

Hoarseness of Voice as a Rare Presentation of Tuberculosis: A Case Report Study

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Abstract

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BACKGROUND: Having hoarseness of voice as the first clinical manifestation of tuberculosis is rare. This atypical presentation causes some confusion since other more common conditions, such as laryngeal carcinoma, present similarly and might require more invasive tests to confirm the diagnosis.

CASE PRESENTATION: A 38-year-old male presented to the otorhinolaryngology clinic with a four-month history of change in voice. Laryngoscopy demonstrated a right glottic mass, raising suspicion of laryngeal cancer. The computed tomography showed a mass and incidental finding of opacities in lung apices. Chest x-ray demonstrated findings suggestive of tuberculosis. Polymerase chain reaction and culture of sputum samples confirmed the diagnosis and the patient was started on anti-tuberculosis treatment.

CONCLUSION: Despite accounting for only 1% of pulmonary tuberculosis cases and having a similar presentation to laryngeal carcinoma, we recommend considering laryngeal tuberculosis when evaluating hoarseness of voice in endemic areas.

Introduction

According to the World Health Organization, Saudi Arabia estimated a yearly incidence rate of tuberculosis of 10 per 100,000 population and a total of 3004 cases in 2016 [1]. Laryngeal tuberculosis (LTB) is an uncommon complication of pulmonary tuberculosis. It is estimated to occur in 1% of those infected with pulmonary tuberculosis [2]. Also, having hoarseness of voice as the first clinical manifestation of tuberculosis is rare. This atypical presentation causes some confusion since other more common conditions, such as laryngeal carcinoma, present similarly and might require more invasive tests to confirm the diagnosis. Although laryngeal tuberculosis is not a common condition, it should be considered in the evaluation of hoarseness of voice in areas where tuberculosis is endemic, such as southern Saudi Arabia [3].

Case Report

This is a case of a 38-year-old previously healthy Saudi male who presented to our otorhinolaryngology clinic complaining of a four-month history of hoarseness of voice.

Four months before his clinic visit, the patient started complaining of a noticeable change in his voice. It started gradually and was later associated with a cough, occasional sputum, night sweats, and decrease of weight three months afterwards. There was no history of hemoptysis, fever, or loss of appetite. Moreover, there was no history of contact with sick patients, particularly those with Tuberculosis (TB). He has been a smoker for at least 15 years. The patient was well-oriented and vitally stable. Laryngoscopy demonstrated congestion in the hypopharynx and larynx as well as a right glottic mass extending to the supraglottic area involving the

arytenoid cartilage. Remaining ear, nose and throat examinations were unremarkable. Examination of the cervical lymph nodes showed two masses on level two and three on the left side of the neck. After that, the patient was admitted as a case of laryngeal mass and was booked for Computed Tomography (CT) of the neck with intravenous contrast and labs were taken. Also, an operating room was booked for the next day for the potential need for biopsy taking. The CT demonstrated a soft tissue mass involving the right true vocal cord causing mild narrowing of the airway (Figure 1).

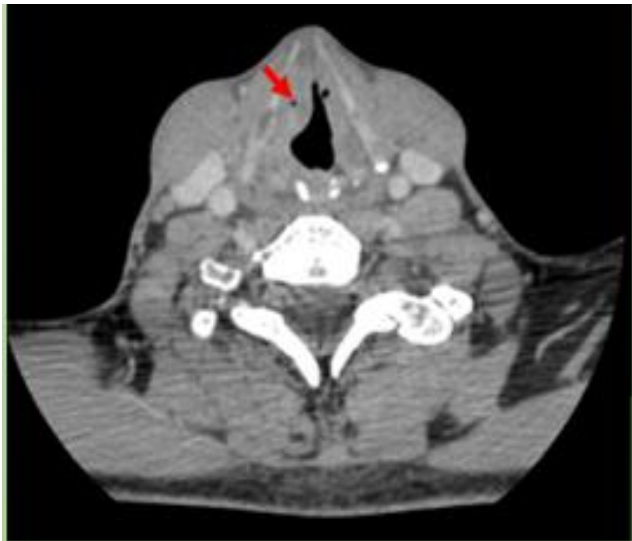


Figure 1: Computed Tomography of the neck showing soft tissue mass involving the right true vocal cord or glottis region (arrow)

Multiple bilateral cervical lymph node enlargements were noted with some showing central necrosis. Lung apices showed heterogeneous opacities with parenchymal destruction (Figure 2).

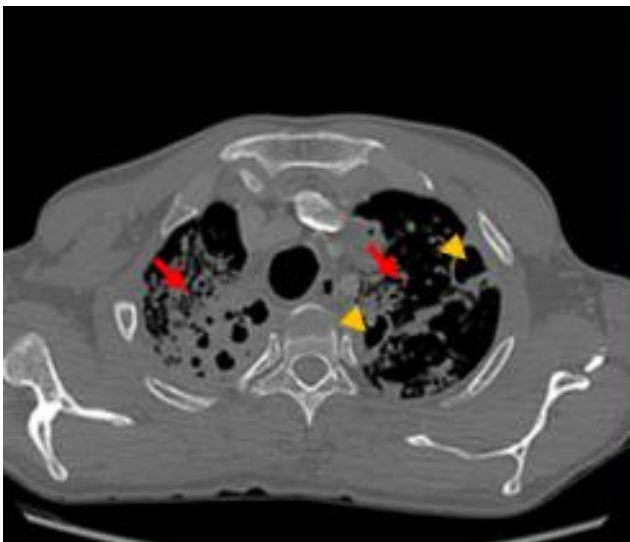


Figure 2: Computed Tomography of the neck with lung apices showing heterogenous opacities with parenchymal destruction (arrow) and cavitory lesions (arrowhead)

As a result, a Chest x-ray (CXR) was ordered and showed findings suggestive of TB. Subsequently, a sputum sample was taken for Acid Fast Bacilli (AFB) testing, AFB bacterial culture, and Polymerase Chain Reaction (PCR). Results were positive, and a diagnosis of TB was established. The Patient was transferred to isolation and started on anti-TB therapy (ATT) including Rifampicin, Isoniazid, Ethambutol, and Pyrazinamide with Pyridoxine. During his stay, the patient was stable and tolerating the medications well. However, due to noncompliance with isolation protocols, it was agreed that the patient continues treatment with home isolation.

Additionally, an outpatient follow up visit was appointed and the patient was discharged. On six-month follow up, the patient's symptoms of cough, dysphagia and night sweat resolved. His main complaint of hoarseness of voice improved but persisted. On laryngoscopy, there was the resolution of the previously noted mass. However, generalised oedema and hypertrophy of the false vocal cord were seen.

Discussion

In a previous case report by Junaid M et al., a 76-year-old man presented with dysphagia and gradually progressive hoarseness of voice. Due to the high suspicion of malignancy, the patient was admitted for laryngoscopy and biopsy. However, a chest x-ray was done as part of the preoperative assessment and revealed classical findings of pulmonary TB. It was decided to shift the patient to an isolation room and later proceed with direct laryngoscopy and biopsy with the addition of bronchoalveolar lavage. Results confirmed TB and the patient were started on ATT with symptoms resolution on one-month follow up [4].

In an additional case report by Suhail A et al., a 40-year-old man complained of persistent hoarseness for two months. Laryngoscopy revealed findings suspicious of carcinoma of the larynx and CXR showed findings suggestive of pulmonary TB. However, it was decided to proceed with laryngoscopy and biopsy. The findings confirmed TB and the patient was commenced on four ATT drugs. On five-months follow-up, the symptoms were resolved. In these two cases as well as our case, the initial suspected diagnosis was laryngeal cancer and a laryngoscopy and biopsy were initially planned [5].

Furthermore, a case reported by Fsadni P et al., described the clinical course of an 85-year-old woman with a six-month history of hoarseness of voice, she underwent bronchoscopy and a lesion was found and a biopsy was taken. Histopathology showed a granuloma, which is suggestive of TB. She

was started on ATT and had complete resolution at six-months follow up [6].

An additional study by Swain SK et al., retrospectively reviewed 11 cases of primary laryngeal TB. They found that the most common symptom was hoarseness of voice. Besides, an endoscopic examination was non-specific and had findings similar to laryngeal cancer. Confirmation of the diagnosis included bacteriological and histopathological tests. All patients had an excellent outcome after six-months of ATT [7].

However, in our case, a neck CT was performed and revealed a laryngeal soft tissue mass, cervical lymphadenopathy and apical lung abnormalities. Subsequently, a CXR was done and revealed classical findings of TB. After that minimally invasive test to confirm TB was performed, such as PCR and sputum AFB and culture. In other cases, the diagnosis was confirmed by obtaining a biopsy under anaesthesia by laryngoscopy guidance.

In conclusion, LTB should be considered in the initial differential workup of hoarseness of voice, especially in endemic areas of TB. The diagnosis may be confirmed by minimally invasive testing, such as PCR and culture.

Conference Presentation

Part of this paper was presented at the 11th

International Saudi Otorhinolaryngology Conference, 2019 Feb 14-16, Alkhobar, Saudi Arabia.

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