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Case Report

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Amyand's Hernia in a Previously Mesh-Repaired Groin: Intraoperative Decision-Making in a Contaminated Field

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Abstract

Background: Amyand's hernia is a rare clinical entity defined by the presence of the vermiform appendix within an inguinal hernia sac. Its management remains controversial, particularly in the presence of contamination and prior mesh repair.

Case presentation: A 74-year-old male presented with acute right inguinal pain suggestive of a strangulated recurrent inguinal hernia. Intraoperatively, a gangrenous appendix was identified within the hernia sac, accompanied by purulent contamination. Appendectomy and peritoneal lavage were performed *via* a combined inguinal and McBurney approach. Due to contamination, no new mesh was placed, while the previously implanted mesh was preserved. Microbiological analysis revealed *Escherichia coli* sensitive to the administered antibiotic regimen. The patient received piperacillin/tazobactam and metronidazole for five days. The postoperative course was uneventful and at one-month follow-up, the patient remained asymptomatic, with complete wound healing and no evidence of recurrence.

Conclusion: In contaminated Amyand's hernia, avoidance of new mesh combined with preservation of previously implanted prosthetic material may represent a safe and effective surgical strategy.

Keywords: Amyand's hernia; Appendicitis; Inguinal hernia; Mesh; Contamination; Case report

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Introduction

Amyand's hernia is defined as the presence of the vermiform appendix within an inguinal hernia sac and accounts for approximately 1% of inguinal hernias [1,2]. Acute appendicitis within the hernia sac is even rarer, reported in approximately 0.1% of cases [2].

Preoperative diagnosis is challenging due to non-specific clinical presentation and most cases are identified intraoperatively [3]. Management is largely determined by intraoperative findings, particularly the condition of the appendix and the presence of contamination. The use of prosthetic mesh in such cases remains controversial [4].

Case Presentation

A 74-year-old male presented to the emergency department with acute right inguinal pain. Clinical examination revealed a tender, non-reducible right inguinal mass, raising suspicion of a strangulated recurrent inguinal hernia. The patient had a history of bilateral inguinal hernia repair with mesh.

Laboratory Findings

Laboratory evaluation revealed leukocytosis with neutrophilia and elevated inflammatory markers. C-Reactive Protein (CRP) increased from 1.4 mg/L-39 mg/L, consistent with an acute inflammatory process.

Operative findings

A right inguinal incision was performed. Upon opening the hernia sac, the vermiform appendix was identified within the sac, appearing edematous and gangrenous, without evidence of perforation **(Figure 1)**.

Figure 1: Opening of the hernia sac and identification of the appendix.

The appendix was carefully mobilized and exteriorized through the inguinal incision **(Figure 2)**.

Figure 2: Mobilization and exteriorization of the appendix.

Given the intraoperative findings, a combined inguinal and McBurney approach was performed. Purulent fluid was encountered, confirming local contamination **(Figure 3)**.

Figure 3: Intraoperative view demonstrating purulent contamination.

Appendectomy and extensive peritoneal lavage were carried out. Due to contamination, no new mesh was placed. The previously implanted mesh was preserved, as it was not involved in the inflammatory process **(Figure 4)**.

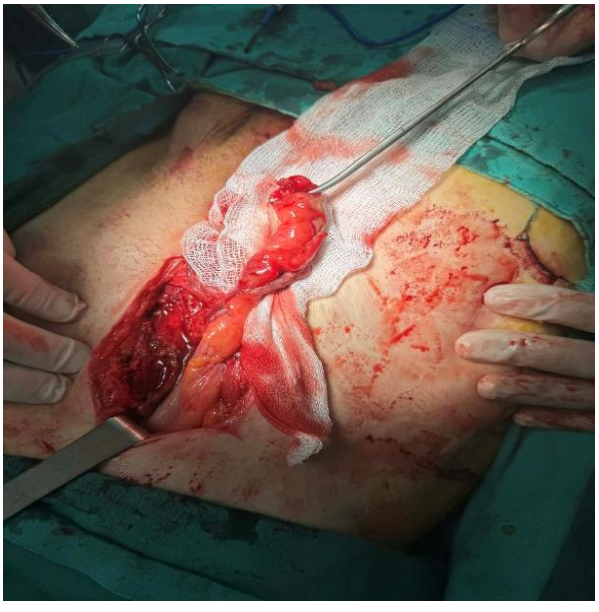

Figure 4: Operative field after appendectomy and lavage.

Microbiology

Microbiological analysis of peritoneal fluid revealed *Escherichia coli*, sensitive to piperacillin/tazobactam and other broad-spectrum antibiotics.

Postoperative course

The patient received intravenous piperacillin/tazobactam (4.5 g three times daily) and metronidazole (500 mg three times daily) for five days.

The postoperative course was uneventful. No fever was recorded and inflammatory markers gradually declined, with normalization of leukocyte count.

Follow-up

At one-month follow-up, the patient was asymptomatic. Clinical examination confirmed complete wound healing with no evidence of infection or hernia recurrence.

Discussion

Amyand's hernia represents a rare and often unexpected intraoperative finding [3].

According to the Losanoff and Basson classification, this case corresponds to type II–III due to the presence of an inflamed appendix and local contamination [1].

The optimal surgical approach remains debated. In cases complicated by inflammation or contamination, appendectomy combined with primary tissue repair without mesh is generally recommended [4,5].

The use of prosthetic mesh in contaminated fields is associated with an increased risk of surgical site infection and prosthetic complications [6]. However, the management of previously implanted mesh is less clearly defined.

In the present case, preservation of the existing mesh was chosen, as it was not directly involved in the inflammatory process. This approach minimized additional surgical trauma while avoiding the risks associated with prosthetic removal.

Microbiological findings confirmed *Escherichia coli*, a common pathogen in intra-abdominal infections, supporting the use of broad-spectrum antimicrobial therapy [7].

The favorable postoperative course and absence of recurrence at one-month follow-up support the safety and effectiveness of this approach.

Conclusion

Amyand's hernia in a previously mesh-repaired groin represents a complex surgical scenario requiring individualized management.

Avoidance of new mesh combined with preservation of existing prosthetic material appears to be a safe and effective strategy in contaminated cases.

Author Contributions

Chasan Giasar: Concept, surgery, manuscript writing; Babalis Demetrios: Surgical assistance; Gkasil Sempaetin: Emergency evaluation; Kalaitsidou Lana: Emergency evaluation; Tzelepi Vasiliki: Anesthesia management; Memet Ilker: Data collection; Tsalkidou Evanthia: Supervision.

Conflict of Interest

The authors declare no conflicts of interest.

Funding

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Ethical Approval

Not required.

Consent

Written informed consent was obtained from the patient.

Patient Perspective

The patient expressed satisfaction with the outcome and recovery.

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