

## Laryngeal tuberculosis presenting with choking and hoarseness of voice: A case report and literature review

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### Abstract

Laryngeal tuberculosis is one of the rare forms of extrapulmonary tuberculosis. Although uncommon, it is very contagious, and diagnosis may take time as it mimics other larynx pathologies; as a result, patients could easily transmit the disease to other individuals. Here we report a young male non-smoker patient presented after several months of the onset of hoarseness of voice and choking.

### Keywords

laryngeal tuberculosis; hoarseness of voice; choking.

### Introduction

Tuberculosis (TB) is an infectious disease caused by mycobacterium tuberculosis. Worldwide in 2019, an estimated 10.0 million people were diagnosed with TB and an estimated 1.2 million TB deaths were reported among HIV-negative people, and an additional 208,000 deaths among HIV-positive people [1].

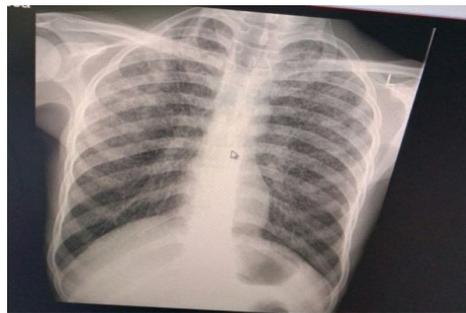
Laryngeal tuberculosis is not a common form of extra-pulmonary tuberculosis; It only represented less than 2% of those cases [2,3]. A report from a teaching hospital in Ethiopia showed a 2.5% laryngeal involvement among 481 extra-pulmonary TB cases [6]. Though rare, it is one of the most infectious forms of TB, and Sputum smear is reported positive in up to 40-60% of cases.

### Case Presentation

A 25-year old male comes complaining of choking, pain during swallowing, and hoarseness of voice for 3 months. He was visiting different clinics and given different antibiotics yet the symptoms were not abating. Later in the course, other symptoms such as productive cough, unintentional weight loss, and night

sweat, as well as loss of appetite, started to crop up. This time he was referred to our hospital for further evaluation. His physical examination findings were remarkable only for bilateral chest crackles and cachexia.

The blood work showed leukocytosis with a left shift otherwise the organ function tests and serum electrolytes were normal. The chest x rays shown below (Figure 1) revealed bilateral and diffuse fine nodular opacities. The endoscopy showed an exudation and ulceration in the pharynx and larynx (Figure 2). The biopsy taken from the larynx showed epithelioid granulomas and fibrinopurulent exudates suggestive of tuberculosis. The gene expert from the sputum detected *Mycobacterium Tuberculosis* (MTB). With the impression of disseminated tuberculosis that involves the larynx, an anti-tuberculosis drug was instituted. Within three weeks of the start of treatment, he started to feel well and regain his appetite, and his dysphonia is getting marked improvement.



**Figure 1:** Chest x- ray finding of miliary tuberculosis in a 21 year old male patient. abduction on the left gaze.



**Figure 2:** Endoscopic findings of the laryngeal tuberculosis in a 21 years old male immune-competent young adult.

## Discussion

TB laryngitis can result from primary infection with infected droplet nuclei or secondary to lung infection. In Africa, It is suggested that laryngeal tuberculosis is a common complication of pulmonary tuberculosis. In Tanzania, Among 341 patients admitted for pulmonary tuberculosis, the Larynx was involved in 27% of cases [4].

It is also true in the Indian subcontinent that biopsy-proven cases of laryngeal tuberculosis were associated with advanced fibro-cavitary tuberculosis of the lungs [5]. Our patient had involvement of the larynx likely from the dissemination of the infection from the lung as the chest x-ray showed a miliary pattern.

Laryngeal tuberculosis may occur even without pulmonary tuberculosis, and the characteristics of the lesions appear to be more nonspecific. It is important to consider tuberculosis in the differential diagnosis of laryngeal disease [7].

Dysphonia and cough were the main symptoms presented by patients and the true vocal folds were the most frequently affected site. The average duration of the disease evolution was significantly higher in patients with dysphonia than in patients without this symptom [8]. Our patient had initial symptoms associated with the change of voice, this might have contributed to the delay in diagnosis at several institutions where the threshold to diagnose tuberculosis is very low.

Few patients presented with stridor and had a tracheotomy performed for the relief of their upper airway obstruction [9]. In one study Odynophagia was the most common complaint, followed by alteration voice [10]. The patient presented here also has odynophagia as well as choking episodes. We believe this could result from the involvement of the pharynx, which is evident from endoscopy.

Laryngeal tuberculosis may also present with clinical and radiological features of a neoplastic rather than an infectious process [11].

## Conclusion

Given its infectiousness and a high rate of transmissibility, laryngeal tuberculosis should be considered in a patient with long standing dysphonia and cough.

**Ethical issues:** Permission to report the case was given by the patient after discussing and consent was made.

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