

## Esophageal Tuberculosis: A Rare Cause of Dysphagia

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### Abstract

Esophageal tuberculosis (TB) is a rare condition, even in countries with high incidence of TB. Most cases of esophageal tuberculosis are secondary to direct extension from adjacent structures, such as mediastinal lymph nodes or pulmonary sites. The authors present a case of a 31-year-old male with dysphagia and cough that was successfully diagnosed and treated for pulmonary and esophageal TB.

**Keywords:** Esophageal tuberculosis; Anatomic; Pulmonary; Chronic dry cough; Dysphagia; Hemoptoic; Anorexia

### Introduction

Esophageal tuberculosis (TB) is a rare condition, even in countries with high incidence of TB [1]. Despite of the anatomic proximity of the lung and the esophagus, esophageal TB is responsible for only 1% to 3% of the cases of gastrointestinal TB, resulting in lack of recognition of this pathology [2-5]. The authors present a case of pulmonary and esophageal TB, emphasizing the diversity of the forms of presentation of TB.

### Study Case

31-year-old male patient, ex-smoker (last cigarette one month ago, 5 pack years), with a history of dysphagia to solids and retrosternal pain with 1 month of evolution. He also mentioned chronic dry cough, sometimes productive in the last year and hemoptoic in one occasion. He denied fever, anorexia and weight loss. He was a wood worker, with no use of medication, other types of exposure or relevant personal background. The initial analytical study revealed normocytic/normochromic anemia and light rise of C-reactive protein (2.1 mg/dL), with no other significant changes.

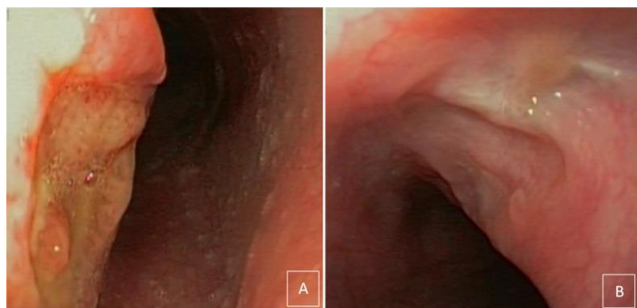


Figure 1: A) Initial UGE and B): 3-month treatment.



Figures 2: A) CT of chest, pulmonary and B) mediastinal window.

He went through upper gastrointestinal endoscopy (UGE) and, at 27 cm of the incisors, in the middle esophagus, an ulcerated lesion was identified, with regular edges and 15 mm of diameter. Biopsies identified uncharacteristic necrotic material in the anatomopathological exam (Figures 1A and 1B).

The eco-endoscopy showed thickening and loss of differentiation of all the layers of the esophageal wall at the lesion level and, side by side

with it. Two adenopathies of 14 and 9 mm of smaller diameter with heterogeneous echostructure. A chest computed tomography (CT) was performed, which showed a poorly defined infiltrate in the anterior segment of the upper lobe of the left lung (Figure 2A) and mediastinal adenopathies in the aortopulmonary space, the biggest pre-tracheal with central necrosis (Figure 2B).

The patient was subject to a videobronchofibroscope with bronchoalveolar lavage aiming for the search of the Koch's bacillus. The polymerase chain reaction (PCR) and cultural test allowed the identification of the *Mycobacterium tuberculosis* (MBT). A second UGE was performed with the aim of obtaining more material for histological and microbiology exam, which excluded dysplasia and identified MBT in the PCR assay. It should be highlighted, of the remaining study, negative serologies for human immunodeficiency virus and positive interferon gamma release assay (IGRA). In follow-up consultation, the patient mentioned he had had contact with a coworker who had tuberculosis two years ago.

He didn't perform TB screening. Based on the anamnesis and the endoscopic, imagiological and microbiological results, the diagnosis of secondary esophageal tuberculosis to pulmonary tuberculosis was accepted and the patient began treatment with tuberculostatic drugs. After 6 weeks, the complaints of dysphagia and cough were solved and after 12 weeks of treatment he went through a control UGE, which revealed pseudodiverticular scarring area at 27 cm of the incisors, with no active lesion (Figure 1B).

## Discussion

Esophageal TB can be primary (isolated), or secondary (involving other organs), both being rare, especially in young and immunocompetent individuals, which is the case of the described patient [6]. The defense mechanisms of the esophagus, namely its

tubular structure, the stratified squamous epithelium, the protective layer of saliva and the quick progression of the ingested substances, offer protection against the proliferation of infectious agents in this organ [4]. The most frequent symptom in esophageal tuberculosis is dysphagia, which is present in about 90% of the cases [3]. Nearly 65% of patients with esophageal TB have adenopathies with hypodense centre, showing caseous necrosis in the chest CT, as observed in our case [5]. IGRA testing does not help differentiate latent tuberculosis infection from tuberculosis disease [7]. The majority of cases is treated in an effective way with the typical tuberculostatic regimen for pulmonary TB, although the diagnosis and treatment delay worsens the prognosis [8].

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