Case Report

Access this article online

Quick Response Code:

Website: www.herniasurgeryjournal.org

DOI: 10.4103/ijawhs.ijawhs_97_23

An unusual case of an isolated, incarcerated appendix epiploica inguinal hernia and laparoscopic mesh herniorrhaphy

Yagan Pillay[1], Maryna Reshetar[2]

Abstract

An isolated appendix epiploica (AE) inguinal hernia remains a rare surgical entity despite laparoscopic herniorrhaphy and improved intra peritoneal visualization. The surgical disposition of the AE remains controversial with proponents for both excision and conservative management. The paucity of data, based only on case reports precludes definite guidelines in their management. The presence of infection, organ ischemia, surgeon experience, and biological mesh availability all play a role in the management of this type of hernia. We present a rare case report with a viable incarcerated, AE inguinal hernia and its laparoscopic excision, and hernia repair. This is only the third such case report in the published literature to date.

Keywords:

Appendix epiploica, inguinal hernia, laparoscopic herniorrhaphy

Introduction

An isolated appendix epiploica (AE) inguinal hernia is a rare event with less than twelve cases in the literature since the first reports in 1906.[1] The majority were repaired with open herniorrhaphy and only in two cases, was a laparoscopic repair performed.[2,3] We believe ours is the third case in the literature with a laparoscopic repair. Given the paucity of data for this type of hernia, the management of the AE remains controversial. There are advocates for both surgical resection and conservative management with no clear scientific evidence for either.[4] The decision needs to be individualized, based on the surgeon's skill set, the availability of biological meshes (in the presence of infection), and localized experience with this condition.

Case Report

A young man was referred to general surgery with a problem of bilateral groin hernia. The left side was causing him discomfort and affecting his daily activities of living. He noticed this a few months back and was asymptomatic before this episode. He had no risk factors for hernia development. He did not smoke and was not obese. His body mass index was 24.0. He had no asthma or emphysema but did perform heavy manual labor. Clinical examination revealed bilateral direct inguinal hernias that were reducible. He had tenderness on his left groin during his examination.

Clinically, he had no other abdominal wall hernia. He signed an informed consent for a laparoscopic bilateral inguinal herniorrhaphy. Complications were discussed, and he agreed to video

[1]*Department of General Surgery, University of Saskatchewan, Saskatoon, SK, Canada,* [2]*Uzhhorod National University, Uzhhorod, Ukraine*

Address for correspondence:
Prof. Yagan Pillay, Department of General Surgery, University of Saskatchewan, Health Sciences Building, 107 Wiggins Road B419, Saskatoon, SK S7N 0W8, Canada.
E-mail: yagan2pillay@yahoo.ca

Submitted: 22-Dec-2023
Revised: 08-Jan-2024
Accepted: 12-Jan-2024
Published: 14-Jun-2024

How to cite this article: Pillay Y, Reshetar M. An unusual case of an isolated, incarcerated appendix epiploica inguinal hernia and laparoscopic mesh herniorrhaphy. Int J Abdom Wall Hernia Surg 2024;7:146-9.

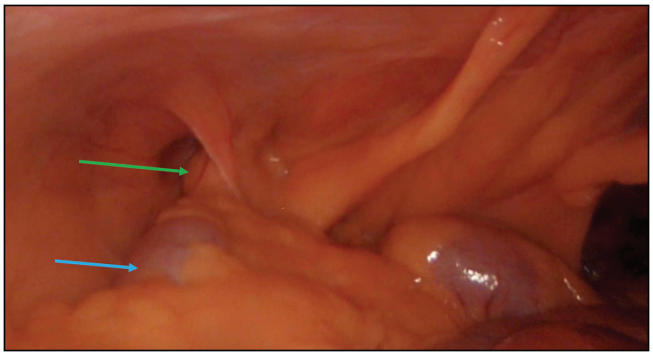

Figure 1: Appendix epiploica (green arrow) in the deep ring of the inguinal canal with the sigmoid colon (blue arrow) in the abdomen outside the deep ring

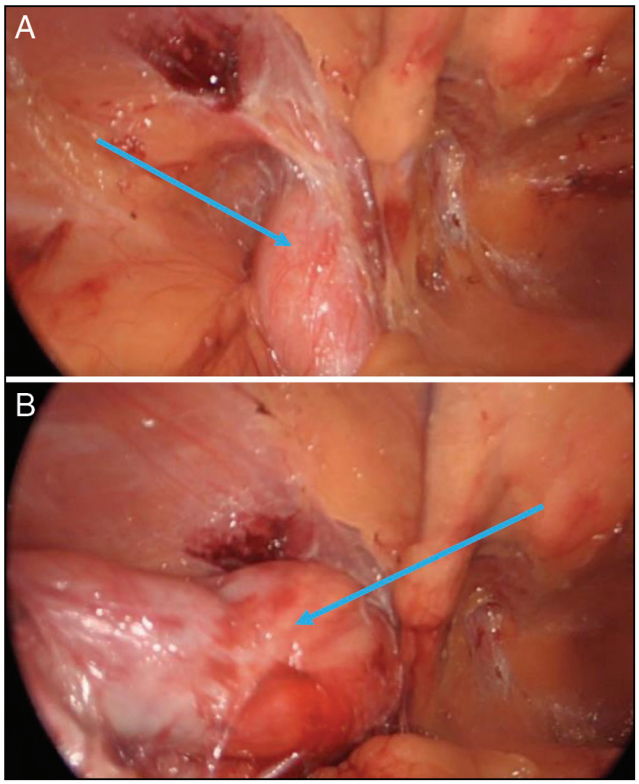

Figure 2: (A and B) Appendix epiploica mimicking a spermatic chord lipoma (blue arrows)

recording of the surgery. He was not given peri-operative antibiotics. The surgery on the right side was uneventful, and he had a transabdominal preperitoneal repair with a nylon mesh. On the left side, while attempting to reduce the hernia sac, I noticed a fatty swelling, which we ascribed to a spermatic chord lipoma [Figures 1 and 2].

Upon mobilization of the hernia sac, the lipoma appeared to have an intraperitoneal origin [Figure 3].

Complete mobilization of the lipoma revealed its origins as an AE of the sigmoid colon [Figure 4]. It was not acutely inflamed. We resected the AE and sent it for pathology [Figure 5].

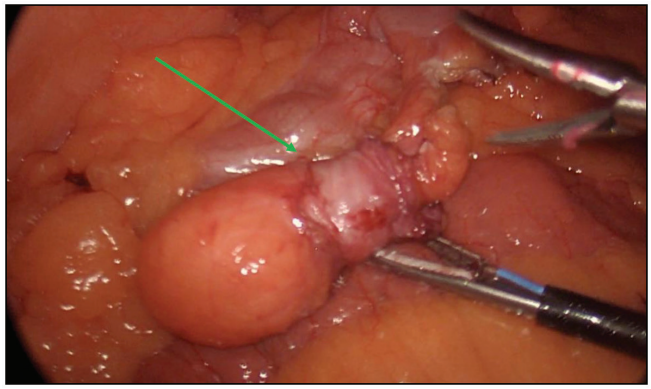

Figure 3: Peritoneal band (hernia sack) through which the appendix epiploica was incarcerated (green arrow)

The sigmoid colon was not involved in the hernia. The left-sided preperitoneal repair was then completed without event. We performed a nylon mesh herniorrhaphy. The operative time was 2 h and 20 min for the bilateral herniorrhaphy. The patient made an uneventful recovery and was discharged home on the same day. His surgical follow-up was uneventful with no obvious hernia recurrence or inguinodynia at 4 weeks. Pathology confirmed an AE [Figures 6 and 7].

Discussion

An isolated AE is a rare content in an inguinal hernia. Its function is not well elucidated and theories such as immune function, colonic peristalsis, and absorption have been postulated.[5,6] There have been a few case reports since the first publication by Schweinburg and Von Bruns in 1906 of a strangulated AE. The two reported their findings independently of each other.[1] There have been very few reports in the literature. The published epidemiology involves elderly males in the sixth decade of life. There have only been two reports to date of a laparoscopic repair, both involving the transabdominal approach. Our case is unique in that the AE was an isolated content of the inguinal hernia. It was not strangulated, unlike the previous two laparoscopic reports.[2,3] The sigmoid colon was not involved in the hernial incarceration. The laparoscopic approach has the added benefit of visualizing the abdominal contents for ischemia and deciding on surgical resection. If the hernial contents reduce at anesthesia induction during open hernia surgery, it may necessitate a laparotomy to exclude bowel ischemia.[7,8] This adds to patient morbidity. The surgical disposition of the AE remains controversial.

The recommendation for an inflamed AE is to reduce it into the peritoneal cavity without any resection.[4] The inflammation is then treated with antibiotics. This is thought to mitigate the risk of colonic perforation, especially in the presence of a mesh herniorrhaphy. An AE, that is, not inflamed may be safely resected.

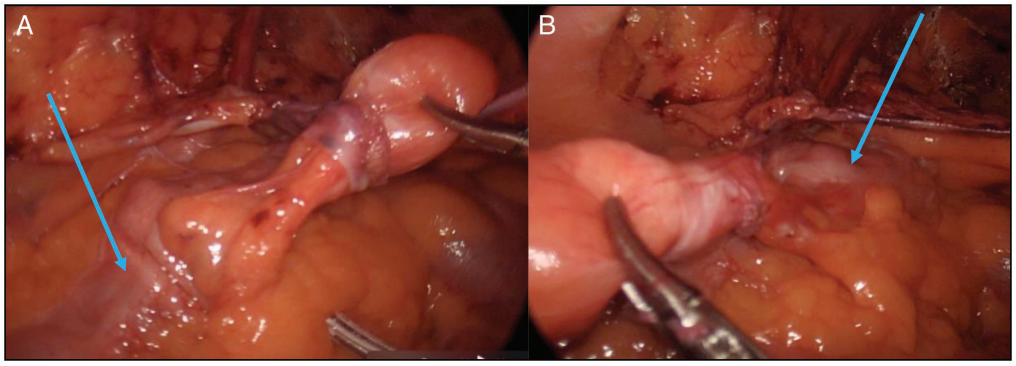

Figure 4: (A and B) The isolated appendix epiploica about the sigmoid colon (blue arrow)

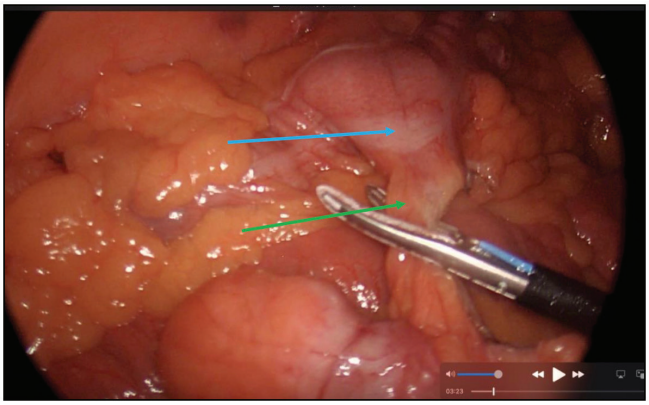

Figure 5: Surgical resection of the appendix epiploica base (green arrow) from the sigmoid colon (blue arrow)

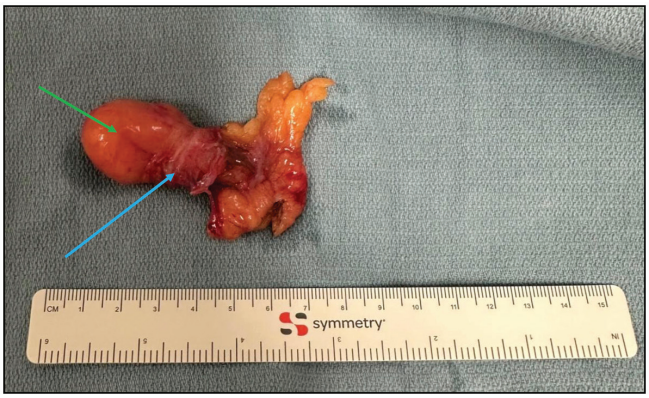

Figure 6: The gross specimen with the incarcerated portion (green arrow) and the peritoneal sac *in situ* (blue arrow)

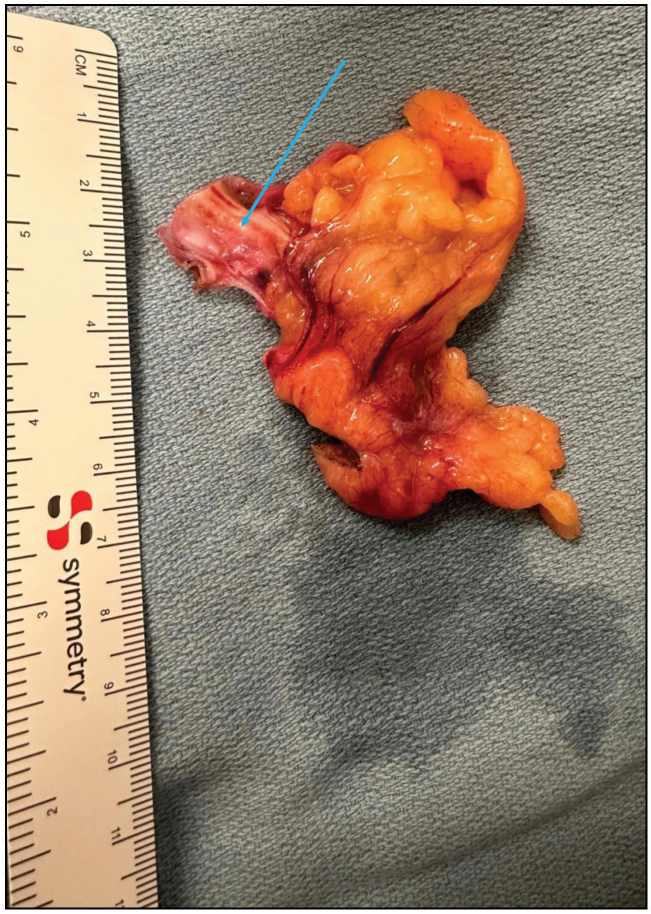

Figure 7: The gross specimen after the release of the peritoneal band (blue arrow)

Further controversy arises whether to resect a viable AE or just reduce it into the peritoneal cavity. The presence of a preperitoneal mesh precludes another AE hernial recurrence. Given the large size of the AE in our case and its small base, it was felt that this could result in possible torsion or infection, and surgical excision was performed. A disadvantage of the laparoscopic repair is the presence of AE necrosis within the hernia. This may necessitate a tissue repair, in the absence of a biological mesh to prevent mesh infection. This would result in conversion to an open anterior herniorrhaphy. Tissue herniorrhaphy is not viable in a laparoscopic repair. There have been a few sporadic case reports of a tightening of the deep inguinal ring laparoscopically in the pediatric population. This is not the current standard of care for laparoscopic tissue herniorrhaphy.

In conclusion, we present an unusual case of an isolated AE, inguinal hernial incarceration its laparoscopic excision, and mesh herniorrhaphy.

Author contributions
Dr. Reshetar did the discussion and references, Dr. Pillay did the surgery, case report and proof reading.

Ethical policy and institutional review board statement
Not applicable.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Data availability statement
Data sharing not applicable to this article as no datasets were generated and/or analyzed during the current study.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

Acknowledgement
Not applicable.

References

1. Shiryajev YN, Glebova AV, Chalenko MV. Strangulation and necrosis of an epiploic appendage of the sigmoid colon in a right inguinal hernia. Case Rep Surg 2013;2013:890234. doi:10.1155/2013/890234.
2. Yildiz A. Incarcerated appendix epiploica in inguinal hernia sac: Treatment with laparoscopic TAPP approach-report of a rare case. Case Rep Surg 2020;2020:4178523.
3. Yang S, Zhang G, Jin C, Cao J, Zhu Y, Shen Y, *et al*. Transabdominal preperitoneal laparoscopic approach for incarcerated inguinal hernia repair: A report of 73 cases. Medicine (Baltimore) 2016;95:e5686.
4. Husain N, Bhatia V, Rahman M. Epiploic appendagitis in an incarcerated inguinal hernia: A case report and literature review. Cureus 2022;14:e21139.
5. Klingenstein P. Some phases of the pathology of the appendices epiploicae. Surg Gynecol Obstet 1924;38:376-83.
6. Jain M, Khanna S, Sen B, Tantia O. Irreducible inguinal hernia with appendices epiploicae in the sac. J Minim Access Surg 2008; 4:85-7.
7. Memon MA, Cooper NJ, Memon B, Memon MI, Abrams KR. Meta-analysis of randomized clinical trials comparing open and laparoscopic inguinal hernia repair. Br J Surg 2003;90: 1479-92.
8. Abbasov A, Yanar HT. Incarcerated appendix epiploica in a right inguinal hernia sac. Ulus Travma Acil Cerrahi Derg 2022;28: 1744-6.