

A Mesh on the Move: Investigating a Rare Complication of Inguinal Hernia Repairs

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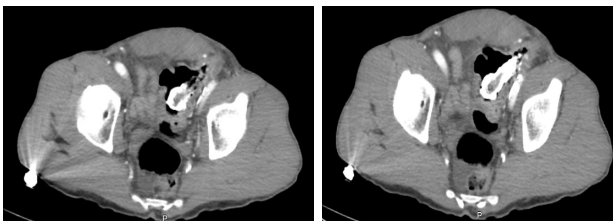
INTRODUCTION

- Inguinal hernia repair is one of the most common surgical procedures worldwide.
- Mesh-based techniques, particularly the Lichtenstein tension-free repair, have reduced recurrence rates and remain the standard for open repair.
- Despite these benefits, mesh plugs can cause delayed complications such as chronic pain, infection, erosion, and rarely, migration into adjacent viscera.
- Migration into the colon is exceptionally uncommon but potentially life-threatening, often presenting years later with nonspecific gastrointestinal symptoms.
- We present a case of delayed mesh plug migration into the sigmoid colon, emphasizing diagnosis, management, and prevention.

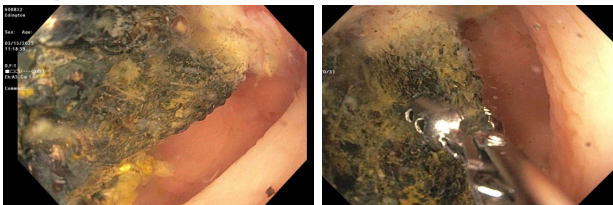
CASE DESCRIPTION

- A 52-year-old man with prior open left inguinal hernia repair 14 years earlier presented with left lower quadrant pain, constipation, and low-grade fevers.
- CT imaging showed a calcified foreign body embedded in the sigmoid colon wall. Colonoscopy confirmed a mesh-like structure eroding into the lumen with surrounding inflammation.
- During exploratory laparotomy, a calcified mesh plug was found penetrating the sigmoid colon with dense adhesions.
- A partial sigmoid colectomy with primary anastomosis was performed, completely removing the mesh.
- The postoperative course was uncomplicated, and the patient was discharged.

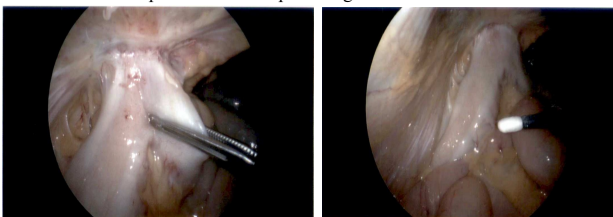
IMAGES



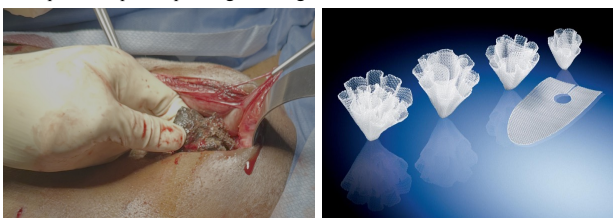
Axial CT scan of the abdomen showing a hyperdense, calcified structure in the left lower quadrant consistent with migrated mesh.



Close view of the exposed mesh fibers protruding into the colonic lumen.



Intraoperative laparoscopic image showing adhesion of the colon to the abdominal wall



Surgical extraction of the mesh.

PerFix™ Plug mesh device



Resected sigmoid colon specimen with the mesh visibly incorporated into the bowel wall.

DISCUSSION

- Mesh plug migration is a rare but recognized late complication of hernia repair
- Two mechanisms are described:
 - Primary migration: due to inadequate fixation and mesh displacement.
 - Secondary migration: due to chronic inflammatory erosion into adjacent viscera.
- Although more common after laparoscopic repair, migration following open repair, particularly into the colon, has been reported.
- Presentation includes abdominal pain, bowel changes, bleeding, or infection.
- CT typically raises suspicion; endoscopy confirms diagnosis and rules out other pathology.
- Management: Mesh removal with resection of involved bowel when necessary.
- Predisposing factors: Inadequate fixation, bulky mesh plugs, poor tissue quality, chronic inflammation, and postoperative NSAID use impairing healing.
- Prevention: Careful mesh selection, secure fixation, meticulous technique, and patient-specific risk assessment.

CONCLUSION

- Mesh plug migration into the colon is a rare but serious late complication of open inguinal hernia repair and should be considered in patients with unexplained gastrointestinal symptoms.
- Prompt imaging, endoscopy, and surgical management are key to reducing morbidity and ensuring definitive treatment.

