

# Laryngeal tuberculosis co-existent with Pulmonary tuberculosis

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## Abstract

Tuberculosis of the larynx is a rare form of tuberculosis. Patients usually present with hoarseness of voice or dysphagia and other nonspecific constitutional symptoms like fever or localized pain. We are reporting a case of 50 year old male who presented to us with hoarseness of voice, haemoptysis, dysphagia and a proliferative growth in the epiglottis which was diagnosed as laryngeal tuberculosis on histopathology. He also had associated pulmonary tuberculosis.

## INTRODUCTION

Incidence of laryngeal tuberculosis has been greatly reduced due to effective chemotherapy and public health measures. Laryngeal tuberculosis classically develops due to direct spread to the larynx from contaminated sputum but can also occur due to hematogenous spread. More recently tuberculosis of larynx have often been diagnosed by clinicians attempting to rule out carcinoma<sup>1</sup>. It was seen in only one third of the cases of pulmonary tuberculosis. Tissue biopsy and histopathological examination showing caseating granulomas is the confirmatory diagnostic test. The patients respond well to antituberculosis treatment in 2 – 4 weeks time. This case report describes laryngeal tuberculosis in a patient of pulmonary tuberculosis.

## CASE REPORT

A 50 years old male presented to us with complaints of hoarseness of voice, dysphagia, haemoptysis, fever and decreased appetite of three months duration. He also had cough with expectoration. The patient was a chronic smoker (25 pack years) with no alcohol and drug abuse. There was no history of contact of pulmonary tuberculosis.

On general physical examination, he was conscious, febrile and pale. There was no cervical lymphadenopathy or clubbing. There were no scars or sinuses in the neck. Indirect laryngoscopy had shown a growth in right ary-epiglottic fold. Vocal cords were moving with no signs of infiltration. Respiratory system examination revealed coarse crepitations in right suprascapular region. Rest of the systems were normal. Routine blood investigations were all within normal

limits. His Mantoux test showed 15 mm indurations after 72 hours. A chest radiograph showed patchy opacities in right upper zone. After standard evaluation, patient underwent laryngoscopy under local anesthesia and biopsy was taken from epiglottis.

The histopathological examination revealed biopsy tissue lined by stratified squamous epithelium showing focal dysplasia. Underlying stroma showed diffuse infiltration by lymphocytes, plasma cells, occasional polymorphs along with few epitheloid granulomas, langhans giant cells and fibroblasts. Sputum smear was positive for acid-fast bacilli. On the basis of the bacteriologic, radiologic and histopathologic findings, the diagnosis of pulmonary tuberculosis with laryngeal tuberculosis was established.

A standard six month treatment with a combination of isoniazid, rifampicin, pyrazinamide, and ethambutol was started for two months followed by isoniazid and rifampicin for further four months. The follow-up after treatment showed resolution of the symptoms and improvement of the mass.

## DISCUSSION

Laryngeal tuberculosis is the most common granulomatous disease of the larynx and has usually been considered to result from pulmonary tuberculosis, although it might be localized in the larynx as a primary lesion without any pulmonary involvement<sup>2</sup>. Incidence of laryngeal tuberculosis is less than 1% of all tuberculosis cases<sup>3</sup>. The pathogenesis of laryngeal involvement is either primary<sup>4</sup> or secondary<sup>5</sup>. Primary lesions occur in the absence of pulmonary disease.

In the present case, the laryngeal involvement was probably secondary to pulmonary disease.

It commonly affects males more than females and the usual age of presentation is 40-50 years<sup>6</sup>. The age of the present case (50 years old) was in this range. Early descriptions of laryngeal tuberculosis identified the posterior part of larynx as the part most frequently affected especially in patients who were bed ridden and in whom sputum got collected in the interarytenoid region<sup>7</sup>. The commonest parts involved are vocal cords (50-70%) and the least affected is the epiglottis<sup>8</sup>. In the present case, epiglottis was involved which itself was a rare presentation.

Patients often present with hoarseness of voice and laryngeal tuberculosis should be considered in the differential diagnosis in any patient with unexplained hoarseness of voice. Haemoptysis, stridor and odynophagia are other common symptoms which makes it difficult to differentiate from laryngeal carcinoma<sup>9</sup>. According to Shin et al., the findings of laryngeal tuberculosis may be categorized into four groups: (a) whitish ulcerative lesions (40.9%), (b) nonspecific inflammatory lesions (27.3%), (c) polypoid lesions (22.7%), and (d) ulcerofungative mass lesions (9.1%)<sup>9</sup>. In present case, ulcerofungative mass lesion was present on the epiglottis.

Direct laryngoscopy and biopsy are mandatory to establish a definitive diagnosis. It should be kept in mind that both tuberculosis and malignancy may coexist in the same patient<sup>10</sup>. Therefore, the diagnostic challenge is, as in our case, first to exclude a laryngeal cancer. The factor that determines the contagiousness in a patient with laryngeal tuberculosis is the bacillary load in the sputum. The risk of exposure of health care staff to laryngeal TB is credible and should be carefully considered. The patients respond well to antituberculosis therapy by showing improvement in

hoarseness of voice within a period of two to four weeks time. Superior laryngeal nerve block has been advocated for odynophagia but is rarely required at present as effective antitubercular drugs are available.

This case is a warning that a growth-like lesion in the upper respiratory tract could be tuberculous in origin and, therefore, efforts should be made to locate an active or inactive lesion elsewhere in the body.

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