Case Report

Unmasking Mediastinal Tuberculosis as an Uncommon Cause of Progressive Dysphagia

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ABSTRACT

Tuberculosis is the most commonly recognized for its pulmonary manifestations; however, its extrapulmonary forms can lead to unusual clinical presentations. We report the case of a 70-year-old male who presented with progressively worsening dysphagia, initially raising clinical suspicion of an esophageal or malignancy-driven obstruction. Comprehensive diagnostic evaluations, including endoscopic ultrasonography and computed tomography, revealed prominent subcarinal and mediastinal lymphadenopathy compressing the esophagus. Endoscopic ultrasonography-guided fine-needle aspiration subsequently confirmed tubercular etiology through cytological and molecular testing. Prompt initiation of anti-tubercular therapy led to rapid symptomatic relief and radiological resolution of the lymphadenopathy. This case highlights the critical need to maintain a high index of suspicion for tuberculosis in patients presenting with dysphagia, particularly in high-burden settings like Nepal. Early recognition and targeted treatment of this potentially overlooked cause of mediastinal lymphadenopathy are essential to avoid unnecessary invasive interventions and ensure optimal patient outcomes.

KEY WORDS

Tuberculosis; Mediastinal lymphadenitis; Dysphagia; Extrapulmonary tuberculosis; Endoscopic ultrasound

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INTRODUCTION

Tuberculosis (TB) remains a major global health problem, with the World Health Organization reporting a substantial burden worldwide, particularly in endemic regions such as Nepal (1,2). Although pulmonary TB is the most frequent manifestation, extrapulmonary tuberculosis (EPTB) may involve virtually any organ system and often poses a diagnostic dilemma because its clinical presentation can mimic other diseases (3,4). Mediastinal lymphadenopathy resulting from TB is an uncommon entity and may, in rare instances, produce extrinsic esophageal compression, leading to dysphagia (5). Radiologic evaluation with CT provides important diagnostic clues (6–8), while endoscopic ultrasound (EUS) with fine needle aspiration (FNA) has emerged as a valuable tool in obtaining tissue for cytological and microbiological analysis (9–13). Here, we describe a case of mediastinal tuberculous lymphadenitis presenting as progressive dysphagia in an elderly patient from Nepal.

CASE

A 70-year-old male presented with a several-week history of progressively worsening dysphagia. Initially, the difficulty was limited to swallowing solids; however, over time, the patient reported that even liquids became problematic. He denied constitutional symptoms such as fever, weight loss, or night sweats and had no known history of TB exposure. His past medical history was non-contributory, and there was no recent travel history outside his local region.

During the physical examination, the patient's vital signs were stable. He described mild discomfort during swallowing and a sensation of food impaction in the mid-esophageal region. There was no palpable cervical or supraclavicular lymphadenopathy, and the respiratory examination was unremarkable.

A contrast-enhanced CT scan of the chest revealed multiple enlarged mediastinal lymph nodes. Of particular note, a periesophageal lymph node measuring approximately 17.4 × 12.5 mm exhibited central necrosis and was seen compressing the esophagus at the level of the D5 vertebra. Additional CT findings included subtle interlobular septal thickening in the upper lobes, raising the suspicion of an underlying chronic inflammatory or infectious process.

An EUS was performed to characterize the mediastinal abnormality further. The procedure confirmed that a subcarinal lymph node was causing extrinsic compression of the mid-esophagus. EUS-guided FNA was subsequently carried out, and cytological evaluation of the aspirate revealed necrotizing lymphadenitis. AFB staining of the sample was positive, thereby confirming a diagnosis of tuberculous lymphadenitis. Routine laboratory investigations were within normal limits except for mild anemia (hemoglobin 11.2 g/dL). Serologic tests for HIV, hepatitis B, and hepatitis C were negative.

Figure 1: Contrast-enhanced CT scan of the showing a periesophageal lymph node measuring approximately 17.4 × 12.5 mm at the level of the D5 vertebra;

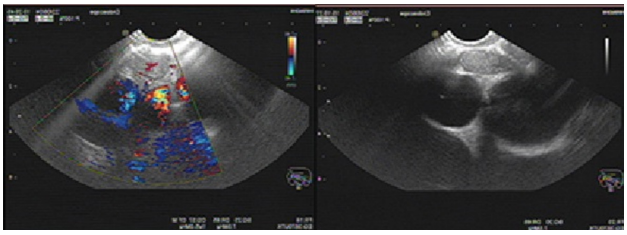

Figure 2: Endoscopic ultrasound image demonstrating FNA of the subcarinal lymph node.

DISCUSSION

Extrapulmonary tuberculosis, particularly when manifesting as mediastinal lymphadenopathy, is relatively uncommon and can be challenging to diagnose due to its nonspecific clinical presentation (3,4). In our patient, progressive dysphagia was the dominant symptom—a presentation that initially raised concerns for esophageal malignancy or other structural lesions (14,15). However, imaging played a pivotal role in establishing the diagnosis.

CT findings in mediastinal tuberculous lymphadenitis typically include enlarged lymph nodes with central necrosis and peripheral rim enhancement (6–8). Similar radiologic features have been described in the literature, where TB can mimic neoplastic processes, underscoring the importance of tissue diagnosis (16). In our case, the presence of a necrotic periesophageal node on CT prompted further evaluation with EUS.

EUS has become an indispensable tool for the evaluation of mediastinal lymphadenopathy. Its ability to provide high-resolution images and facilitate real-time guidance for FNA allows for targeted sampling of suspicious nodes (9,11,12,17). Several studies have demonstrated the high diagnostic yield of EUS-guided FNA in suspected TB cases, particularly in endemic areas (10,13,18). In the current case, cytological findings of necrotizing granulomatous inflammation and positive AFB staining confirmed the tuberculous etiology (19,20).

Esophageal TB is a rare entity, with only sporadic case reports available in the literature (14,15,19). When present, it may be due to direct extension from adjacent mediastinal lymph nodes, as seen in our patient (5). Moreover, the differential diagnosis often includes esophageal carcinoma or mediastinal tumours, further complicating the clinical picture. A multidisciplinary approach involving radiologists, gastroenterologists, and pathologists is therefore essential to establish an accurate diagnosis and to guide appropriate management (4,21).

Current treatment guidelines for drug-susceptible TB recommend a standard multidrug regimen, and early initiation of therapy is critical to prevent complications such as persistent esophageal obstruction and nutritional compromise (22). Given the challenges in diagnosis, clinicians in TB-endemic regions must maintain a high index of suspicion when evaluating atypical presentations like dysphagia (1,2,23).

CONCLUSION

This case report illustrates a rare presentation of mediastinal tuberculosis manifesting as progressive dysphagia in an elderly patient from Nepal. It reinforces the importance of considering TB in the differential diagnosis of dysphagia, particularly in endemic regions. Advanced imaging modalities and EUS-guided FNA are essential in establishing a timely and accurate diagnosis, thereby enabling the initiation of appropriate anti-tuberculous therapy and improving patient outcomes.

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