

CASE REPORT

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Laparoscopic repair for a recurrent epigastric incisional hernia following xiphoidectomy: A case report

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ABSTRACT

Introduction: Xiphodynia is a rare musculoskeletal disorder characterized by epigastric or anterior chest pain, for which xiphoidectomy is considered as a definitive treatment. This procedure and its complications are not well researched, particularly within Australasian populations. We describe the novel laparoscopic incisional hernia repair from a xiphoidectomy complicated by recurrent epigastric hernias.

Case Report: A 49-year-old female presented with chronic epigastric pain post-xiphoidectomy for xiphoidynia. The patient previously underwent open mesh repair for an incisional epigastric hernia, complicated by infection and subsequent removal of the mesh. A vacuum-assisted closure device was then utilized, followed by delayed primary closure. However, she experienced ongoing pain, a recurrent mass, and hypertrophic scarring, confirmed by abdominal computed tomography (CT) scan. Our laparoscopic approach involved a standard supine position with three ports and preperitoneal dissection similar to transabdominal preperitoneal (TAPP) hernia repair. The defect was 5 × 8 cm in size. A simple prolene mesh (9 × 12 cm) was secured with AsorbaTack and Glubran 2, followed by peritoneal closure with a 3/0 V-Loc suture. At two months follow-up, the patient had no evidence of recurrent hernia, no ongoing pain, and satisfactory wound healing.

Conclusion: Laparoscopic surgical repair using a TAPP approach is a safe alternative to open repair of an incisional recurrent epigastric hernia post-xiphoidectomy.

Keywords: Epigastric hernia, Laparoscopic epigastric hernia repair, Laparoscopic incisional hernia repair, Xiphodynia, Xiphoidectomy

How to cite this article

Gangakhedkar S, Francis G, Holmes M, Wright T. Laparoscopic repair for a recurrent epigastric incisional hernia following xiphoidectomy: A case report. J Case Rep Images Surg 2024;10(1):48–51.

Article ID: 100138Z12SG2024

doi: 10.5348/100138Z12SG2024CR

INTRODUCTION

Xiphodynia is a rare musculoskeletal disorder characterized by epigastric or anterior chest pain, for which xiphoidectomy, involving complete resection of the xiphoid process, is proposed as a definitive treatment [1]. The prevalence of this condition is not well documented, with only case reports and small-scale series presented in the literature [2]. First-line conservative treatment including oral, topical, or local infiltration of analgesia and anti-inflammatories often provides short-term relief [1]. Current literature shows xiphoidectomy as a safe and effective procedure for symptomatic relief of xiphodynia when conservative therapy fails [1]. The scarce literature available, including small retrospective case series, has not reported any immediate or long-term complications from xiphoidectomy [1, 2]. This is the first case study describing an operative management option for incisional epigastric hernias following xiphoidectomy.

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Received: 07 December 2023

Accepted: 10 April 2024

Published: 10 May 2024

CASE REPORT

We describe the novel laparoscopic repair of a recurrent incisional epigastric hernia resulting from a complicated xiphoidectomy. The repair was performed in a 49-year-old female presenting with chronic epigastric pain. She had undergone xiphoidectomy five years prior as definitive management of xiphodynia, which was complicated by the formation of an epigastric hernia. Reviewing current literature, the laparoscopic repair of an epigastric hernia of this nature has not previously been described.

The epigastric hernia was initially addressed with an open mesh repair; however, due to subsequent development of infection the mesh was removed, and a vacuum-assisted closure (VAC) device was placed followed by delayed primary closure of the wound. The patient reported ongoing pain at the operative site, a recurrent mass, and developed hypertrophic scarring. Computed tomography (CT) of the abdomen confirmed a recurrent incisional epigastric hernia (Figure 1). We describe a novel laparoscopic approach to repairing this complicated hernia (Figure 2).

A standard supine position for laparoscopic ventral hernia repair was used. A 5 mm optical entry was performed in the left upper quadrant. The second port (10 mm) was placed to the left of the umbilicus and the third port (5 mm) was placed to the right upper quadrant under direct vision. The peritoneum was opened just inferior to the falciform ligament and then a preperitoneal dissection was performed to access the hernia defect, in a similar manner to a transabdominal preperitoneal (TAPP) hernia repair. The fat from the preperitoneal space was reduced into the abdomen with the assistance of another 5 mm port placed in the left upper quadrant for retraction (Figure 3). The defect was 5 × 5 cm in size. A 9 × 12 cm simple prolene mesh was placed and secured with AsorbaTack and Glubran 2 (Figure 4). The peritoneum was closed over the mesh with a 3/0 V-Loc suture.

The patient was reviewed two months post-operatively and had recovered well. She had no evidence of recurrent hernia at review, she had no ongoing pain and her wounds had healed without issue.

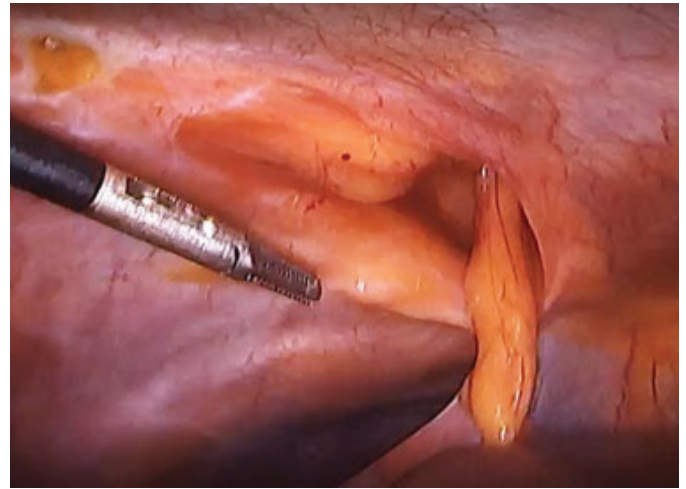


Figure 2: Intraoperative view of incisional epigastric hernia before contents reduced.



Figure 3: Epigastric hernia contents reduced.

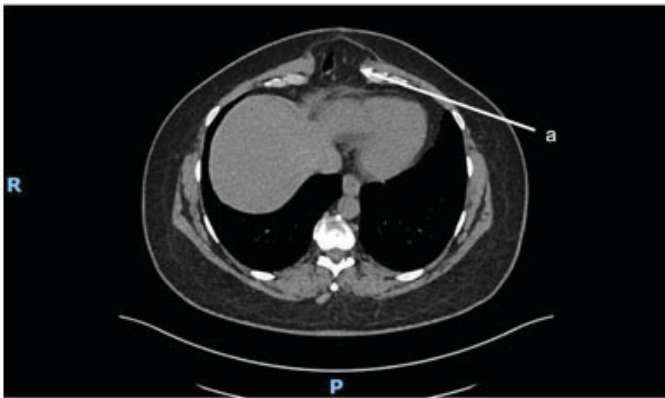


Figure 1: Computed tomography (CT) scan demonstrating epigastric incisional hernia (a).

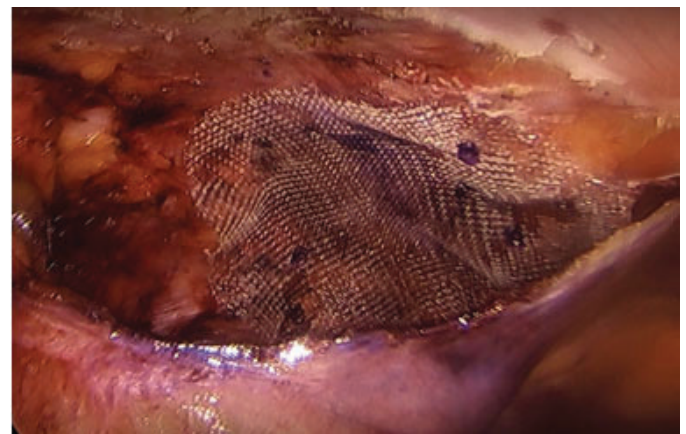


Figure 4: Epigastric hernia reinforced with a simple prolene mesh.

DISCUSSION

The limited number of reported cases of patients with documented xiphoidynia makes it difficult to draw conclusions about the efficacy and safety of surgical management [1–3]. This case study has demonstrated that xiphoidectomy is not without potential complications.

Ventral and incisional hernia repairs are among the most common operations performed in general surgery in Australia. Laparoscopic ventral hernia repair has been adopted in most centers, as surgical technique and laparoscopic technology continue to advance [4]. The laparoscopic approach is favored over the traditional open approach as it is associated with decreased post-operative pain, decreased length of hospital stay, earlier return to normal activity, and decreased wound infection [4, 5]. It also offers the major technical advantage for direct visualization of the internal abdominal wall. This can improve visualization of hernia defects and allows for accurate mesh fixation [6]. Limitations of laparoscopic repair include longer mean operative time compared with open, and increased risk of iatrogenic injury [4, 7–9].

CONCLUSION

In this case, following failed open hernia repair a laparoscopic approach was chosen to best allow identification of the hernia defect and ensure adequate mesh fixation while minimizing the risk of recurrent mesh infection. Based on our experience, we suggest that laparoscopic surgical repair using a TAPP approach is a safe alternative to open repair of an incisional recurrent epigastric hernia post-xiphoidectomy due to faster recovery times, reduced infection rates, perioperative morbidity, and hernia recurrence rates.

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Author Contributions

Sanjna Gangakhedkar – Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Gabrielle Francis – Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Merran Holmes – Conception of the work, Design of the work, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Timothy Wright – Conception of the work, Design of the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission

The corresponding author is the guarantor of submission.

Source of Support

None.

Consent Statement

Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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