Diagnostic and Interventional Endoscopy

Case Report

Chronic Dysphagia and Esophageal Deformities Following Multiple Thoracotomies: A Case Report

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Abstract

Esophageal anatomic deformities are difficult to manage and usually develop after malignancy, surgical complications, or radiotherapy. This case is rarely seen in the literature due to the esophageal deformities, including refractory fistula and distal dilatation, that develop after multiple thoracotomies. A 77-year-old female patient with a history of 8 thoracotomies (4 right, 4 left) and radiotherapy was admitted with complaints of chronic dysphagia. The patient had previously undergone 3 endoscopic balloon dilations owing to complaints of dysphagia and esophageal stricture following an iatrogenic esophageal perforation. An endoscopy was performed and revealed marked dilation in the proximal esophagus and a fistula in the distal. Oral contrast-enhanced computed tomography revealed dilation of the esophagus to 75 × 66 millimeters (mm). This case highlights the importance of a multidisciplinary approach and shows that even complex anatomical changes may be managed conservatively in clinically stable patients.

Keywords: Case report, chronic dysphagia, esophageal deformity, esophageal fistula, surgery

INTRODUCTION

Benign esophageal fistulas usually develop after trauma, surgical complications, or radiotherapy.[1,2] However, patients with multiple thoracotomies, including iatrogenic laceration and the combination of concomitant fistula and esophageal dilation, are rarely seen in the literature. Therefore, this clinical presentation may be an important reference for the clinical approach in similar complex cases. In this context, the current case stands out not only due to the chronicity of symptoms but also due to the severe anatomical alterations observed decades after the initial interventions. A comprehensive understanding of such sequelae is essential to guide treatment decisions, particularly when conservative management is considered over endoscopic or surgical revision.

CASE PRESENTATION

A 77-year-old female patient with a medical history of diabetes, hypertension, and operated liposarcoma was admitted to the hospital due to chronic difficulty swallowing. During the period from 1986 to 2018, the patient underwent 8 thoracotomies, 4 on the right and 4 on the left thorax for the management of the well-differentiated liposarcoma disease in the thoracic region. After 2000, as a result of complications, an esophageal fistula and stricture occurred, which led to difficulty swallowing. The last surgical intervention and postoperative radiotherapy were performed in 2018. The patient underwent therapeutic endoscopic balloon dilatation 3 times during this process. The patient has almost 3 decades of surgical history, as

MAIN POINTS

- This case highlights a rare combination of massive distal esophageal dilation and a blind-ending esophageal fistula.
- The accumulation of fibrotic tissue and anatomical shifts after repeated surgeries may contribute to esophageal dysfunction.
- Chronic dysphagia can develop as a long-term complication following multiple thoracotomies and radiotherapy.
- Despite extensive anatomical deformities, conservative management may be an effective approach in patients without aspiration.
- Understanding such rare anatomical alterations is essential for determining appropriate management strategies and anticipating long-term complications.

Table 1. Timeline of Treatments Received by the Patient

Year	Event
1986-2018	Eight thoracotomies (4 right, 4 left)
2000	Iatrogenic esophageal injury during the third thoracotomy
2002-2016	Three sessions of endoscopic balloon dilatation
2018	Most recent surgery and radiotherapy
2025	Current presentation; endoscopy and computed tomography findings

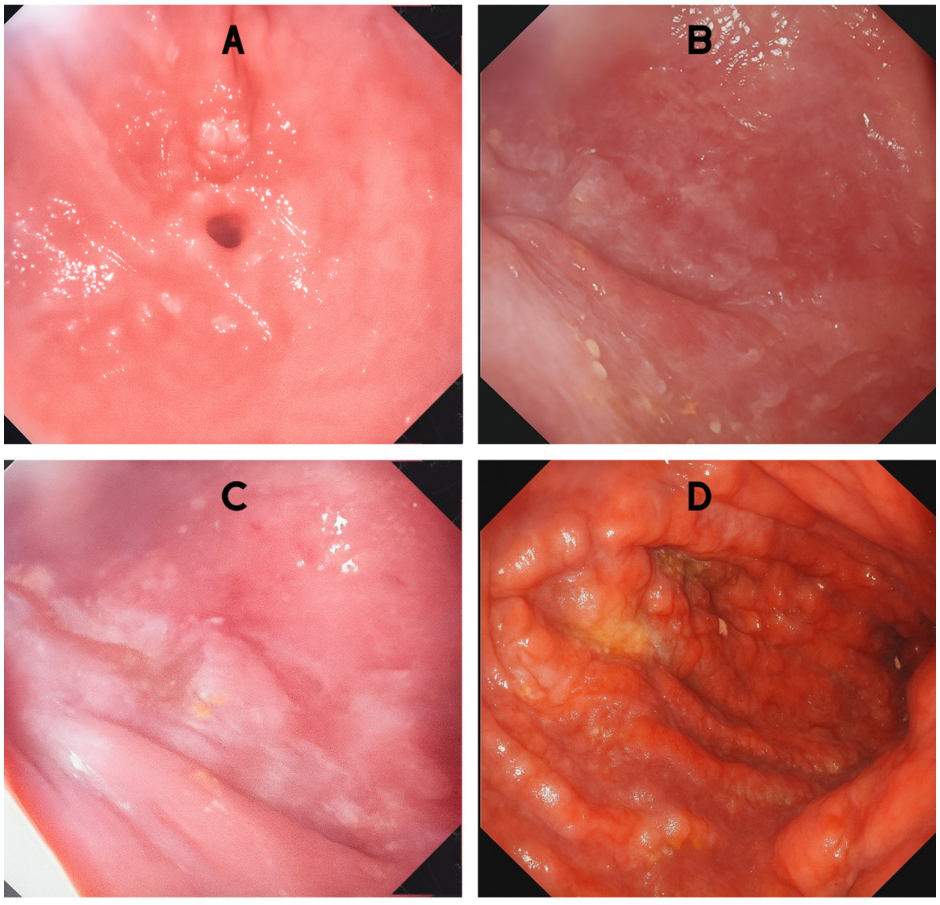

Figure 1. Image A shows a blind-ending fistulous opening centrally located within the dilated distal esophagus. Images B and C illustrate the dilated esophageal lumen extending toward the stomach with a leftward deviation. Image D demonstrates marked mucosal edema and erythematous areas at the gastroesophageal junction, indicating mucosal inflammation.

seen in Table 1, with multiple procedures perhaps causing cumulative anatomical deformity. She currently reports intermittent dysphagia and she has no complaints of aspiration. Oral intake is present, and there have been no complaints of weight loss in the last few years.

The patient's physical examination and laboratory investigations revealed no significant abnormalities. Upper gastrointestinal endoscopy demonstrated marked luminal dilation beginning from the proximal esophagus, with residual solid and liquid food debris present throughout the lumen. Most of these contents were aspirated. Additionally, no peristalsis was observed. A blind-ending fistula, approximately 3-4 mm in diameter and traversable with a slim gastroscope, was identified on the posterior wall of the distal esophagus. The gastroesophageal junction was located on the anterior wall of the esophagus, and with careful endoscopic maneuvering, the gastroscope was advanced into the gastric lumen (Figure 1). An oral contrast-enhanced thoracoabdominal computed tomography scan revealed that the distal esophagus was dilated up to 75 × 66 mm along its course, with scattered intraluminal food residues, the largest measuring 18 × 11 mm. Moreover, a contrast-filled diverticular structure measuring 17 × 16 mm was noted, orienting towards the right in the distal esophageal region (Figure 2).

After multidisciplinary team evaluation, conservative follow-up was recommended due to preserved esophageal function and the patient's ability to tolerate oral intake. The patient is currently being monitored

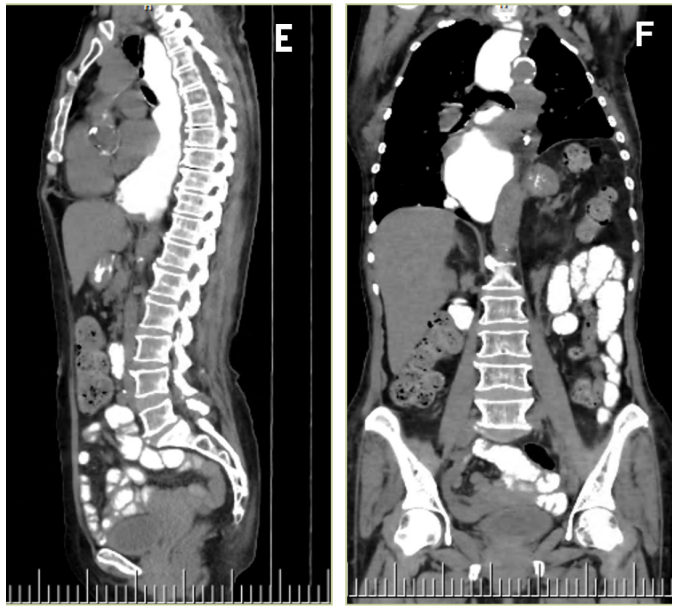

Figure 2. Significant widening is observed throughout the esophagus, especially in the distal section. Wall thickening in the distal segment and irregular contrast filling along the wall can be observed, which is consistent with a fistula.

Table 2. Comparison of the Current Case with Selected Case Reports Detailing Esophageal Complications After Thoracic Surgeries

Case	Age/Sex	Diagnosis	Endoscopic/CT Findings	Management
Current case	77/F	Postoperative esophageal fistula and distal dilatation, after recurrent thoracotomies and radiotherapy	Large esophageal lumen, residual food, visible fistula tract	Multiple endoscopic balloon dilatations, symptomatic follow-up
Jerry et al (2014)[7]	55/F	Post-esophagectomy anastomotic deformity (sharp angulation)	Open anastomosis with normal diameter, no strictures	Placement of large-caliber fully covered self-expanding metal stent
Janowska et al (2024)[9]	26/F	Frequent surgical interventions in the respiratory tract due to Recurrent respiratory papillomatosis	Segmental esophageal dilatation and stenosis with surrounding infiltrates; suspected fistula	Unknown
Shively et al (2025)[8]	62/F	Megaesophagus with secondary acquired bronchoesophageal fistula	Severely dilated esophagus; contrast leakage; CT showed fistula	Endoscopic clipping of fistula, Heller myotomy, gastrostomy, thoracotomy and decortication
Wu et al (2008)[10]	46/M	Esophageal laceration with intramural dissection mimicking perforation	Deep mucosal laceration, pus discharge, mediastinal abscess	Mini-thoracotomy, conservative treatment, and follow-up

CT, computed tomography; F, female; M, male.

through regular outpatient follow-up visits. Written and verbal informed consent was obtained from the patient.

DISCUSSION

The development of dysphagia after thoracotomy is often associated with pathophysiological changes affecting the pharyngeal phase as well as strictures after esophageal interventions.[3,4] Esophageal fistulas can occur after radiotherapy and are also among the postoperative complications.[1,2] In the current clinical scenario, the 25-year history of chronic dysphagia persisting after esophageal injury and the development of anatomical deformities in the esophagus distinguishes it from previously reported cases. A comparison of similar cases is presented in Table 2. Although many studies focus on respiratory complications of thoracotomy, patients with multiple thoracotomies may have chronic problems. In patients undergoing repeated thoracotomies, the accumulation of fibrotic tissue from surgical scars—as highlighted by Müller et al[5]—may not only impair chest wall compliance but also contribute to esophageal displacement and functional complications. Postoperative dysphagia following thoracotomy for pulmonary resection may persist beyond 1 month in some patients and often requires non-oral enteral feeding.[3]

In a meta-analysis of 75 studies including nearly 3000 patients, it was concluded that mortality following esophageal perforation remains high regardless of whether a definitive surgical or more conservative treatment strategy is employed.[6] In the current case as well, a conservative approach was chosen based on multidisciplinary assessment and the patient's overall clinical stability. Yu et al[7] reported that they achieved successful results with the use of a large diameter self-expanding metal stent in a case in which dysphagia developed without stricture in the postoperative period, and an anatomical deformity was detected in the anastomosis region. Similarly, Shively et al[8] performed combined endoscopic and surgical intervention for bronchoesophageal fistula secondary to megaesophagus. Both clinical presentations demonstrate that structural changes can lead to dysphagia and that the treatment approach varies according to the nature of the pathology. The former patient showed significant improvement with metal stent treatment and was discharged from outpatient follow-up, whereas the latter was lost due to sepsis.

A case with recurrent esophageal stricture reported by Janowska et al[9] showed similarities to the case in terms of segmental esophageal dilation after multiple surgeries. However, while the etiology in this case was related to respiratory tract papillomatosis, this case is a secondary condition to multiple thoracic surgeries and radiotherapy. Although endoscopic balloon dilation was applied for therapeutic purposes in this case, some studies also recommend prophylactic endoscopic balloon dilation due to the risk of stricture development after surgical interventions on the esophagus.[4] Esophageal deformities and dysphagia resulting from various etiological factors can be effectively managed with conservative approaches in patients with mild symptoms, as shown in this case.[10] These findings highlight the importance of individualized, multidisciplinary management in patients presenting with complex post-surgical esophageal pathology.

Patient Perspective

"After my third surgery in 2000, I started having difficulty swallowing — sometimes it was much worse. The balloon dilation treatments helped to reduce my symptoms, but they did not completely resolve them. Thanks to recent check-ups, I finally understand what the problem is, and I've learned how to live with it. I'm careful when I eat and I have not lost weight in recent years."

Data Availability Statement: The data that support the findings of this study are available on request from the corresponding author.

Ethics Committee Approval: N/A.

Informed Consent: Written and verbal informed consent was obtained from the patient who agreed to take part in the study

Peer-review: Externally peer-reviewed.

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