

Clinical manifestation of Laryngeal Tuberculosis

Haider Abubakre Abdalla, Nisreen Ahmed



Abstract

Background: Prevalence of laryngeal tuberculosis is rising due to the increase in risk factors like HIV/AIDS. Any part of the larynx can be affected. Diagnosis depends on high index of suspicion.

Objectives: To evaluate the clinical manifestations due to localized laryngeal tuberculosis and their association with pulmonary TB.

Patients and Methods: This is a prospective study conducted in ENT Hospital- Khartoum, Sudan from September 2004 to November 2006. All tuberculous patients with laryngeal symptoms and those diagnosed histologically to have laryngeal tuberculosis were included.

Results: Eight patients were studied; they were five males and three females, with age range between 12-70 years (mean 41 years). Stridor, dysphonia and dysphagia were the main complaints. Ulcers and nodules were the main findings in all parts of the larynx.

Conclusion: Diagnosis of pulmonary tuberculosis is not mandatory for the diagnosis of laryngeal tuberculosis. Cases are picked up in routine direct laryngoscopy and biopsy for prolonged dysphonia and / or those with known pulmonary tuberculosis who developed laryngeal symptoms

Introduction

Tuberculosis is still one of the most common granulomatous diseases of the larynx. In the past, it commonly followed pulmonary tuberculosis. Among the risk factors identified are the consumption of tobacco, alcohol, malnutrition, immunodeficiency and being homeless. The most common presenting symptom is hoarseness of voice, dysphagia or odynophagia, cough, weight loss, fever and night sweating. Laryngeal involvement affects the posterior portion of the true vocal cords, the arytenoid cartilages, and the intraarytenoid space. However, in the past 20 years, this pattern of involvement has changed, and most patients with laryngeal tuberculosis nowadays present without history of pulmonary tuberculosis¹⁻⁴. A nodular, exophytic lesion or an area of mucosal ulceration, which can both be mistaken for carcinoma, perichondritis, nonspecific laryngitis, oedema, pseudoepitheliomatous hyperplasia or shrinking of epiglottis is often seen.

Prompt diagnosis depends on clinical suspicion, careful medical history and history of predisposing factors, together with laryngeal and chest examination. The characteristic findings on chest radiography are apical cavitations and infiltrations.

Recently, it has been reported that laryngeal involvement is more commonly caused by hematogenous or lymphatic spread of the organism⁵.

Sputum examination for acid-alcohol fast bacilli, culture of mycobacterium tuberculosis in Lowenstein-Jensen medium, ESR and direct laryngoscopy and biopsy are mandatory to prove the diagnosis.

Management is antituberculous chemotherapy according to the WHO regimen in the country.

Objectives

- To evaluate the clinical manifestation of laryngeal tuberculosis, its laryngoscopic characteristics and to identify its relation with pulmonary tuberculosis in Sudanese patients seen in the largest ENT Hospital in Sudan.

Patients and methods

This is a prospective study carried out in ENT Khartoum Hospital in the period between September 2004 and November 2006.

All tuberculous patients with laryngeal symptoms and those who were diagnosed histologically to have laryngeal tuberculosis were included in the study. Name, age and sex together with symptoms and signs, indirect laryngoscopy findings and investigations were also included. It was also noted whether the patient was presented first to ENT or referred from other specialties. The current or past antituberculous medication, the histopathological results of the direct laryngoscopy biopsies were also included.

Results

Eight patients were confirmed to suffer of laryngeal tuberculosis in this study. Five males and three females, Age ranged between 12 and 70 years (mean age 41 years).

Age distribution: 0-20 years was one (12.5%), 21 - 30 years were two (25.5%), 31- 50 years also two (25.5%), and more than 50 years were three (37.5%) patients.

The main complaints were: Stridor in four (50%), dysphonia in all (100%). Dysphagia and odynophagia in four (50%) patients. Throat pain in two(25%), otalgia in two(25%) , fever in five (65.5%) and weight loss in two(25%) patients but no cervical lymphadenopathy was detected in any patients.

Indirect laryngoscopy findings and the involved sites: True vocal cords in Three (37.5%) patients. False vocal cords involvement in two (25%), epiglottis in three (37.5%), aryepiglottic folds in two (25%) and the posterior commissure was involved in two (25%) patients.

Macroscopic appearance: Ulceration in one (12.5%), nodular lesion in two (25%) oedema in four(50%)and hyperemia in two(25%) patients

Referred pattern:

Four (50%) patients presented first to ENT department, and the other four were referred from chest physicians.

Investigations:

CXR: Three (37.5%) patients had apical and/or central lung cavitations

ESR: was >100mm in four (50%) patients

Sputum: was positive for acid alcohol fast bacilli in four (50%) patients.

Biopsy: Histopathologic examination of biopsied tissue reveals tubercles consisting of a homogenous caseous center, a periphery of pale epithelial cells containing one or more Langhan giant cells, and an outer zone of lymphocytes was positive in all (100%) patients.

Discussion:

Although laryngeal tuberculosis is not frequent, it still occurs with an increasing incidence of pulmonary tuberculosis. In this study gender distribution is in agreement with others⁶. Children are exceptionally affected (one patient) indicating the rarity of the disease in children that goes with the fact that only 6 cases were reported worldwide during 1960-1995⁷.

In the past the main presenting symptoms were constitutional symptoms such as fever, night sweats and weight loss, but in this study the fever presented in five(65.5%), loss of weight in two(25%) patients and no patient complained of night sweating.

Also in the past the interarytenoid region was the commonest site affected in nodular and ulcerative type, in our study the true vocal cords are the commonest affected site but the macroscopic finding is of generalized edema with irregular edges resembling mostly non specific

inflammatory conditions. The posterior commissure involvement was found in only two (25%) cases.

None of the patients presented with cervical lymphadenopathy. Only four (50%) patients have active pulmonary TB which will support the current concept that haematogenous and lymphatic spread.

Positive Mantoux and sputum were found in only 50.0% of patients suggesting that these are not mandatory to confirm the diagnosis.

Two of our patients had severe stridor that necessitated tracheostomy. 50.0% of our patients had no symptoms or signs related to pulmonary tuberculosis and diagnosis was made up following direct laryngoscopy and biopsy for routine prolonged dysphonia. None of our patients who had been biopsied had a concurrent malignancy.

Conclusion and Recommendation

Advanced cavitary pulmonary tuberculosis does not seem to be common in our patients. Thus painful dysphagia in patients presenting with hoarseness should raise the suspicion of tuberculosis. We must remain faithful to the golden rule that every patient with prolonged dysphonia should be scoped and biopsied. Nodular or ulcerative lesions of the posterior commissure are no longer mandatory to diagnose tuberculous laryngitis which does not necessarily follow primary pulmonary tuberculosis.

References

1. Bailey CM, Windle-Taylor PC. Tuberculous laryngitis: a series of 37 patients, *Laryngoscope*1981; 91:93-100.
2. Levenson MJ. Laryngeal tuberculosis: review of twenty cases, *Laryngoscope* 1984; 94:1094-1097.
3. Ramandan HH, Tarayi AE, Baroudy FM. Laryngeal tuberculosis: presentation of 16 cases and review of the literature, *J Otolaryngol* 1993; 22:39-42.
4. Thaller SR. Laryngeal tuberculosis as manifested in the decades 1963–1983, *Laryngoscope* 1987; 97:848-850.
5. Soda A. Tuberculosis of the larynx: clinical aspects in 19 patients, *Laryngoscope* 1989; 99:1147-1150.
6. Lim JY, Kim KM, Choi EC et al. Current clinical propensity of laryngeal tuberculosis: review of 60 cases. *Eur Arch Otorhinolaryngol* 2006; 263: 838–842.
7. Ramadan HH, Wax M. Laryngeal tuberculosis. A cause of stridor in children. *Arch Otolaryngol Head Neck Surg* 1995; 121(1):109-1