

Amyand's Hernia: A Rare Case of Acute Appendicitis Presenting as an Inguinal Hernia - A Case Report

Edunoori Prashanth¹, M B Satish Kumar², Kiran Kumar³, Ishwar Jeevanagi⁴, Supreetha S⁵

¹Postgraduate Resident, ² Professor, ³Professor, ^{4,5} Postgraduate Residents, Department of General Surgery, Saphthagiri Institute of Medical Sciences and Research Centre (SIMSRC), Bengaluru, Karnataka, India.

Corresponding Author: Edunoori Prashanth

DOI: <https://doi.org/10.52403/ijrr.20260842>

ABSTRACT

Amyand's hernia is a rare variant of inguinal hernia in which the vermiform appendix lies within the hernial sac. Although the appendix may be normal or inflamed, acute appendicitis within an Amyand's hernia is uncommon and may progress to gangrene or perforation due to mechanical compression and impaired venous drainage. Clinically, it may mimic an incarcerated or strangulated inguinal hernia. Ultrasonography and contrast-enhanced CT can aid diagnosis, although the condition is often identified intraoperatively. Management depends on the condition of the appendix and degree of contamination, with appendicectomy and appropriate hernia repair being the mainstay of treatment.^{1,2,4}

Keywords: Amyand's hernia; Acute appendicitis; Inguinal hernia; Incarcerated hernia; Appendicectomy; Hernial sac

INTRODUCTION

Amyand's hernia is an uncommon form of inguinal hernia in which the vermiform appendix is located within the hernial sac. It was first described by Claudius Amyand in 1735 and has been reported in approximately 1% of inguinal hernia

repairs. Acute appendicitis occurring within an Amyand's hernia is substantially less frequent.^{1,5}

The clinical features are variable and can overlap with those of an incarcerated or strangulated inguinal hernia, acute appendicitis, or other causes of right iliac fossa pain. Because of this overlap, the diagnosis may remain uncertain before surgery and is sometimes established only with imaging or operative exploration.^{1,2}

Management is determined by the condition of the appendix, the extent of inflammation or contamination, and the characteristics of the hernial defect. The Losanoff and Basson classification provides a practical framework for surgical decision-making, distinguishing cases with a normal appendix from those with appendicitis and increasing degrees of intra-abdominal sepsis.²

We report a rare case of acute appendicitis presenting within an Amyand's hernia in a 32-year-old male, in which the diagnosis was supported by ultrasonography and confirmed by diagnostic laparoscopy. Laparoscopic appendectomy was performed after careful dissection of the inflamed appendix from the deep inguinal ring. This case highlights the importance of maintaining a high index of suspicion for Amyand's hernia in patients presenting with right iliac fossa or inguinal symptoms and

demonstrates the role of laparoscopy in establishing the diagnosis and facilitating definitive management.

CASE REPORT

History

A 32-year-old male presented with a history of abdominal pain for 3 days. The pain was insidious in onset, gradually progressive, and colicky in nature. It was predominantly localized to the right iliac fossa. There was no specific diurnal variation, and no aggravating or relieving factors were identified.

There was no history of associated nausea, vomiting, fever, or burning micturition.

The patient had a past history of exploratory laparotomy performed 15 years previously for intestinal perforation. There was no history of known comorbidities or drug allergies.

Clinical Findings

On abdominal examination, the abdomen was soft. Localized tenderness and guarding were present in the right iliac fossa, particularly at McBurney's point, with associated rebound tenderness. Bowel sounds were present. Rovsing's sign was negative, and no palpable abdominal mass was noted.

Investigations

Routine laboratory investigations revealed a haemoglobin level of 12.1 g/dL and an elevated total leukocyte count of

12,800/mm³, with a differential leukocyte count of neutrophils 77%, lymphocytes 20%, and eosinophils 2%. Renal function tests, liver function tests, and coagulation parameters were within normal limits.

Ultrasonography of the abdomen demonstrated features suggestive of vermiform appendix with inflammatory changes, consistent with acute appendicitis.

Operative Findings

Diagnostic laparoscopy was performed under general anaesthesia. An elongated, inflamed appendix was identified extending into the right deep inguinal ring, confirming the diagnosis of Amyand's hernia (incidental finding). Excess preperitoneal fat was also noted. The appendix was carefully dissected from the deep inguinal ring, following which the mesoappendix was divided. An endoloop was applied close to the appendiceal base, and the appendix was divided distal to the ligature. The specimen was retrieved through a port using a reducer. As the defect was small, mesh was not placed, and the patient was advised to follow up at a later date.

Postoperative Course: The postoperative period was uneventful. Oral feeding was started on postoperative day 1, and the patient was discharged on postoperative day 2. At one-week follow-up, wound healing was satisfactory. No postoperative complications were noted.



Fig-1 Inflamed appendix within indirect inguinal hernia sac

DISCUSSION

Amyand's hernia refers to an inguinal hernia containing the vermiform appendix. Although the appendix is present in a small proportion of inguinal hernias, acute appendicitis within the hernial sac is much less common. The condition is named after Claudius Amyand, who performed an appendectomy in 1735 for a perforated appendix contained within an inguinal hernia.^{1,2,4,5}

The development of Amyand's hernia is facilitated by the anatomical relationship between the caecum, appendix, and inguinal canal. The condition is more commonly right-sided, although left-sided cases can occur. Compression of an appendix trapped at the deep inguinal ring may impair venous drainage and contribute to edema and inflammation; advanced disease can progress to ischemia, gangrene, or perforation.³

Preoperative recognition can be difficult because symptoms may resemble those of an incarcerated inguinal hernia or acute appendicitis. Imaging can occasionally identify the appendix within the hernial sac, but the diagnosis is still frequently confirmed at surgery.^{1,4} In the present case, ultrasonography suggested an inflamed appendix within the right inguinal hernial sac, and diagnostic laparoscopy subsequently confirmed an elongated inflamed appendix extending into the right deep inguinal ring.^{1,2}

The laboratory findings in our patient were consistent with an acute inflammatory process, with a total leukocyte count of 12,800/mm³ and neutrophil predominance. The absence of documented systemic sepsis, perforation, or generalized peritonitis is important when considering the operative classification and management of the case.

Losanoff and Basson Classification of Amyand's Hernia

Type	Appendix/Clinical findings
Type 1	Normal appendix within inguinal hernia.
Type 2	Acute appendicitis confined to hernial sac, without abdominal sepsis.
Type 3	Acute appendicitis with peritonitis or abdominal wall sepsis.
Type 4	Amyand's hernia with acute appendicitis and associated intra-abdominal pathology.

Based on the available clinical and operative findings, the present case is consistent with Type 2 Amyand's hernia because the appendix was inflamed without documented abdominal or peritoneal sepsis. In this setting, appendectomy is generally recommended, while the method of hernia repair should be selected according to the

degree of contamination and the condition of the local tissues.⁵

Laparoscopy can be particularly useful when the diagnosis is uncertain because it permits direct assessment of the appendix, caecum, deep inguinal ring, and peritoneal cavity.^{1,4} In this case, laparoscopy confirmed the elongated inflamed appendix

and allowed careful dissection from the deep inguinal ring, division of the mesoappendix, and appendectomy using an endoloop.⁴

The choice of hernia repair, including whether prosthetic mesh should be used, depends on the degree of contamination and the condition of the surrounding tissues. Published case reports and reviews describe both mesh and tissue repairs, with operative findings guiding the decision.^{1,4,5} In contaminated or perforated disease, tissue repair may be favored, whereas selected relatively clean cases may permit mesh repair. The approach should therefore be individualized rather than applied uniformly.

A 20-year systematic review identified 231 studies describing 442 patients and demonstrated substantial variation in operative management. Among acute cases, appendectomy was performed in most patients, while the use of mesh varied according to the clinical setting and operative findings.⁴

This case further demonstrates the diagnostic and therapeutic value of laparoscopy in an unusual presentation of acute appendicitis. Direct visualization allowed confirmation of the diagnosis and assessment of the local inflammatory changes before appendectomy. Such an approach may be useful when the clinical presentation does not clearly distinguish an appendix-containing hernia from other causes of inguinal or right iliac fossa pain.^{1,4} The presence of a previous exploratory laparotomy 15 years earlier for intestinal perforation is an additional noteworthy feature of this case. Although the previous surgical history may influence intra-abdominal anatomy and operative planning, no direct causal relationship between the previous laparotomy and the development of Amyand's hernia can be established from the available clinical information.

Overall, Amyand's hernia should be considered in the differential diagnosis of patients presenting with right iliac fossa or right groin pain, particularly when clinical

or imaging findings suggest an inflammatory process extending toward the deep inguinal ring. A high index of suspicion, appropriate imaging when feasible, and careful intraoperative assessment are essential. Laparoscopy provides an effective diagnostic and therapeutic option in appropriately selected patients, allowing appendectomy and assessment of the hernial defect while minimizing the morbidity associated with a larger abdominal incision.

CONCLUSION

Amyand's hernia with acute appendicitis is a rare clinical entity that can pose a diagnostic challenge because its presentation may mimic uncomplicated or complicated inguinal hernia or acute appendicitis. A high index of suspicion is essential, particularly in patients presenting with right iliac fossa or inguinal pain. In the present case, laparoscopic identification and careful dissection of the inflamed appendix from the deep inguinal ring enabled successful appendectomy. This case emphasizes the diagnostic and therapeutic value of laparoscopy in appropriately selected patients with Amyand's hernia

Declaration by Authors

Informed Consent: Written informed consent was obtained from the patient for publication of clinical details and images.

Acknowledgement: The authors thank the Department of General Surgery, Sapthagiri Institute of Medical Sciences and Research Centre, Bengaluru, for their support.

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Probert S, Ballanamada Appaiah NN, Alam AS, Menon NJ. Amyand's hernia with concurrent appendicitis: a case report and review of the literature. *Cureus*. 2022;14(2): e22110. doi:10.7759/cureus.22110.
2. Losanoff JE, Basson MD. Amyand hernia: what lies beneath—a proposed classification

- scheme to determine management. *Am Surg.* 2007;73(12):1288-1290.
3. Kromka W, Rau AS, Fox CJ. Amyand's hernia with acute gangrenous appendicitis and cecal perforation: a case report and review of the literature. *Int J Surg Case Rep.* 2018; 44:8-10. doi: 10.1016/j.ijscr.2018.02.011.
 4. Manatakis DK, Tasis N, Antonopoulou MI, Anagnostopoulos P, Acheimastos V, Papageorgiou D, et al. Revisiting Amyand's hernia: a 20-year systematic review. *World J Surg.* 2021;45(6):1763-1770. doi:10.1007/s00268-021-05983-y.
 5. Ikpeze S, Ohiaeri IC, Bondar O, Onyia NK, Saqib M, Garcia JC. Amyand's hernia and associated acute appendicitis: a case report. *Int J Surg Case Rep.* 2025; 126:110698. doi: 10.1016/j.ijscr.2024.110698.

How to cite this article: Edunoori Prashanth, M B Satish Kumar, Kiran Kumar, Ishwar Jeevanagi, Supreetha S. Amyand's hernia: a rare case of acute appendicitis presenting as an inguinal hernia - a case report. *International Journal of Research and Review.* 2026; 13(8): 430-434. DOI: [10.52403/ijrr.20260842](https://doi.org/10.52403/ijrr.20260842)
