

Unusual Presentation Of Lymph Node Tuberculosis Mimicking Esophageal Submucosal Lesions: A Case Report

Addajou Tarik¹, Benhamdane Ahlame¹, Berrida Reda¹, Elkoti Ilham¹,
Rouibaa Fedoua¹, Seddik Hassan¹.

Department Of Digestive Endoscopy, Mohammed V Military Hospital, Rabat, Morocco

Abstract:

This case report presents a 25-year-old immunocompetent patient with progressive dysphagia, ultimately diagnosed with mediastinal tuberculous lymphadenitis. Despite normal physical and laboratory findings, gastroscopy revealed multiple esophageal lesions, and imaging studies, including a thoracic CT scan and endoscopic ultrasound (EUS), identified two masses causing esophageal compression. Histopathological analysis and GeneXpert testing confirmed Mycobacterium tuberculosis infection.

This case underscores the importance of considering tuberculosis in the differential diagnosis of esophageal lesions, especially in endemic regions, and highlights the role of advanced imaging and biopsy in accurate diagnosis and timely treatment.

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I. Introduction:

Tuberculosis (TB) is a prevalent infectious disease caused by *Mycobacterium tuberculosis*. Particularly in endemic regions, it presents a significant challenge [1]. If left untreated, TB can manifest with various atypical symptoms and complications, leading to alarmingly high mortality rates [2].

Tuberculous lymphadenitis accounts for approximately 4-7% of the overall TB burden, with mediastinal lymphadenopathy contributing about 10% of these cases [3]. Mediastinal tuberculous lymphadenitis, a manifestation of primary TB, primarily affects infants, children, and adolescents [4,5].

In regions with high TB incidence and among immunocompromised patients, dysphagia due to tuberculosis is frequently observed [6]. Esophageal involvement in TB is rare, and its presentation can mimic other esophageal pathologies, posing a diagnostic challenge.

Here, we report a case of lymph node tuberculosis presenting with esophageal lesions in a young adult with no known risk factors.

II. Case Report:

A 25-year-old patient with no known medical or surgical history presented with progressive dysphagia over two months. Despite the dysphagia, the patient's general condition remained stable. The physical examination, and Laboratory findings were normal.

During initial evaluation, gastroscopy revealed three distinct lesions within the esophagus from below upwards (Figure 1):

- Infra-centimetric Linear Ulceration: Located in the lower third of the esophagus.
- Large Deep Ulceration: Positioned in the middle third of the esophagus, with hypertrophied margins measuring 3 cm.
- Upper Esophageal Lesion: This lesion, appearing as a sub-mucosal or extrinsic compression, measured approximately 3 cm.

The Biopsies obtained during gastroscopy returned without any specific findings, complicating the diagnostic process.

Given the inconclusive results from gastroscopy, further imaging studies were conducted notably a Thoracic CT-Scan which revealed the presence of two masses (figure 2):

- A 4 cm mass located on the right side of the trachea.
- Another mass measuring 3 cm x 9 cm interbronchially, exerting pressure on the esophagus, displacing it backward and to the left.

In our patient, The EUS has shown (figure 3):

- an hypoechogenic heterogeneous mass extending over 10 cm between 26 and 36 cm from the incisors with areas of necrosis within the mass. and invasion of the opposite esophageal wall.
- Additionally, a second lesion with similar characteristics was localized at 22 cm from the incisors, extending up to the thyroid gland and maintaining intimate contact with it.

EUS-guided fine needle biopsy (FNB) was performed using a 20 Gauge Procore needle. Fragments obtained from the biopsy were sent for histopathological analysis and Genexpert testing. The Histopathological Analysis has shown the presence of **Epithelioid cell granuloma with enclosing caseating necrosis**, and GeneXpert MTB/RIF assay analysis of **biopsy** samples: detected *Mycobacterium tuberculosis* with no resistance to rifampicin. So, a final diagnosis of mediastinal tuberculous lymphadenitis in an immunocompetent patient without pulmonary involvement was made, and he was initiated on anti-tubercular therapy as per the national guidelines during 6 months.

III. Conclusion:

This case highlights the importance of considering tuberculosis in the differential diagnosis of esophageal lesions, particularly in endemic regions or in patients with atypical presentations. Early recognition and appropriate diagnostic interventions, including advanced imaging and guided biopsies, are essential for timely management and prevention of complications associated with extrapulmonary tuberculosis.

Conflicts of interest

None

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Figure 1 : gastroscopy revealed three distinct lesions within the esophagus.

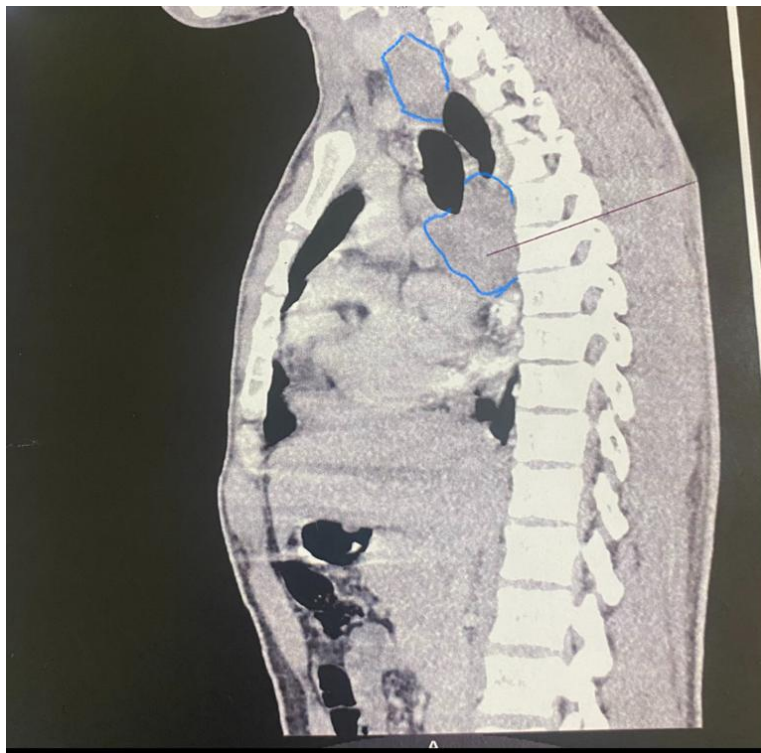


Figure 2: Frontal image chest CT scan of the abdomen of the patient demonstrating revealing the presence of two masses:

- A 4 cm mass located on the right side of the trachea.
- Another mass measuring 3 cm x 9 cm interbronchially, exerting pressure on the esophagus, displacing it backward and to the left.

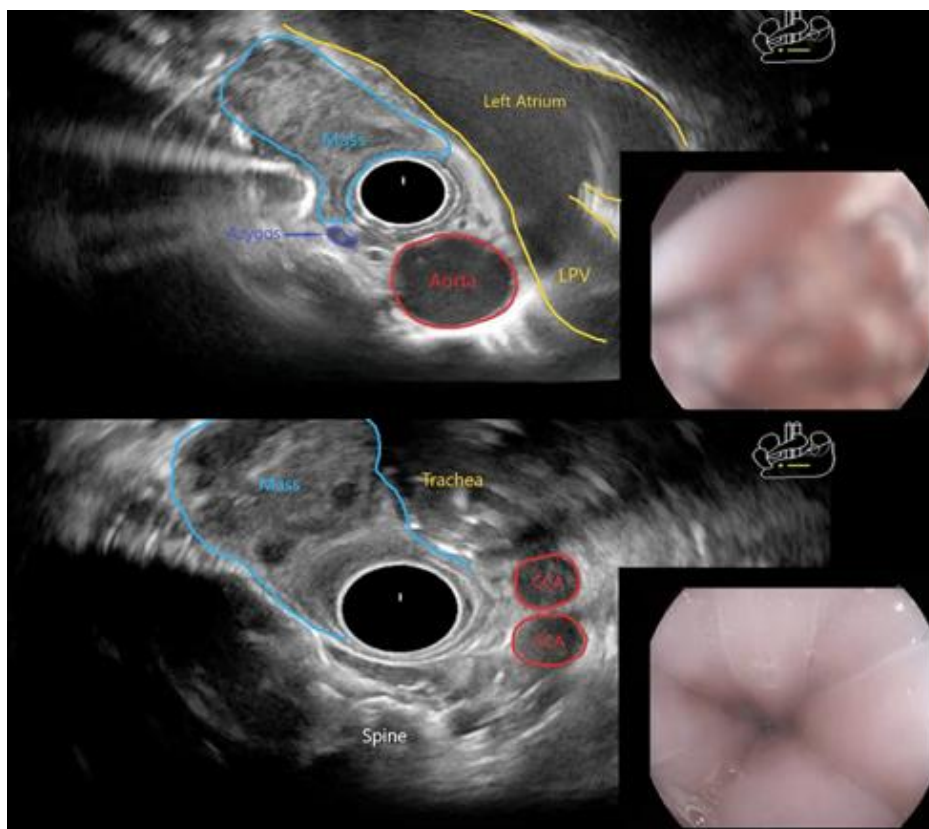


Figure 3: EUS images showing the two hypoechoic heterogeneous masses containing some areas of necrosis invading the opposite esophageal wall.