy done and the hernia was repaired without the use of mesh. The postoperative diagnosis was Amyand's hernia. The patient underwent no complications in the operating room or postoperatively with the exception of pain, Clavien Dindo classification grade 1. He was discharged to home on postoperative day 5.

## DISCUSSION

The patients in this case series were treated in accordance with the strategy that most surgeons agreed upon. Following surgical intervention, it was discovered that both instances had an Amyand's hernia. An open appendectomy and a mesh-free Bassini hernia repair were carried out.

The standard of care for Amyand's hernias is non-existent. The use of mesh in hernia repairs for Amyand's hernias and the management of preventive appendectomy are topics of considerable debate. Furthermore, a lot of instances can need customised care that considers comorbidities [3,4]. Following this discussion, Losanoff and Basson proposed a categorization scheme that incorporates management guidelines that should be used in the majority of Amyand's hernia patients [1, 3, 4]. Losanoff and Basson have classified Amyand's hernias into four subtypes:

- (1) normal appendix within the inguinal hernia
- (2) hernia with inflamed appendicitis
- (3) hernia with perforation of the appendicitis
- (4) complications including abscess or malignancy [1, 3, 4, 6].

According to subtype 1, Amyand's hernia may be treated with mesh hernioplasty and reduction or appendectomy, depending on comorbidities [1, 3, 4, 6]. Subtypes 2-4 necessitate

appendectomy and mesh-free hernia repair because they are all appendix abnormalities. In cases of uncomplicated appendicitis, removal of the appendix may be accomplished by entrance through the hernia; in cases where appendicitis is complicated by an abscess, perforation, or cancer, laparoscopic appendectomy should be done [1, 4]. As previously mentioned, preventive appendectomy and mesh use are controversial [2–5]. An appendectomy should be done in situations of Amyand's hernia with appendicitis or perforation. Most people think an appendectomy is not essential in cases where the appendix is healthy and free of inflammation. It is possible to reduce the appendix while using mesh to heal the hernia. Some people recommend appendectomy in every instance of an Amyand's hernia [2,4, 5]. These people usually think that the appendix can move inside the hernia and that manipulating the appendix during reduction can cause appendicitis. Hernia repair using mesh is acceptable in all cases of non-inflamed Amyand's hernia [2-4, 5]. In the controversy surrounding mesh hernia repair, many contend that the use of mesh increases the risk of wound infection, sepsis, fistula formation, and recurrent hernias when there is inflammation or an abscess present. However, in situations of inflamed and perforated appendicitis, some writers have employed more recent biologic meshes without any infection. [1, 4].

The emergency physician's job is to recognise this unusual presentation. In this instance, the usual symptoms of appendicitis and hernia were present in both individuals, which led to the need for CT imaging. It can be quite difficult to find these variants on imaging, but doing so is vital. In all instances, the surgical room provided a clearer picture of the appendix and hernia locations than CT imaging could provide. Figures 1-2 present the CT scans for these patients.

In conclusion, Amyand's hernia is extremely rare entity. The occasion to observe both in such a short time frame is unremarkable. The patients in this case series were managed following current recommendations of the majority, and they recovered without any significant complications.

#### CONFLICT OF INTEREST DISCLOSURE

There are no known conflicts of interest in the publication of this article. The manuscript was read and approved by all authors.

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