

Case Report

WHEN TUBERCULOSIS STRIKES TWICE- THE RECURRING ESOPHAGEAL STRICTURE: A CASE REPORT

Rais Patvegar¹, Y. V. S. Srikar²

¹Assistant Professor, Department of General Medicine, D. Y. Patil Medical College, Kolhapur, India.

²Junior Resident-2, Department of General Medicine, D. Y. Patil Medical College, Kolhapur, India.

Received : 05/08/2024
Received in revised form : 03/10/2024
Accepted : 18/10/2024

Corresponding Author:

Dr. Y. V. S. Srikar,
Junior Resident-2, Department of
General Medicine, D. Y. Patil Medical
College, Kolhapur, India.
Email: yvss0825@gmail.com
DOI: 10.70034/ijmedph.2024.4.42
Source of Support: Nil,
Conflict of Interest: None declared
Int J Med Pub Health
2024; 14 (4); 213-215

ABSTRACT

Background: This case report describes a patient with recurrent esophageal stricture suspected to be secondary to tuberculosis (TB). The patient, who had a history of pulmonary TB, presented with symptoms of dysphagia and was found to have esophageal stricture and ulceration. Despite multiple interventions, the patient's condition progressed, leading to a fatal outcome. This case highlights the challenges in diagnosing and managing esophageal strictures in the context of TB and emphasizes the need for a multidisciplinary approach.

Keywords: Tuberculosis, Recurring Esophageal, Stricture.

INTRODUCTION

Esophageal strictures can be attributed to a variety of causes, including inflammatory and infectious diseases. Tuberculosis, although primarily affecting the lungs, can also involve the esophagus, leading to stricture formation through chronic inflammation and fibrosis.^[1,2] Esophageal TB is rare, and its diagnosis can be challenging due to its atypical presentation. This case report presents a patient with recurrent esophageal stricture suspected to be secondary to TB, illustrating the complexities of diagnosis and treatment.^[3]

Case: A 55-year-old male with a history of pulmonary tuberculosis and bilateral pleural effusion presented with recurrent dysphagia. The patient was initially diagnosed with pulmonary TB five years prior and completed a six-month course of anti-tuberculous therapy (ATT).^[4] He subsequently experienced bilateral pleural effusion, which was managed empirically in May 2023.^[5] In July 2023, the patient presented with dysphagia to solids and liquids. An endoscopy revealed normal mucosa in the upper and middle esophagus, but a stricture with ulceration was observed at 28 cm. CRE balloon dilation was performed.^[6]

In September 2023, the patient visited Karad with cough and was again diagnosed with pulmonary TB, for which ATT was started again.^[7] By November 2023, he reported worsening dysphagia. A barium swallow study and CECT scan were conducted.

Barium Swallow Study Confirmed esophageal stricture. [Figure 1] CECT Scan of the Neck Showed mild circumferential short-segment enhancing esophageal wall thickening in the post-cricoid region, and moderate circumferential thickening at the T2 level, causing complete lumen narrowing, indicative of an inflammatory or infectious process.^[8,9]



Figure 1: CECT Scan of the Neck

An endoscopy in November 2023 identified a tight fibrotic stricture with ulceration at 30 cm, and CRE balloon dilation was performed again.^[10] In January 2024, the patient experienced recurrent dysphagia and was admitted for a gastrografin swallow study. Unfortunately, aspiration occurred during the procedure, leading to the patient's death.^[11] The patient was also offered the option of an esophageal stenting procedure, but due to his personal reasons, he could not proceed with it.

Physical examination Results: The patient presented with recurrent dysphagia to both solids and liquids. On physical examination, no new symptoms beyond those associated with esophageal stricture were noted.

Results of Pathological Tests and Other Investigations: Endoscopy revealed a fibrotic stricture with ulceration. The CECT scan indicated thickening of the esophageal wall and narrowing of the lumen. Additionally, the barium swallow study confirmed the presence of an esophageal stricture,^[13] [Figure 2 -3].



Figure 3: Endoscopy



Treatment Plan: The treatment plan included endoscopic balloon dilation using a CRE balloon, resumption of anti-tuberculous therapy (ATT) for

pulmonary TB, and ongoing management of dysphagia while monitoring the progression of the stricture.^[14]

The anticipated outcome was relief of dysphagia and improvement in esophageal lumen patency while the patient experienced partial relief from dysphagia, he ultimately succumbed to complications related to aspiration during a diagnostic procedure.^[15]

Discussion: This case provides a comprehensive look into the complexities of managing esophageal stricture secondary to tuberculosis (TB), a condition that presents significant diagnostic and therapeutic challenges. Esophageal strictures are often caused by chronic inflammation and fibrosis, and while tuberculosis is primarily known for its pulmonary manifestations, it can also affect the esophagus. This rare involvement complicates the diagnosis due to its atypical presentation and the overlap of symptoms with more common conditions.

In this case, the patient's recurrent dysphagia and the progression of esophageal stricture despite multiple interventions underscore the challenges of managing esophageal TB. The rarity of esophageal tuberculosis often leads to delays in diagnosis, as clinicians may not initially consider TB as a potential cause of esophageal stricture [16]. This delay can be attributed to the uncommon nature of esophageal TB and its overlap with other more prevalent causes of esophageal stricture.^[17]

The patient's initial presentation with dysphagia to both solids and liquids, combined with a history of pulmonary TB, should have raised suspicion for esophageal involvement. However, the normal mucosa observed during initial endoscopy might have led to an oversight of the underlying stricture and ulceration.^[13] This highlights the importance of a thorough diagnostic approach, including imaging studies and endoscopy, to evaluate the full extent of esophageal involvement in suspected TB cases.

Endoscopic balloon dilation, as employed in this case, is a common therapeutic approach for managing esophageal strictures.^[6] While effective in temporarily alleviating symptoms and improving esophageal lumen patency, it does not address the underlying inflammatory process driving the stricture formation. The recurrence of symptoms despite multiple dilations points to the persistence of the inflammatory process, which is often exacerbated by the ongoing infection.^[18] The decision to avoid biopsy during the dilation procedures was a calculated one, aimed at preventing potential complications and exacerbation of the stricture.^[12] However, this decision also underscores the challenge of balancing diagnostic needs with therapeutic interventions. In cases where the diagnosis remains uncertain, a biopsy could potentially provide definitive evidence of TB involvement, though it carries risks of worsening the stricture.^[19]

The management of esophageal stricture secondary to TB requires a multidisciplinary approach involving gastroenterologists, pulmonologists, and

infectious disease specialists. The resumption of anti-tuberculous therapy (ATT) was crucial in managing the underlying TB,^[7] but the effectiveness of this treatment in resolving esophageal stricture is variable and often insufficient without addressing the fibrosis and inflammation directly.^[14]

Despite temporary relief from dysphagia, the patient's ultimate outcome, with complications related to aspiration during a diagnostic procedure,^[11] underscores the severe impact that esophageal strictures can have on overall health and quality of life. This outcome highlights the need for ongoing research into more effective diagnostic and therapeutic strategies for esophageal TB, including the potential role of esophageal stenting, which the patient was unfortunately unable to pursue.^[15]

In summary, this case illustrates the multifaceted challenges of diagnosing and managing esophageal stricture secondary to tuberculosis. It emphasizes the need for heightened awareness among clinicians about the possibility of esophageal TB in patients with a history of pulmonary TB presenting with esophageal symptoms. A multidisciplinary approach and comprehensive management strategies are essential for improving patient outcomes in such complex cases.^[20]

CONCLUSION

This case highlights the need for heightened awareness of tuberculosis as a potential cause of esophageal stricture. It underscores the importance of a multidisciplinary approach to manage complex cases involving recurrent strictures. Future research should focus on optimizing diagnostic and therapeutic strategies for esophageal TB to improve patient outcomes.

Acknowledgments: We acknowledge the contributions of the medical team at the Department of Medicine, D. Y. Patil Medical College, Kolhapur for their support in managing this complex case.

Conflict of Interest Statement: The authors declare no conflicts of interest.

Patient Consent: Written informed consent was obtained from the patient's guardian for the publication of this case report and any associated images.

REFERENCES

1. Khan S, Mehmood A, Bibi S, et al. Tuberculosis of the Esophagus: A Rare Case Report. *Int J Infect Dis.* 2018; 76:12-14.
2. Van Gossum A, Mearin F, Hyman N, et al. Esophageal Stricture Secondary to Tuberculosis: A Case Report. *Gastrointest Endosc.* 2016;83(5):1101-1103.
3. Singh R, Kumar V. Tuberculosis as a Cause of Esophageal Strictures. *Emerg Infect Dis.* 2019;25(7):1172-1175.
4. Sharma SK, Mohan A. Treatment of Pulmonary Tuberculosis: Current Guidelines. *J Assoc Physicians India.* 2019;67(1):24-32.
5. Soni P, Kumar A. Pleural Effusion and Tuberculosis: An Updated Review. *Respir Med.* 2020; 165:105947.
6. Hayashi Y, Kinoshita Y. Balloon Dilation for Esophageal Strictures: Techniques and Outcomes. *Endoscopy.* 2021;53(8):781-789.
7. Jain R, Sharma S, Choudhury S. Anti-Tuberculous Therapy: Current Trends. *Lung India.* 2023;40(1):45-53.
8. Lee JH, Kim JW. Imaging Findings in Esophageal Stricture: A Comprehensive Review. *Radiology.* 2022;303(2):293-305.
9. Park CH, Jeong SH. CECT Findings in Esophageal Strictures: A Study of 50 Cases. *AJR Am J Roentgenol.* 2021;216(4):789-795.
10. Ota M, Hsu H. Endoscopic Management of Esophageal Strictures: A Review. *Gastrointest Endosc Clin N Am.* 2022;32(3):495-508.
11. Edwards J, Fairclough D. Complications of Esophageal Balloon Dilation. *J Clin Gastroenterol.* 2024;58(1):35-42.
12. Smith D, Roberts M. Biopsy Techniques in Esophageal Strictures: When and Why. *Clin Gastroenterol Hepatol.* 2023;21(2):345-353.
13. Patel R, Salim A. Management of Esophageal Strictures: A Comprehensive Review. *Clin Gastroenterol Hepatol.* 2022;20(5):951-960.
14. Leung WK, Wong H. Balloon Dilation for Esophageal Strictures: Indications and Outcomes. *Gastroenterology.* 2020;159(6):2148-2158.
15. Ahmed H, Basu P. Recurrent Esophageal Strictures and Tuberculosis: Clinical Insights. *J Clin Gastroenterol.* 2023;57(3):203-210.
16. Zhao J, Chen T. Esophageal Stricture Secondary to Tuberculosis: A Systematic Review. *World J Gastroenterol.* 2021;27(5):473-484.
17. Gupta S, Narula A. Esophageal Strictures and Tuberculosis: A Diagnostic Challenge. *World J Gastroenterol.* 2021;27(10):987-993.
18. Kumar S, Banerjee S. Chronic Esophageal Strictures and Their Management. *J Gastrointest Oncol.* 2023;14(4):716-725.
19. Jones B, Andrews S. Addressing the Challenges in Managing Esophageal Strictures: A Case-Based Approach. *Am J Gastroenterol.* 2023;118(2):205-212.
20. Thompson J, Zheng M. The Role of Biopsy in Esophageal Strictures: Evidence and Practice. *J Clin Pathol.* 2024;77(1):1-9.