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Strangulated Right Inguinoscrotal Hernia Containing Terminal Ileum, Cecum and Appendix in a 53-Year-Old Man: Case Description and Operative Management Based on Literature Evidence

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ABSTRACT

Background: The simultaneous presence of the cecum and appendix within an inguinal hernia sac—referred to as a "ceco-appendicular hernia," often a sliding variant—is rare and mostly diagnosed intraoperatively. Surgical management (reduction, appendectomy, tissue-based vs mesh repair) depends on visceral viability and the degree of contamination. The Losanoff & Basson classification remains the standard decision-making framework.

Case Presentation: A 53-year-old man presented with a 10-year history of a right inguinoscrotal hernia, recently becoming painful, irreducible, and associated with bowel obstruction. Emergency inguinal exploration revealed strangulated but viable terminal ileum, cecum, and appendix. Reduction was achieved, and a Bassini tissue repair was performed, without appendectomy and without mesh reinforcement. Postoperative recovery was uneventful (discharge on postoperative day 1).

Discussion: We provide a focused review of reported clinical variants (right/left-sided, giant, perforated, sliding) and discuss the role of imaging (CT) and operative recommendations guided by the Losanoff & Basson classification.

Conclusion: In strangulated hernias, non-mesh repair is preferred when contamination is suspected. Appendectomy should be individualized depending on appendiceal status. Mesh placement is acceptable only in a clean surgical field.

KEYWORDS: Inguinoscrotal hernia, Cecum, Herniorrhaphy, Bassini repair

INTRODUCTION

Inguinal hernias are among the most frequently performed general surgical procedures worldwide. However, the intraoperative discovery of the cecum and appendix within the hernia sac—commonly in the setting of a sliding hernia—remains exceptionally uncommon. Management depends on visceral viability and the degree of local contamination. The Losanoff & Basson classification provides a structured approach for deciding between appendectomy, tissue repair, or mesh reinforcement【1–4】.

Objective: To report a case of strangulated right ceco-appendicular inguinal hernia requiring emergency surgery, and to provide a practical, literature-based discussion regarding perioperative resuscitation and operative strategy【1–7】.

CASE PRESENTATION

A 53-year-old male with no significant past medical history presented with a 10-year history of a right inguinoscrotal swelling, initially reducible and cough-impulsive, becoming painful, irreducible, and non-impulsive within the last 7 hours. Symptoms included bowel obstruction (absence of stools/flatus, vomiting) without rectal bleeding or fever.

CLINICAL EXAMINATION

- Patient conscious, GCS 15/15
- Hemodynamically and respiratory stable
- Abdomen distended and tympanic
- Right inguinoscrotal hernia: irreducible, non-impulsive, tender
- No cutaneous inflammation, no other hernia defects
- Normal digital rectal examination

- Testes bilaterally palpable, mobile, non-tender

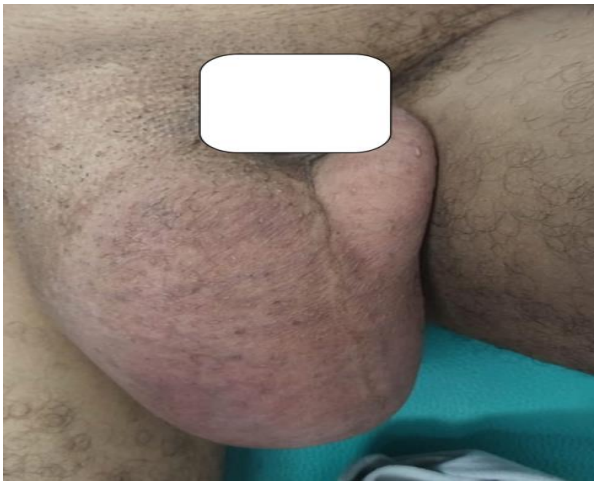

Figure 1: Clinical aspect of the right inguinoscrotal hernia on physical examination.

INITIAL MANAGEMENT

The patient was admitted, resuscitated (IV access, analgesia, labs), and transferred to the operating room.

LABORATORY FINDINGS

Hb 13.3 g/dL; WBC 12,520/mm³; Platelets 240,000/mm³, CRP 8.3 mg/L Electrolytes and renal profile within normal limits.

SURGICAL PROCEDURE

Emergency repair of right strangulated inguinoscrotal hernia (Bassini technique).

Intraoperative findings revealed terminal ileum, cecum, and the vermiform appendix with signs of strangulation but preserved viability. Gentle reduction was achieved.

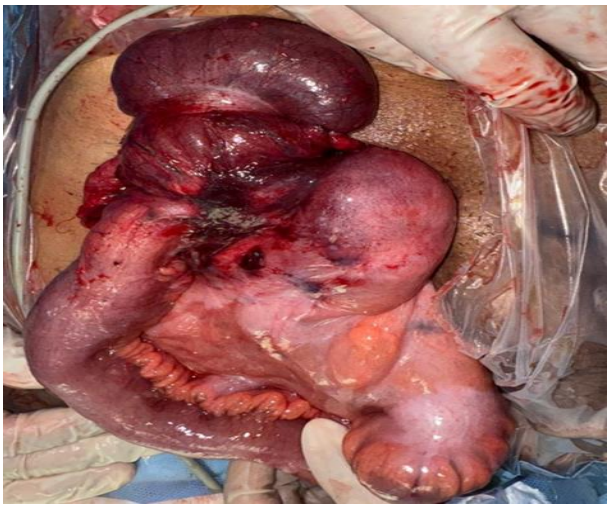

Figure 2: Operative findings illustrating a sliding hernia with ileocecal and appendiceal components exhibiting ischemic congestion but preserved viability.

POSTOPERATIVE COURSE

- Uncomplicated recovery
- Early resumption of transit
- Discharged on postoperative day 1
- Follow-up at day 15: normal abdominal exam, healed wound, no recurrence, normal scrotal exam.

DISCUSSION

ANATOMICAL CONSIDERATIONS

The inguinal canal lies adjacent to the right colon. In sliding hernias, the posterior wall of the sac may be formed by retroperitoneal viscera including the cecum and appendix, which increases the risk of colonic injury during reduction【8–9】.

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EPIDEMIOLOGY

- Inguinal hernias affect 3–8% of the general population, with strong male predominance【12】.
- **Amyand's hernia (appendix in the sac):** ≈ 1% of inguinal hernias; acute appendicitis in a hernia: 0.07–0.13%【2,13】.
- **Cecum/terminal ileum involvement:** 0.5–1%, mostly sliding hernias【14】.
- **Combined ceco-appendicular forms:** extremely rare (<0.1%), reported only as isolated cases【9,14】.

Patients are typically older males with longstanding hernias; acute presentations (strangulation/obstruction) are most frequently reported.

TERMINOLOGY

- **Amyand's hernia:** appendix present in an inguinal hernia (normal, inflamed, or complicated)【1,4】.
- **Ceco-appendicular/sliding hernia:** the cecum ± ascending colon and/or terminal ileum constitute part of the sac wall, sometimes including the appendix【2,3,9】.

DIAGNOSTIC CONSIDERATIONS

Diagnosis is mainly intraoperative. CT may suggest sliding components in large or left-sided hernias but should not delay emergency surgery【5–7】.

OPERATIVE DECISION-MAKING

In our case of acute strangulation with viable bowel and appendix, reduction through an inguinal approach and a Bassini tissue repair were performed **without appendectomy** and **without mesh**, consistent with published guidance for:

- Intact appendix
- Possibly contaminated field after sac opening
- Emergency setting

KEY POINTS FROM PUBLISHED STUDIES

- CT may identify cecal involvement and guide preoperative planning when time allows【2,3】.
- Appendectomy is indicated only when the appendix is inflamed or ischemic; otherwise avoidance maintains a cleaner field【1–4】.
- Mesh repair is contraindicated in contaminated surgery; allowed only in clean emergency fields【5–11】.

MANAGEMENT BASED ON LOSANOFF & BASSON

- Type 1 (normal appendix): reduction ± appendectomy; mesh acceptable if clean field
- Type 2 (non-complicated appendicitis): appendectomy; tissue repair only
- Type 3 (complicated appendicitis): appendectomy ± ileocecal resection; lavage; no mesh
- Type 4: treat associated intra-abdominal pathology individually

PARTICULARITIES OF CECO-APPENDICULAR HERNIAS

- Reduction must be gentle given the sliding nature of the sac wall
- Appendectomy should be selective
- Mesh repair must be decided case-by-case and only in clean fields
- Laparoscopy may be an option in selected cases but open repair remains standard in strangulation

CONCLUSION

Ceco-appendicular hernias represent a rare subset of inguinal hernias and are usually diagnosed during surgery. Management should be individualized based on ileocecal and appendiceal viability and the degree of contamination, following the Losanoff & Basson framework. In strangulated emergencies, tissue repair without mesh is generally preferred. Mesh may be used only in clean fields.

Our case demonstrates successful reduction and Bassini repair without appendectomy, consistent with current literature recommendations【1–7,9–11】.

SUMMARY

Inguinal hernias are common, but the presence of cecum and appendix inside the hernia sac is rare and usually diagnosed intraoperatively.

We report the case of a 53-year-old male admitted with bowel obstruction due to a strangulated right inguinoscrotal hernia containing terminal ileum, cecum, and appendix. A simple reduction and Bassini tissue repair were performed, without appendectomy or mesh. Recovery was uneventful.

This case highlights the rarity of this condition, the relevance of the Losanoff & Basson classification, and ongoing controversies regarding appendectomy and mesh use in emergency settings. Management must remain individualized.

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