

Case report

Primary tuberculosis of larynx in an immunocompetent host: a rare entity

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Abstract

Laryngeal Tuberculosis generally occurs in association with Pulmonary Tuberculosis and that too in an immunocompromised host. Here, We are presenting a case report of an immunocompetent host, initially thought of suffering from Pulmonary Tuberculosis but was finally diagnosed a case of Primary Laryngeal Tuberculosis on serial investigations with review of literature.

Keywords: Laryngeal tuberculosis; Pulmonary tuberculosis; Immunocompetent host

INTRODUCTION

Laryngeal tuberculosis usually occurs with pulmonary tuberculosis. A series by Rohwedder^[1] revealed an abnormal chest roentgenogram in all 16 patients. The literature has few published cases of laryngeal tuberculosis with a normal chest roentgenogram^[2-4]. The objective of the present case report is to describe a case of primary laryngeal tuberculosis without pulmonary involvement, in an immunocompetent host, highlighting the importance of a high degree of suspicion of involvement of upper airways, even without obvious clinical symptoms of upper respiratory tract infection (including sore throat, odynophagia, dysphonia and hoarseness of voice) in high prevalence areas for such disease.

CASE REPORT

A 35-yr-old male, presented in chest clinic with symptoms of cough with non foul smelling, scanty, yellow expectoration, and mild grade evening rise of temperature for 8 days. Past medical history was negative for tuberculosis. General physical examination revealed temperature of 99°F, BP 120/80 mm

of Hg in right arm supine position. Examination of neck revealed a single, non tender, freely moveable, 1 cm deep cervical lymph node on left side. Admission hematocrit, white blood cell count, and urinalysis were also normal. Throat examination was normal. Examination of the heart, lungs, and abdomen were normal. Western blot was negative for HIV1&2. Ultrasound whole abdomen was normal. Sputum examination with Ziehl-Neelsen stain revealed presence of acid fast bacilli (AFB). Initially, diagnosis of pulmonary tuberculosis was made but when chest radiograph (Figure 1) did not reveal any parenchymal lesion, flexible bronchoscopy and computed tomography of chest was planned. Computed tomography of chest came normal (Figure 2). A flexible bronchoscopy was performed to diagnose the site of tubercular lesion. It showed pale, discoloured mucosa over epiglottis, aryepiglottic fold, false cords, and arytenoids as opposed to normal pinkish appearance (Figure 3). Movements of vocal cords were normal. Rest of tracheo-bronchial tree was normal and no endobronchial growth was visualised. Protected brush cytology and biopsy was taken from larynx, which revealed presence of acid fast bacilli (AFB) (Figure 4). Protected brush cytology (Total 8 samples) and bronchial wash, representing different segments of both lungs were also obtained which were negative for AFB. Diagnosis of primary laryngeal tuberculosis was made. Patient was administered antitubercular treatment (ATT) category I regiment (4 drugs include rifampin, isoniazid, ethambutol and pyrazinamide) as per revised national tu-

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berculosis control program. Patient is well after two weeks of treatment and is advised to continue the ATT and follow up after two months.

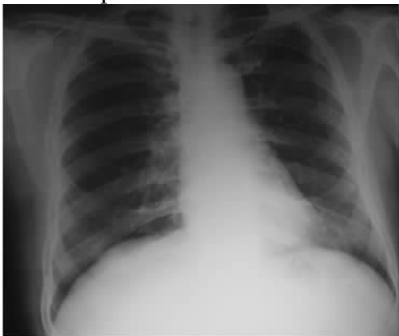


Figure 1 Normal Chest X-ray



Figure 2 Normal C. T. Thorax

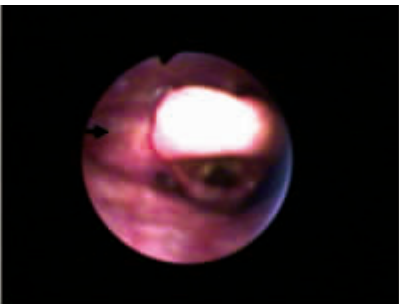


Figure 3 Discoloured mucosa over laryngeal surface and arrow represents site of protected brush cytology

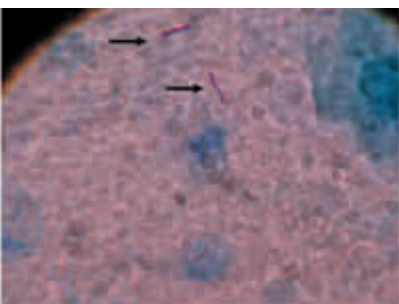


Figure 4 AFB seen on brush cytology (Ziehl-Neelsen Stain)

DISCUSSION

Tuberculosis is an infection caused by the Koch's Bacil-

lus which affects mainly the lungs and, secondary to that, the genital-urinary tract, hematopoietic organ, central nervous system and upper aero-digestive pathways. Tuberculosis of upper respiratory tract is rare and is usually secondary to pulmonary disease^[5]. The upper respiratory tract is generally resistant to tuberculosis. Saliva by virtue of its cleansing action is thought to have an inhibitory effect on tubercle bacilli^[6]. Laryngeal involvement has been observed in 15 to 37% of the cases of pulmonary tuberculosis, but as primary involvement in only 19% of the tuberculosis cases^[7]. Laryngeal tuberculosis is infrequently recognized by the clinician in the modern era of tuberculosis chemotherapy^[8]. Numerous hypothesis attempts to explain the infection pathways of these sites, and the blood is the one most accepted. The airborne theory of contamination, proposed by Louis, advocate that the bacilli present in cough would directly contaminate the mucosa, while in the lymphatic hypothesis presented by Kiej, there would be a retrograde contamination, coming from the tracheobronchial lymph nodes, which try to explain the frequent ipsilateral involvement seen in laryngeal and pulmonary lesions^[9]. What usually happens is that late reactivation of a laryngeal focus happens during the blood spread phase of the primal infection. During the reactivation process, it is rare to have the involvement of upper airways without pulmonary lesions. This case is unique in having primary laryngeal involvement without pulmonary involvement and that too with no clinical symptoms of laryngeal tuberculosis.

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