

Amyand's Hernia Evolved from Primary Appendicitis and Chronic Inguinal Hernia

Taylor Alexander DO¹, Riva Das MD FACS¹, | Des Moines University | Total Gastroenterology



Background

Amyand’s hernia, an inguinal hernia containing the appendix, is uncommon. This sub-classification comprises less than 1% of inguinal hernias, narrowing to 0.1% in cases with concomitant appendicitis. Primary perforated appendicitis with interval development of Amyand’s hernia has not been previously reported.

Case Presentation

A 21-year-old male presented to the emergency department with a 3-day history of right lower quadrant abdominal pain associated with nausea and forceful emesis. His symptom constellation had been ongoing for 3 days before he noticed an enlarging, tender, firm and irreducible right inguinal hernia. His medical history is significant for an easily reducible chronic right inguinal hernia, for which he had undergone no prior surgical intervention.

CT imaging of the abdomen and pelvis demonstrated a dilated, hyperemic appendix that was incarcerated and ruptured within the right inguinal hernia.

He underwent robotic-assisted laparoscopy with discovery of large indirect right inguinal hernia containing the appendix. During reduction of the hernia sac, purulence was evacuated from the inguinal canal. The reduced appendix was perforated and gangrenous. Appendectomy, partial omentectomy, inguinal canal washout and primary hernia repair was performed.

Intervention

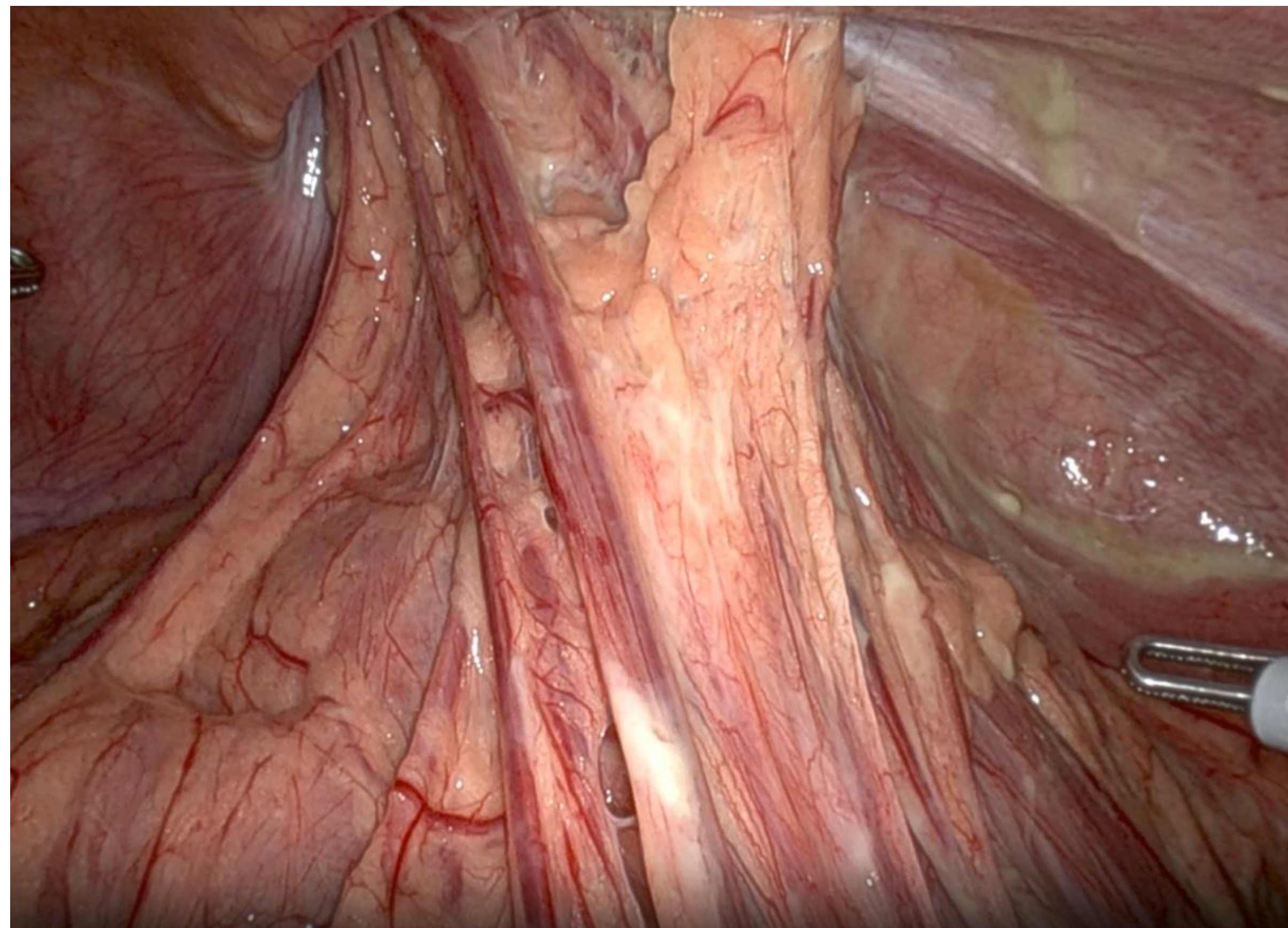


Fig.1 - Right inguinal hernia containing perforated appendix.

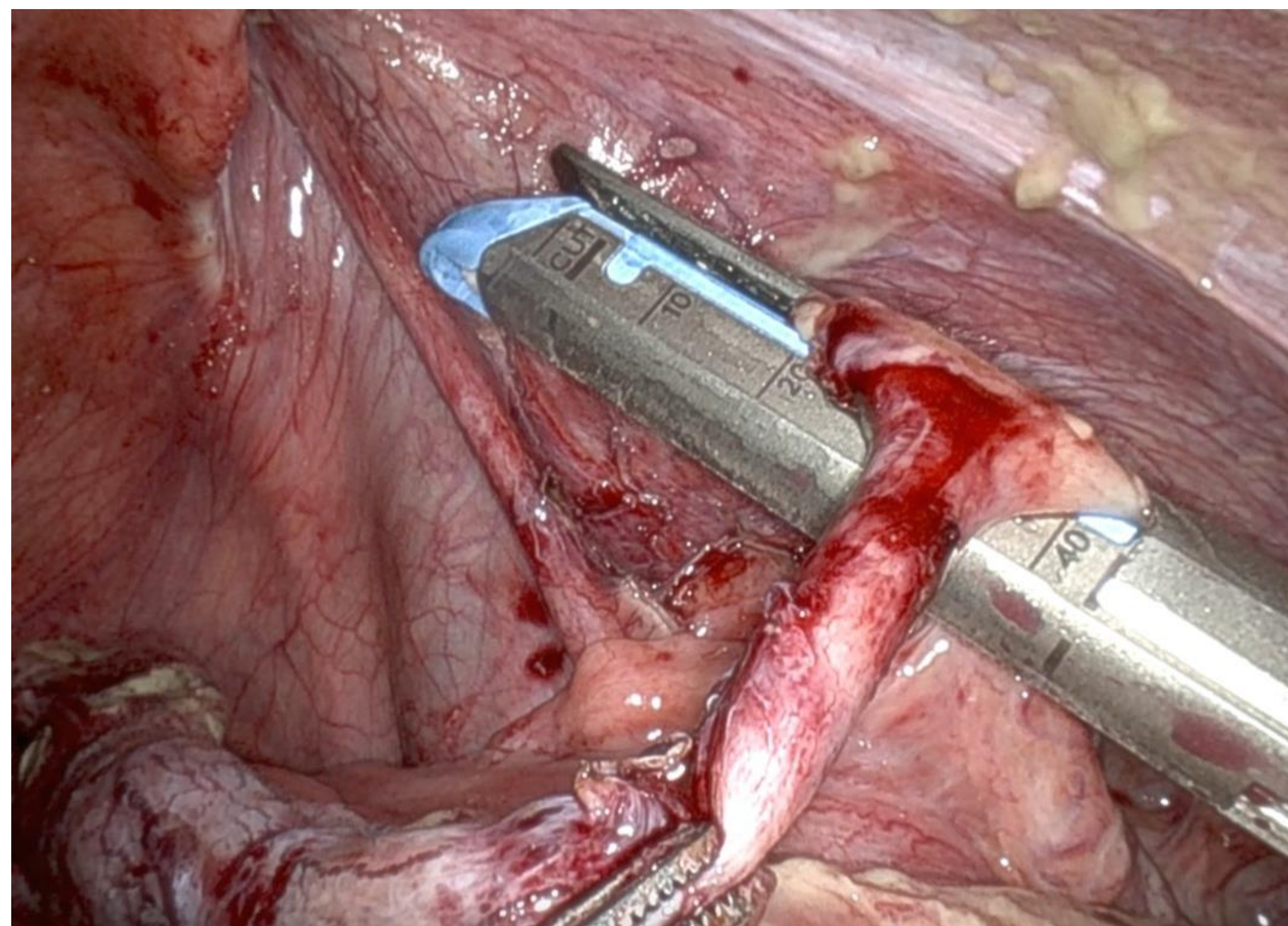


Fig.3 - Stapling across base of reduced appendix.

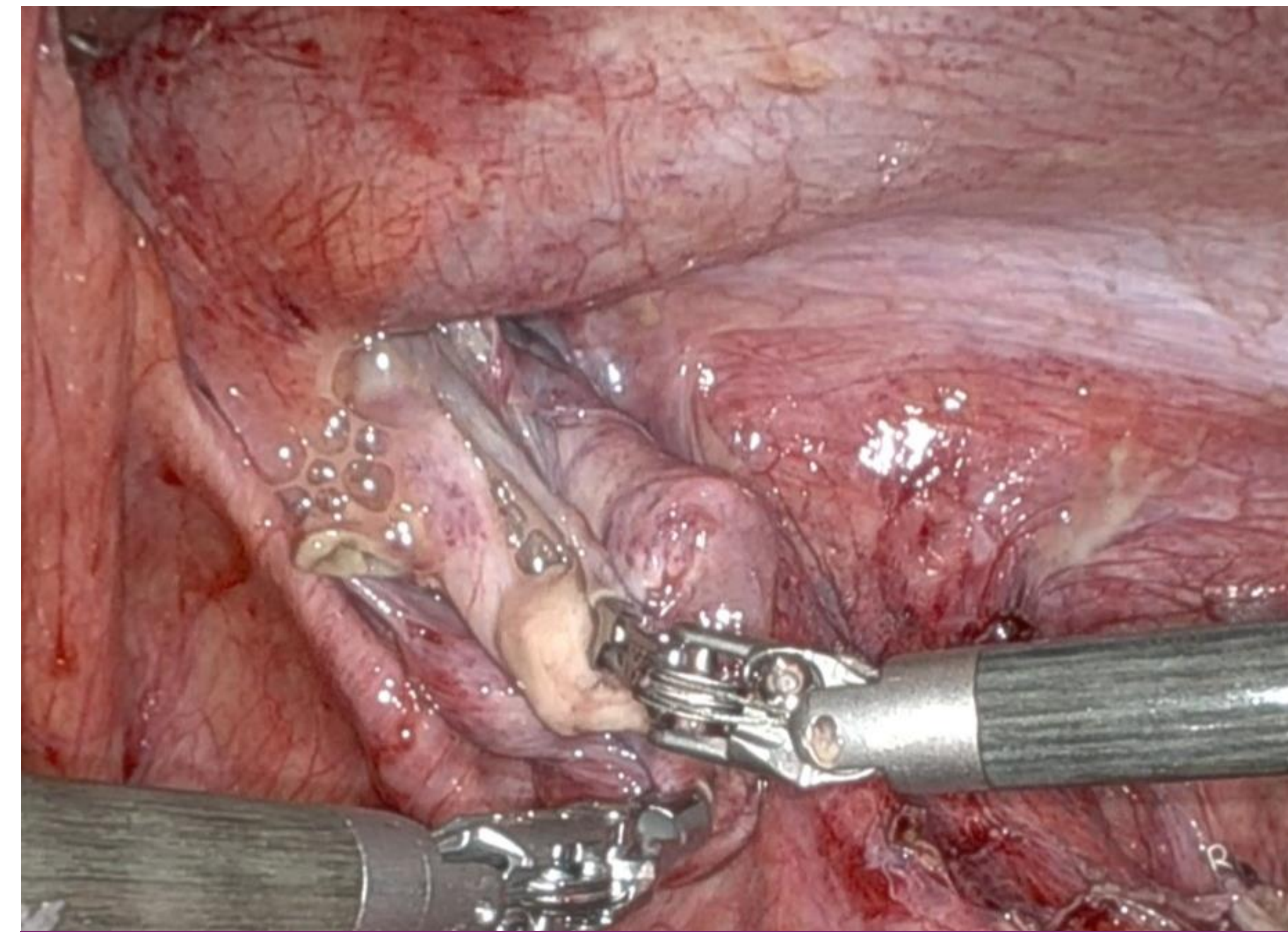


Fig.2 - Reduction of hernia with purulence.

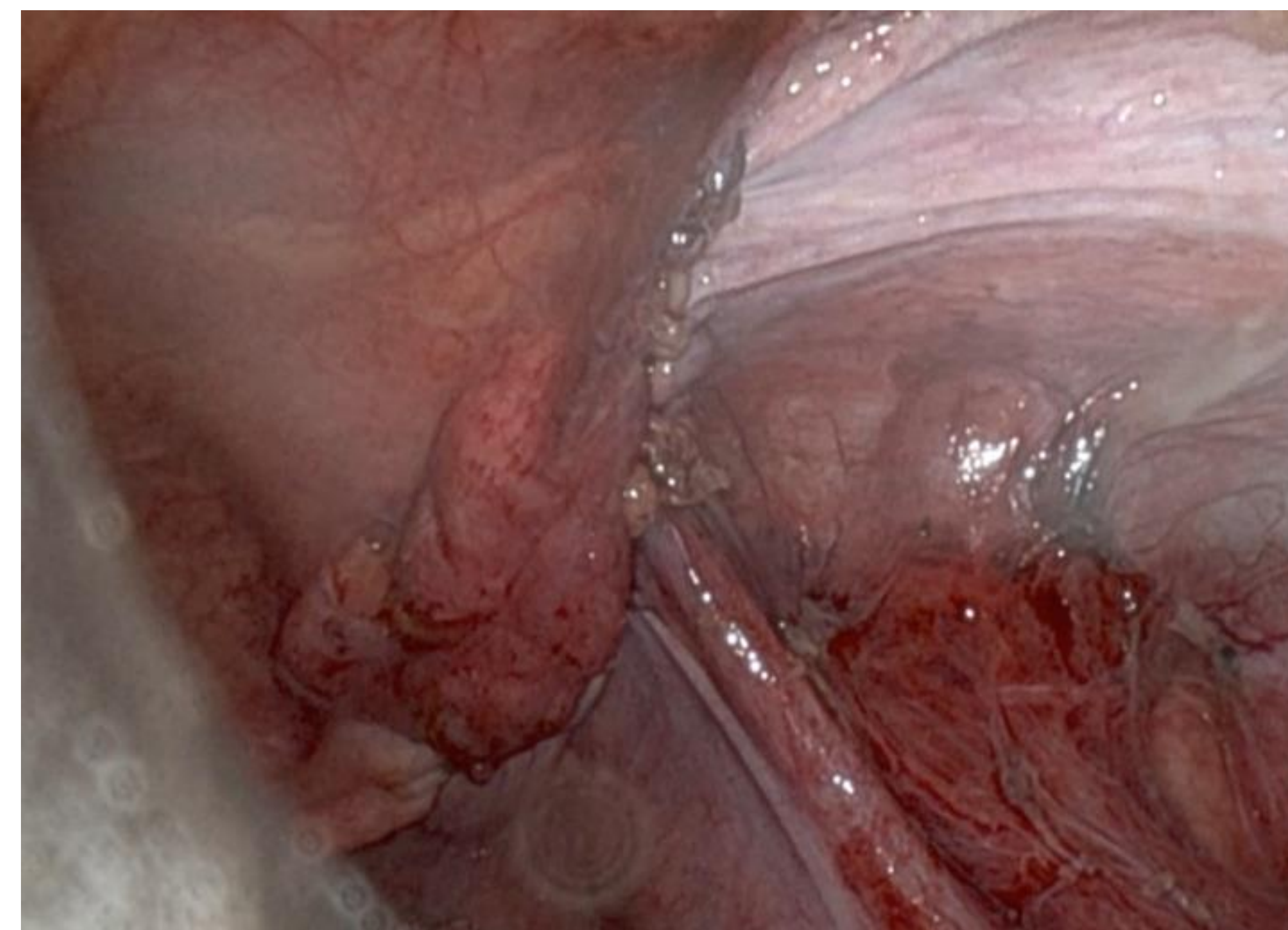


Fig.4 - Primary repair of hernia defect.

Discussion

Amyand’s hernia is a rare diagnosis, most often discovered incidentally during operative repair of an inguinal hernia. Proposed theories of pathophysiology include a patent processus vaginalis, fibrous connection between the appendix and testicle, and congenital cecal laxity. Subsequent appendicitis is thought to be caused by extra-luminal appendiceal compression, vascular occlusion secondary to abdominal wall muscle tone, and bacterial overgrowth.

Multiple systems for classification of Amyand's hernia have been developed. Lasonoff and Basson (2008) offer stratification of surgical management based on inflammatory stage of the appendix.

Type I contains a normal appendix; reduction with mesh repair is indicated. Types II-IV describe acute appendicitis within Amyand’s hernia; primary hernia repair with appendectomy is indicated and prosthesis implantation should be avoided secondary to infection risk.

Conclusion

This case is an unusual presentation of Amyand’s hernia as an evolution from primary appendicitis in the setting of a known chronic right inguinal hernia.

Acute appendicitis within Amyand’s hernia poses significant mortality risk to patients, thus awareness of precipitating factors and prudent surgical intervention is paramount.

References

Amyand C. Of an inguinal rupture, with a pin in the appendix caeci, incrustrated with stone; and some observations on wounds in the guts. *Philos Trans R Soc Lond*. 1736;39:329–36.
Fezoulidi G, Argyrouli V, Adamopoulos E, Makridis KG, Zourntou SE, Fezoulidis IV. Amyand's hernia: presumptive diagnosis by CT and literature review. *Radiol Case Rep*. 2021 Feb 9;16(4):911–915.
Lasonoff JE, Basson MD. Amyand hernia: a classification to improve management. *Hernia*. 2008 Jun;12(3):325–6.
Manatakis DK, Tasis N, Antonopoulou MI, Anagnostopoulos P, Acheimastos V, Papageorgiou D, Fradelos E, Zoulamoglou M, Agalianos C, Tsiaoussis J, Xynos E. Revisiting Amyand's Hernia: A 20-Year Systematic Review. *World J Surg*. 2021 Jun;45(6):1763–1770.