

Case Report

An atypical metallic bezoar on imaging

Nidhi N. Thacker*, Charmy S. Padhiyar, Ritesh D. Kamat

Department of Radiology, Zen Multispeciality Hospital, Mumbai, Maharashtra, India

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*Correspondence:

Dr. Nidhi N. Thacker,

E-mail: nidhithacker1259@gmail.com

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ABSTRACT

Laparoscopic fundoplication with mesh reinforcement is an established surgical treatment for gastroesophageal reflux disease and large hiatal hernias. Although long-term outcomes are generally favorable, delayed postoperative complications may occur, including wrap migration, recurrent hiatal hernia, mesh-related sequelae. We report a case of severe fundoplication failure with recurrent hiatal hernia complicated by metal bezoar-like intraluminal lesion with impregnated food particles on CT. This case highlights the importance of recognizing misleading intraluminal appearances on cross-sectional imaging to avoid diagnostic pitfalls and facilitate timely management.

Keywords: Hiatal hernia, Fundoplication failure, Mesh erosion, Metal bezoar like lesion

INTRODUCTION

Laparoscopic fundoplication remains the mainstay surgical procedure for refractory gastroesophageal reflux disease and large hiatal hernias. Despite technical refinements, delayed postoperative complications such as wrap migration, disruption, recurrent hiatal herniation, mesh-related complications are well recognized.¹ Prompt and accurate identification of these entities is essential for guiding further management. MDCT provides detailed evaluation of postoperative anatomy and associated complications.² We present a case demonstrating CT features of advanced fundoplication failure complicated by a metal bezoar-like intraluminal lesion with impregnated food particles representing a potential diagnostic pitfall.

CASE REPORT

A 58-year-old gentleman presented with persistent non-bilious vomiting associated with postprandial fullness, bloating and early satiety. There was no associated hematemesis, melena, fever, dysphagia or significant weight loss. Patient described intermittent upper gastrointestinal symptoms over preceding several months, which were managed conservatively. He had history of

laparoscopic fundoplication performed 15 years earlier in 2010. The postoperative course then was uneventful, and patient remained asymptomatic following surgery. He denied chronic NSAID use. In view of patient's symptoms, CECT scan of lower thorax and upper abdomen was performed. CT imaging demonstrated recurrent sliding hiatal hernia with a small paraesophageal component. There was no evidence of gastric volvulus. In addition, a well-defined intraluminal hyperdense heterogeneous structure was noted at the level of the fundoplication wrap, containing internal air foci. The lesion appeared non-dependent and persistent on subsequent images. This imparted an appearance resembling a metal bezoar or intragastric foreign body with impregnated food particles.

Postoperative CT images were systematically evaluated using a structured checklist-based approach, including assessment of the fundoplication wrap configuration and position, integrity of the hiatal repair, intercrural distance, recurrent hiatal herniation, gastric orientation, and associated mesh-related complications. This systematic evaluation facilitated recognition of fundoplication failure. CT images revealed supradiaphragmatic migration of fundoplication wrap with loss of normal configuration and laxity, measuring approximately 4.8 cm in length. The

hiatal aperture was markedly widened, with intercrural distance of 57 mm, allowing herniation of the gastric body and distal esophagus into the lower mediastinum. No perigastric collection or acute inflammatory changes were identified.

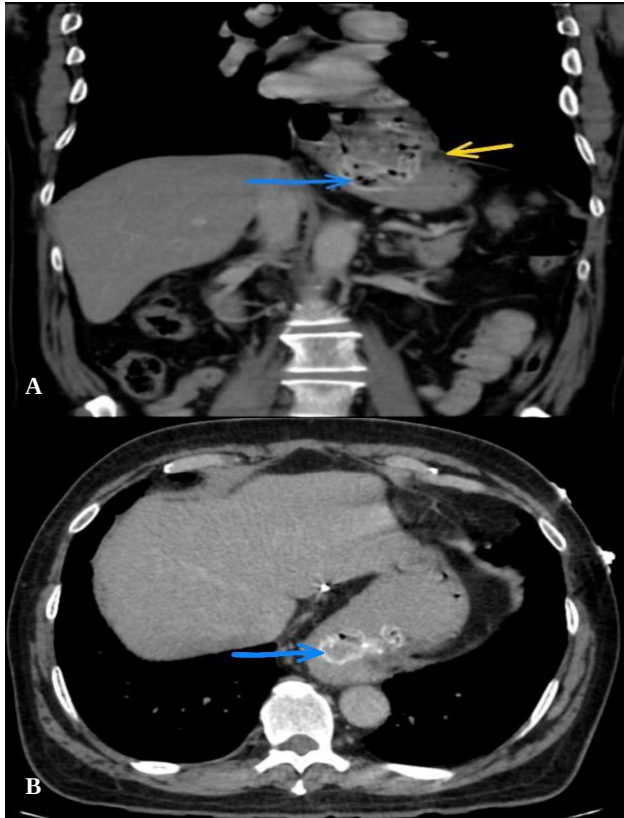


Figure 1 (A and B): Coronal and axial CECT images show recurrent hiatal hernia with supradiaphragmatic migration of the stomach (yellow arrow) and atypical metallic bezoar like lesion (blue arrow).



Figure 2: Volume rendered CT image of recurrent hiatal hernia with supradiaphragmatic migration of stomach and atypical metallic bezoar like lesion.

On review of operative records, mesh reinforcement had been used during cruroplasty at time of fundoplication. In this context, the intragastric metal bezoar-like lesion was suspected to represent migrated surgical mesh extruding into the gastric lumen. Upper gastrointestinal endoscopy was performed for confirmation and management. Endoscopy demonstrated surgical mesh protruding into the gastric lumen through the posterior gastric wall with surrounding mucosal erythema and inflammation.

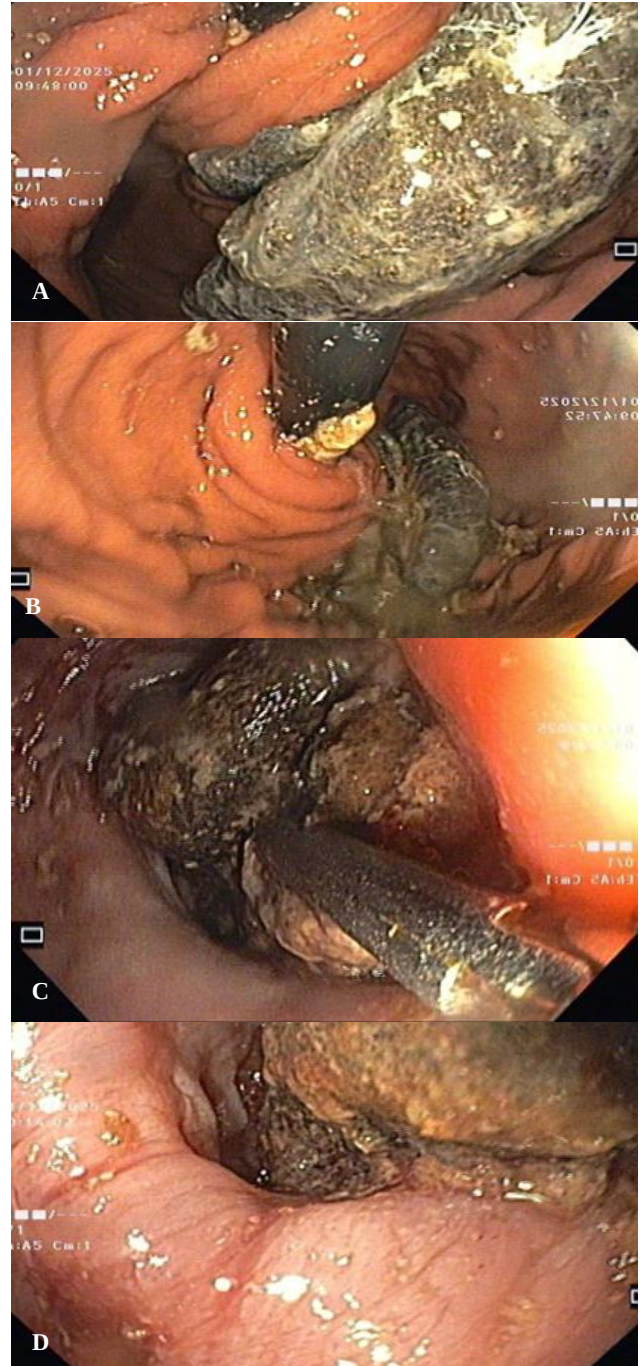


Figure 3 (A-D): Upper GI endoscopy images.

*Demonstrate protruding intragastric foreign material arising from posterior gastric wall with surrounding mucosal erythema and inflammation consistent with transmural extrusion of previously placed surgical mesh.

Endoscopic removal of the migrated mesh could not be successfully achieved due to adhesions. The patient subsequently underwent laparoscopic removal of the migrated mesh with repair of recurrent hiatal hernia. After 2-month follow-up, the patient reported significant improvement in oral intake.

DISCUSSION

CT is a key modality in the evaluation of suspected post-fundoplication complications, particularly in patients presenting with nonspecific symptoms such as vomiting or dysphagia.⁷ CT enables assessment of the position and configuration of the fundoplication wrap and associated abnormalities including herniation, slippage, disruption and mesh integrity.² Multiplanar reformations further facilitate accurate anatomical evaluation and detection of subtle or delayed postoperative changes. In the present case, CT demonstrated a persistent non-dependent intraluminal hyperdense lesion at the level of the fundoplication wrap with internal air foci, producing an appearance mimicking a metal bezoar. While intraluminal bezoars and ingested foreign bodies may present with similar appearances, the persistence, non-dependent location and close relationship to the wrap raised suspicion for mesh-related pathology rather than simple gastric contents. Such atypical postoperative intraluminal appearances represent an important diagnostic pitfall and can be misinterpreted if not carefully analyzed. Although mesh erosion following hiatal hernia repair has been described in the literature, its appearance as a persistent metallic bezoar-like intragastric lesion on CT is distinctly uncommon and may lead to diagnostic confusion. Careful evaluation of the lesion's morphology, fixed non-dependent location, close relationship to the fundoplication wrap, and associated postoperative anatomical abnormalities should raise suspicion for mesh extrusion rather than a true bezoar or ingested foreign body. Correlation with the patient's surgical history and a systematic assessment of postoperative anatomy are essential to avoid misinterpretation and facilitate timely endoscopic or surgical management. This case underscores the importance of maintaining a high index of suspicion for mesh-related complications in patients presenting with delayed upper gastrointestinal symptoms years after fundoplication. Mesh reinforcement during cruroplasty is sometimes used to reduce recurrence, but mesh erosion or transmural extrusion into adjacent organs is a rare yet significant complication. Intragastric mesh extrusion may predispose to mucosal injury, ulceration, infection, and persistent symptoms, often requiring endoscopic or surgical intervention.^{3,8} Fluoroscopic barium studies and MRI may provide complementary functional assessment of esophageal transit and wrap configuration.^{9,10} However, MDCT remains the primary imaging modality due to its rapid acquisition and comprehensive ability to assess hiatal anatomy, gastric configuration, and mesh-related complications.⁵ Additionally, symptoms such as dysphagia, persistent vomiting should be carefully

monitored for early detection, which may be underscored in clinical practice.⁴

CONCLUSION

CT plays a pivotal role in evaluating late post-fundoplication complications. A persistent intragastric hyperdense lesion with internal air foci at the fundoplication site may mimic a metal bezoar. Awareness of this CT appearance is essential to avoid diagnostic pitfalls and to ensure timely recognition of mesh erosion or extrusion, enabling appropriate management.

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