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Surgical Removal Of A Gastrostomy Tube Complicated By Post-Radiotherapy Adhesions: A Case Report A Case Report With Literature Reviewwords

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Abstract :
Background: *Mechanical complications of gastrostomy tubes requiring surgical removal are rare (<1%) but potentially serious, especially in post-radiotherapy cancer patients.1*
Case report: *We report the case of a patient with esogastric adenocarcinoma treated with neoadjuvant chemoradiotherapy, who underwent surgical removal of a balloon-type gastrostomy tube initially placed via open surgery. Removal was required due to intragastric twisting and fibrotic adhesions that prevented endoscopic extraction.*
Discussion: *Post-radiotherapy fibrosis and abdominal adhesions are key risk factors for mechanical complications of gastrostomy tubes. Literature highlights the importance of a multidisciplinary preoperative assessment in such complex cases.2*
Conclusion: *Surgical removal remains a safe and effective alternative for complicated gastrostomies, especially in oncological contexts.*
Keywords : *Gastrostomy, Surgical complications, Balloon gastrostomy, Chemoradiotherapy, Esogastric cancer.*

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I. Introduction

Gastrostomy provides long-term enteral nutrition in patients with severe dysphagia, particularly those with upper aerodigestive tract malignancies. While percutaneous endoscopic gastrostomy (PEG) is the standard approach, surgical gastrostomy may be used when endoscopic access is limited or contraindicated. Mechanical complications—such as torsion, dislocation, and intragastric fixation—are uncommon, but may be worsened by prior radiotherapy due to increased fibrosis and adhesion formation.

This case illustrates a rare surgical indication for gastrostomy tube removal in a post-radiotherapy oncologic patient, emphasizing the importance of early recognition and multidisciplinary management.3,4

II. Case Report

A 68 year old male patient
Medical history: Former smoker (cessation in 2003), poorly differentiated adenocarcinoma of the gastroesophageal junction (TNM stage not specified).
Treatment: Neoadjuvant chemoradiotherapy (30 sessions of radiotherapy and 3 chemotherapy cycles), completed in October 2023.

Imaging and Endoscopy :

PET-CT: Hypermetabolic tumor at the cardia (55 mm), associated with perigastric lymphadenopathy but no distant metastases.
Upper GI endoscopy: Ulcerated and stenotic mass with retained food particles.

Gastrostomy Placement :
Indication: Severe post-treatment dysphagia requiring enteral nutrition.
Technique: Surgical gastrostomy using a balloon-retained feeding tube (exact model not specified).

Complications :
Symptoms: Recurrent vomiting and upper abdominal pain.

Follow-up endoscopy:
Intragastric torsion of the tube
Fibrotic adhesions between the gastric wall and the balloon.
Endoscopic removal attempt failed due to fixed adhesions.

Surgical Intervention :
Approach: left pararectal repeat incision
Findings: Dense post-radiation adhesions and intragastric tube torsion.
Procedure:
Adhesiolysis.
Surgical removal of the gastrostomy tube.
Gastric wall closure with interrupted absorbable sutures.
Outcome: Uneventful postoperative course; oral contrast study (TOGD) showed no leakage.

III. Discussion

Risk Factors for Gastrostomy
1. Radiation-induced fibrosis: Alters tissue elasticity, increases adhesion formation, and complicates both PEG and surgical tube management.
2. Balloon-type gastrostomy tubes: More prone to torsion and migration than bumper-type tubes. In this case, surgical fixation was not sufficient to prevent intragastric twisting in a fibrotic environment.

Management Strategies
Endoscopic removal is the first-line approach but often fails in fibrotic or anatomically altered contexts.

Surgical removal becomes necessary when endoscopic extraction is impossible, especially in patients with prior abdominal radiation.5

Multidisciplinary planning, involving surgeons, gastroenterologists, and radiologists, is critical to ensure optimal outcomes.6

Literature Review
Mechanical complications affect 3–6% of gastrostomy cases; however, surgical revision is required in less than 1%.
Balloon-type gastrostomies, especially in irradiated tissues, carry a higher complication rate.
Post-gastrostomy monitoring is essential in oncological patients due to delayed fibrotic sequelae.

IV. Conclusion

Surgical removal of gastrostomy tubes, while rarely needed, is a crucial option in managing mechanical complications in oncologic patients, particularly after radiotherapy. Proper risk assessment—including the choice of tube type and the effects of prior treatments—can help reduce the need for invasive interventions. This case underlines the value of early multidisciplinary evaluation and surgical readiness when facing complex gastrostomy-related complications.

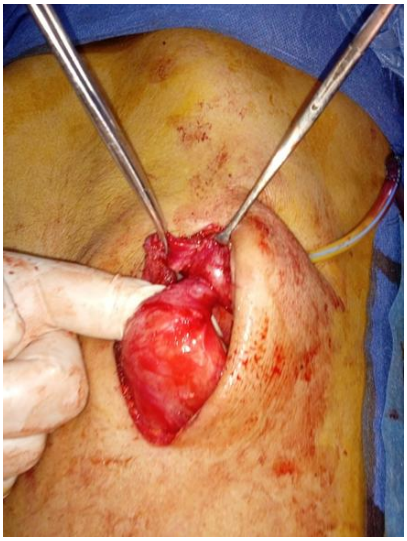

Fig1 : Gastro- parietal adhesions post-radiotherapy

Fig2 : Difficulty removing a twisted gastrostomy tube

Fig3 : Gastrostomy Stoma

Fig4 : Closure of the gastrostomy stoma with interrupted sutures using PDS 3.0

Fig5 : Balloon Gastrostomy Tube

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