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CASE REPORT

Prosthetic Repair Failure in a Ventral Hernia in the Setting of an Untreated Ovarian Teratoma: A Learning Case Report

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ABSTRACT

Prosthetic repair of ventral incisional hernias may fail in the presence of unaddressed intra-abdominal pathologies that increase postoperative risk. We report the case of a 58-year-old obese woman (BMI 41 kg/m²) with a recurrent ventral incisional hernia and an untreated mature ovarian teratoma. Retromuscular mesh repair was performed without teratoma excision. Postoperative complications included respiratory distress, renal dysfunction, and two eviscerations requiring reoperations. The teratoma was ultimately excised, and bowel resection was performed. The patient later presented with hernia recurrence. This case highlights the importance of considering and, when appropriate, addressing coexisting intra-abdominal pathology prior to abdominal wall reconstruction with prosthetic material to potentially reduce postoperative morbidity and recurrence risk.

Keywords: incisional hernia, mesh repair, ovarian teratoma, intra-abdominal pressure, evisceration, hernia recurrence.

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1. INTRODUCTION

Ventral and incisional hernia repair remains a significant surgical challenge, especially in complex clinical situations. While prosthetic reinforcement is linked to lower recurrence rates compared to primary suture repair, patient-related factors and coexisting intra-abdominal pathology can significantly influence outcomes [1–4]. Recent literature rarely addresses how an untreated intra-abdominal condition may increase chronic mechanical stress on the abdominal wall, contributing to repair failure and hernia recurrence.

This case is unique because it highlights a mature ovarian teratoma, usually considered a benign incidental finding, as a potentially overlooked comorbidity in a patient with recurrent incisional hernia. The patient experienced severe early postoperative complications in a context of major comorbidities, raising the hypothesis that leaving the teratoma untreated may have contributed to abdominal wall failure. In this report, we describe a recurrent ventral incisional hernia requiring multiple interventions and discuss the challenges of abdominal wall reconstruction when additional intra-abdominal pathology is present.

2. CASE REPORT

Patient information and baseline status

The patient was a 58-year-old woman who was obese, with morbid obesity (BMI 41 kg/m²) and a sizable hernia, as well as a known but unaddressed ovarian teratoma. During elective surgery, the surgical team performed a retromuscular mesh repair, leaving the

teratoma in place after consulting with a gynecologist. The gynecologist chose not to excise the teratoma, citing the low risk of malignant transformation of the mature teratoma [5].

Clinical course and interventions

Respiratory distress complicated the immediate post-operative course, with ongoing renal dysfunction and poorly controlled hyperglycemia. The patient developed an evisceration on POD 3 that required immediate surgical reintervention. At the time of reoperation, the mesh was removed, and surgeons closed the abdominal wall using full-thickness transfixing sutures. Once again, they left the ovarian teratoma in situ. On POD 7, the patient experienced a second evisceration accompanied by enteric fluid leakage through the surgical wound, associated with extensive skin irritation (Fig. 1E). A contrast-enhanced abdominopelvic CT scan showed a persistent evisceration along the surgical wound and a large, uncomplicated right ovarian teratoma measuring 83 mm in diameter (Fig. 1A, B).

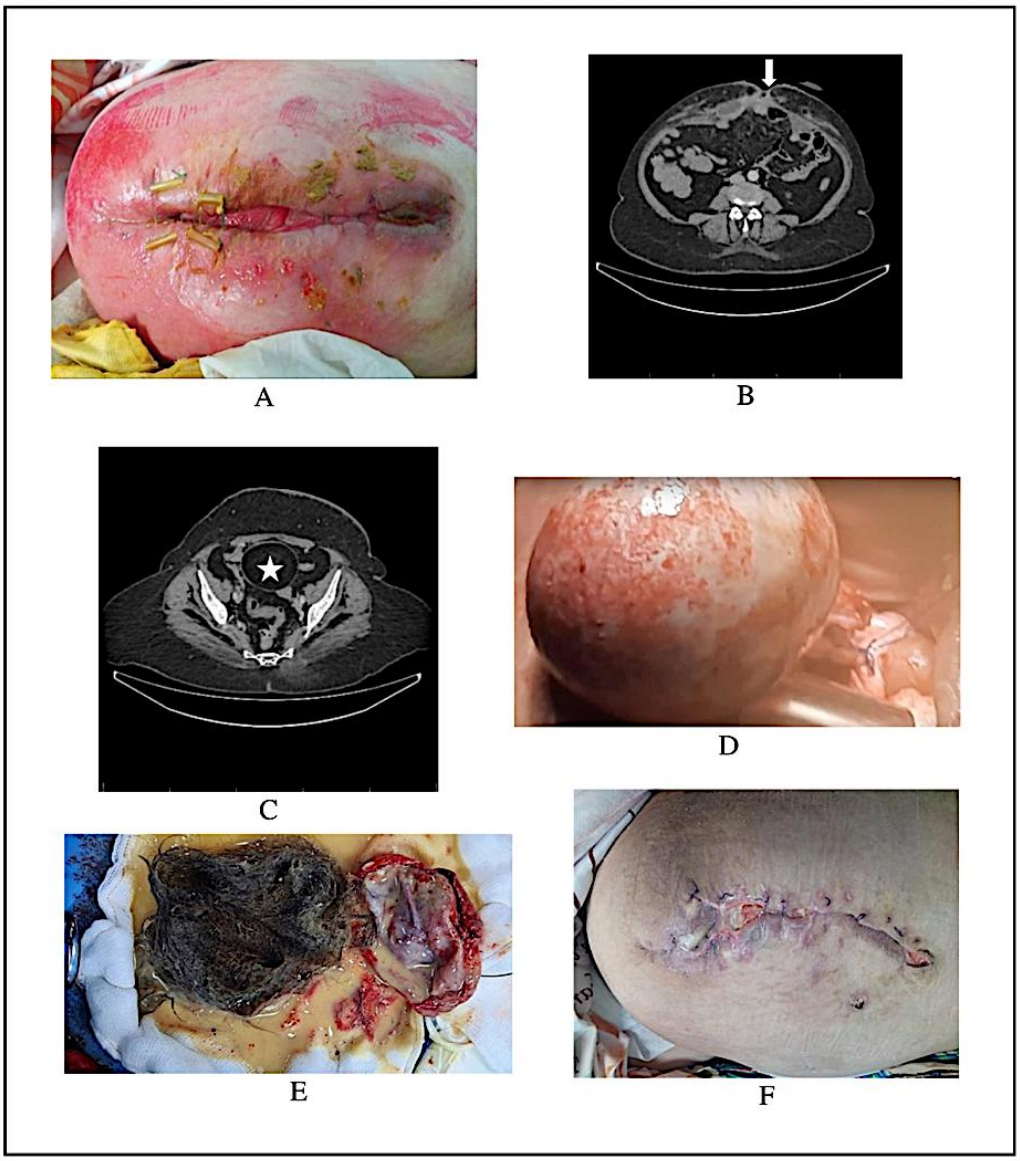

Figure 1*. Preoperative, intraoperative, and postoperative course.* (A) Preoperative contrast-enhanced CT scan corresponding to the postoperative finding shown in panel E, showing a large midline ventral incisional hernia with an infra-umbilical defect and fixed small bowel evisceration (arrow). (B) Same scan demonstrating a well-circumscribed mature right ovarian teratoma (asterisk). (C, D) Intraoperative findings during excision of the ovarian teratoma, including the macroscopic appearance of its contents after capsular opening. (E) Postoperative complication with fixed small bowel evisceration and leakage of digestive fluid through the surgical wound, associated with marked skin irritation. (F) Follow-up image showing recurrence of the incisional hernia

With further deterioration, the team proceeded with a second reoperation. During this operation, surgeons excised the ovarian teratoma (Fig. 1D) and performed a segmental bowel resection for intestinal injuries (Fig. 1C), followed by herniorrhaphy without prosthetic material. The post-operative course was initially favorable. Upon subsequent follow-up, the patient presented with a recurrent ventral incisional hernia (Fig. 1F). A timeline of the clinical course and interventions is provided in Table 1.

***Table 1**. Timeline of the clinical course and interventions.*

Time point	Key findings	Intervention	Outcome
Preoperative	Morbid obesity (BMI 41 kg/m²). Recurrent ventral incisional hernia. Known mature right ovarian teratoma.	Elective planning with gynecology input; teratoma left in situ.	Proceed to elective hernia repair.
Index surgery	Ventral/incisional hernia repair planned.	Retromuscular mesh repair without teratoma excision.	Postoperative complications develop.
POD 0–3	Respiratory distress, renal dysfunction, poorly controlled hyperglycaemia.	Supportive management.	Evisceration on POD 3.
POD 3 reoperation	Evisceration.	Mesh removed; full-thickness transfixing sutures for abdominal wall closure; teratoma left in situ.	Temporary stabilization.
POD 7	Second evisceration with enteric fluid leakage and skin irritation.	CT scan: persistent evisceration + ovarian teratoma 83 mm.	Clinical deterioration.
Second reoperation	Ongoing wound failure + intestinal injuries.	Excision of ovarian teratoma + segmental bowel resection + herniorrhaphy without prosthetic material.	Initially favorable course.
Follow-up	Recurrent ventral incisional hernia.	—	Hernia recurrence.

Clinical reasoning and decision points

This case illustrates how the preoperative decision to leave a known intra-abdominal mass in situ can have implications beyond oncologic risk. Although gynecologic assessment favored non-excision due to the low risk of malignant transformation of a mature teratoma [5], a pelvic mass may theoretically reduce abdominal compliance and increase mechanical constraints during abdominal wall reconstruction. However, the clinical course was likely multifactorial, with major risk factors for wound failure and recurrence present, including morbid obesity (BMI 41 kg/m²), poorly controlled diabetes, and postoperative respiratory complications.

Key decision points included whether to perform concomitant teratoma excision at the time of the index abdominal wall reconstruction, how to respond to early wound failure (mesh explantation and closure strategy), and whether persistent wound failure should prompt definitive treatment of the suspected driver (teratoma excision) before further reconstruction. The timeline underscores that definitive treatment of the teratoma occurred only after repeated eviscerations.

3. DISCUSSION

In this case, repeated early abdominal wall failure occurred after retromuscular mesh repair in a multimorbid patient. Chronic or episodic increases in intra-abdominal pressure are recognized contributors to wound dehiscence and hernia recurrence, particularly in patients with morbid obesity [6–8]. In addition, postoperative respiratory complications (e.g., coughing or ventilatory support) and metabolic derangements such as poorly controlled diabetes may impair wound healing and increase stress on the repair.

The concomitant mature ovarian teratoma (83 mm) was left in situ during the index procedure and the first reoperation. Although a space-occupying pelvic lesion may theoretically reduce abdominal compliance and contribute to increased intra-abdominal pressure, no objective intra-abdominal pressure measurements were available in this patient, and the lesion size alone does not demonstrate a clinically meaningful pressure increase. Therefore, the relationship between the teratoma and the prosthetic repair failure should be interpreted as a plausible physiopathological hypothesis rather than a proven causal mechanism, especially given the presence of major confounders (morbid obesity, uncontrolled diabetes, and postoperative respiratory complications). Published evidence linking benign pelvic masses to intra-abdominal hypertension largely concerns extreme cases with very large adnexal tumors/cysts and abdominal compartment syndrome [11,12], and systematic data on smaller benign adnexal lesions are scarce. Nevertheless, current guidelines highlight the importance of optimizing modifiable risk factors and conducting a thorough preoperative assessment before abdominal wall reconstruction with prosthetic material [3,4,10].

Limitations

This case report is limited by its retrospective design and single-patient nature, which preclude causal inference. Intra-abdominal pressure was not directly measured, and no objective measures were available to quantify the effect of pressure exerted by the 83-mm-diameter teratoma. The postoperative course was likely influenced by several confounding factors, including morbid obesity, poor glycemic control, and respiratory complications, any of which could independently explain the observed wound dehiscence and recurrence. Moreover, quantitative data on the impact of benign pelvic masses on intra-abdominal pressure are limited; the existing literature primarily addresses obesity or large adnexal masses associated with intra-abdominal hypertension or abdominal compartment syndrome [6–8,11,12]. Nevertheless, the early postoperative course became favorable only after resection of the ovarian teratoma, despite multiple prior re-interventions.

Practical implications

During complex abdominal wall reconstruction, it is important to assess for intra-abdominal masses and other factors that may reduce abdominal compliance or increase intra-abdominal pressure and to optimize modifiable risk factors (weight, glycemic control, respiratory status) whenever feasible.

In multidisciplinary discussions, it is crucial to explicitly consider mechanical and physiologic risks—not only oncologic risk—when determining whether to excise a mass concurrently. If early failure occurs, it is necessary to reassess patient-related factors and potential intra-abdominal drivers of increased stress on the closure before attempting repeat prosthetic repair.

4. CONCLUSION

This case highlights the importance of comprehensive preoperative assessment and multidisciplinary planning before abdominal wall reconstruction in complex or multimorbid patients. Coexisting intra-abdominal pathology should be identified and, when clinically appropriate, addressed in addition to optimizing modifiable risk factors to potentially reduce postoperative morbidity and recurrence.

Key Learning Points

- In complex ventral/incisional hernia repair, it is important to evaluate coexisting intra-abdominal pathology and patient-related risk factors that may increase mechanical stress, raise intra-abdominal pressure, or impair healing and compromise the repair.
- When a significant intra-abdominal mass is identified preoperatively, multidisciplinary planning should take into account not only the oncologic risk but also the mechanical impact of leaving the mass in place.
- If early postoperative wound failure (evisceration) occurs, it is crucial to reassess patient factors and intra-abdominal drivers before considering repeating prosthetic reconstruction.

Informed consent and patient anonymity

Written informed consent was obtained from the patient for publication of this case report and accompanying images. Patient anonymity was preserved, and no identifying information is included in the manuscript.

Declaration of interests

The authors declare no conflicts of interest related to this article.

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