

It's a Mesh in These Bowels: Delayed Case of Decade Long Mesh Eroding Into a Small Bowel Causing Obstruction and Intra-abdominal Sepsis

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Background

- The use of mesh has become standard practice for hernia repair as it helps produce a tension-free repair of the fascial defect and reduces hernia recurrence rates.
- Hernias repaired with mesh can lead to seromas, hematomas, and infection which are often managed conservatively.
- Rare but severe complications can arise such as mesh migration causing internal obstruction, perforation, and intra-abdominal abscess or enterocutaneous fistula.
- We present a case of transmural mesh migration from the abdominal wall into the small bowel presenting as a small bowel obstruction and intra-abdominal sepsis.

Case Description

- 66-year-old female with a history of an umbilical hernia repair with mesh 10 years prior presented with a one week history of a worsening periumbilical bulge.
- Associated symptoms included: nausea, vomiting, decreased appetite, and increasing erythema over the periumbilical area.
- The patient had not passed flatus in 3-4 days.
- She was hypotensive and tachycardic on arrival, and in septic shock requiring active resuscitation
- CT imaging showed a 5x3x4cm air and fluid collection in the anterior abdominal wall with an abnormal subjacent hydrostatic small-bowel loop near the periumbilical inflammation.
- She underwent emergent exploratory laparotomy.
- Intraoperative findings included a ventral hernia with erosion of previous hernia mesh into the small bowel causing perforation, obstruction, abscess, and feculent peritonitis.

Results



Figure 1. Preoperative CT scan, coronal view. Bowel loop extending into hernia vs local perforation with subjacent abscess.



Figure 2. Preoperative CT scan, axial view. Peripherally enhancing air and fluid containing collection within the hernia measures up to 5 x 3 x 3 cm.



Figure 3. Overlying skin changes noted on initial presentation. Erythematous skin in the periumbilical area.

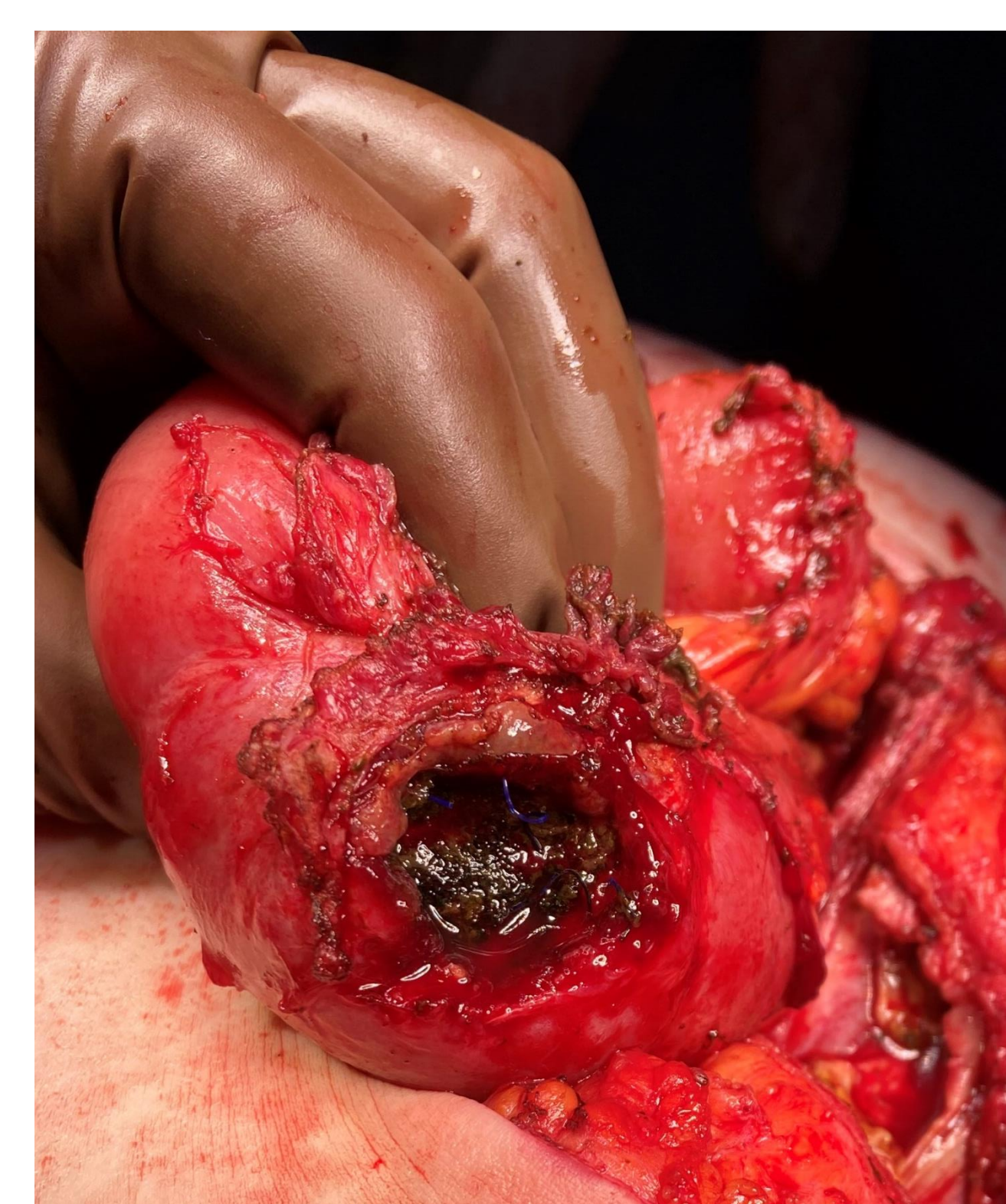


Figure 4. Operative findings during initial exploratory laparotomy. A loop of small bowel was noted to be adhered to the hernia sac at the umbilical defect and after lysis of adhesions, a perforation in the small bowel was identified with previous mesh that had eroded through the small bowel and was present in the lumen of the bowel.

Discussion

- Mesh migration after an abdominal hernia repair is rare, with a rate of about 2.7%.
- The pathogenesis of mesh migration is not completely understood, however there are theories attempting to explain this process.
- It is thought that depending on the material used, a postoperative inflammatory process can cause an opening for the mesh to enter the abdominal cavity from the peritoneum.
- The mesh then interacts with the omentum and the inflammatory process that occurs can cause adhesions.
- This has the potential to cause small bowel obstruction or an enterocutaneous fistula.
- In rare cases erosion into the small bowel lumen can result in obstruction and intra-abdominal sepsis.

Conclusion

- The incidence of mesh migration is significantly lower than hernia recurrence rate after repair without mesh.
- The benefit of repairing hernias with mesh outweighs the cons of performing a repair without.
- Surgeons should be aware of potential complications with mesh and be familiar with the presenting symptoms.

References

References available upon request.