

Tubercular laryngitis: case series

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Abstract

Introduction Tubercular laryngitis is a known entity since a long time but it's presentation, diagnosis and management has undergone a drastic makeover after the advent of chemotherapy in the form of ATT (Anti tubercular treatment), modernized diagnostic aids and early detection of lesions.

Materials and methods This prospective study was conducted on 180 patients. Each patient were subjected to detailed history and thorough ENT and head neck examination including laryngeal examination by visualization of the vocal cords, possibly using indirect laryngoscopy, flexible naso-laryngoscopy or rigid laryngoscopy

Results Tubercular laryngitis was clinically diagnosed by laryngeal endoscopy and diagnosis confirmed by laryngeal biopsy.

Conclusion All patients showed remarkable improvement with anti-tubercular treatment.

Keywords Tubercular laryngitis · Laryngoscopy

Introduction

“Dysphonia” refers to abnormal voice quality and may represent a serious disease and therefore should not be ignored, especially if present for more than two weeks or more [1]. With the advent of chemotherapy, involvement of larynx in tuberculosis is now a rare phenomenon. In the pre antibiotic era it was a common complication of advanced primary tuberculosis as the tubercular bacilli involved the larynx as the infective sputum was coughed up. The incidence was further increased in patients suffering from HIV infection. Various studies done over the years have given their views regards the occurrence of tubercular laryngitis such as Orton (1941) [2] in a review of 300 patients reported occurrence of tuberculosis in 7.66% patients whereas Hasan SA, Varshney S (1993) [3] in a clinico – pathological study of 200 laryngeal biopsies of patients presenting with hoarseness of voice reported 65% inflammatory lesions and 32% neoplastic lesions. The most common inflammatory lesion was tuberculosis (40%). Neeta Kulkarni et al (1996) [4] in an epidemiological and clinical study of ENT tuberculosis reported that the commonest presenting feature in all the patients was hoarseness. Similar conclusion was drawn by Essad M (2001) [5]. The most common ENT manifestation of tuberculosis was tubercular laryngitis, which was more common in patients diagnosed of pulmonary tuberculosis especially defaulters of previous ATT therapy and relapse cases. The most common site of involvement was the vocal cords and the most common predisposing factor was chronic alcoholism. The sputum was found to be negative in 75% patients while 25% showed positive sputum for AFB.

We present a case series of 9 cases of tubercular laryngitis in all of which the main complaint was dysphonia.

Material and methods

This prospective study was conducted on 180 patients presenting to the OPD of the Department of ENT, Himalayan

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Institute of Medical Sciences, Swami Rama Nagar, Dehradun, Uttarakhand with complaint of hoarseness of voice. The study was done over a period of one year from April 2004 to March 2005 after taking an informed consent. Each patient were subjected to detailed history and thorough ENT and head neck examination including laryngeal examination by visualization of the vocal cords, possibly using indirect laryngoscopy, flexible naso-laryngoscopy or rigid laryngoscopy [6].The investigations like X-ray chest, sputum examination for AFB were performed as required. The results obtained were evaluated for clinical correlation.

Observations

The age incidence ranges from 20–45 years, the mean age being 31.5 years. The male to female ratio was 8:1.The

majority of patients were from rural background making the rural to urban ratio 8:1. All the laryngeal lesions were bilateral. The duration of symptoms was less than a year in all the cases. All patients except one were chronic smokers by habit. The occupation of the patients was as follows (Table 1):

Table 1 The occupation of the patients

Occupation	No. of patients
Labourer	04 (44.44%)
Farmer	03 (33.33%)
Housewife	01 (11.11%)
Shopkeeper	01 (11.11%)
Total	09 (99.99%)

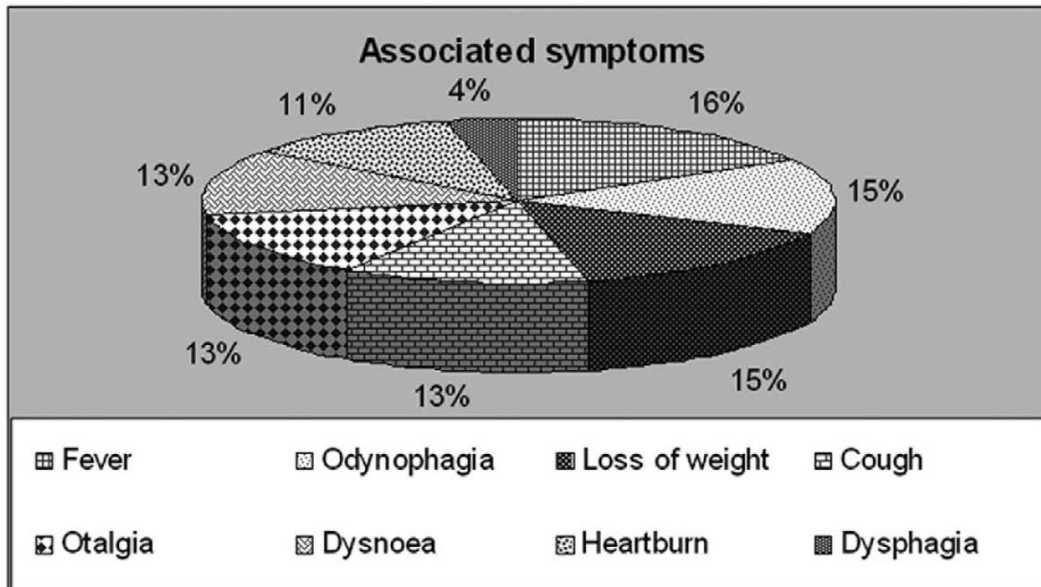


Fig. 1 The other symptoms apart from dysphonia

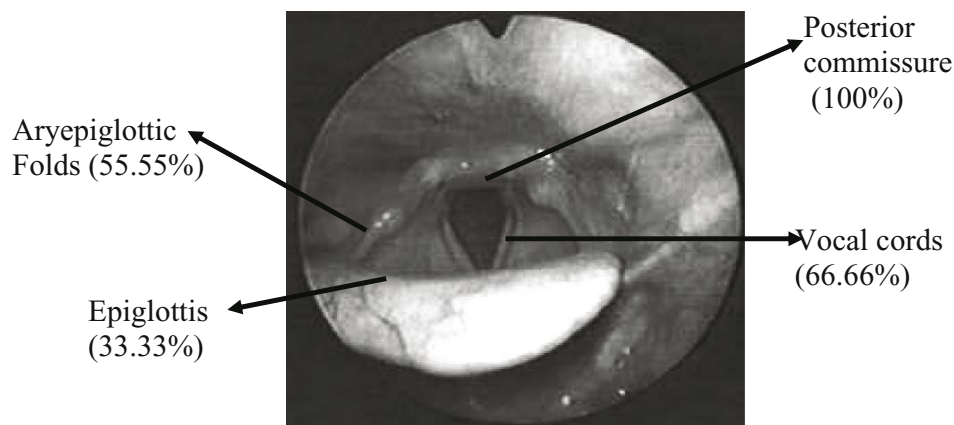


Fig. 2 The sites of involvement on laryngoscopic examination

All these patients had a history of overcrowding of houses and contact with patients suffering from tuberculosis. The chest X ray of 8 cases (88.88%) showed evidence suggestive of pulmonary Kochs in the form of apical lesions and 1 case (11.11%) had normal chest skiagrams. Out of these 8 cases the sputum was positive only in 5 cases (62.55%) and the rest were sputum negative although chest X ray showed an apical lesion suggestive of pulmonary kochs. They had received several doses of antibiotics but without any response. In these cases taking a biopsy from the laryngeal lesions and sending it for histopathological analysis made the diagnosis. The biopsy showed chronic granulomatous lesions consisting of epitheloid cells surrounded by lymphocytes. The patients were started on 4-drug regime of antitubercular therapy consisting of Rifampicin (10–15 mg/

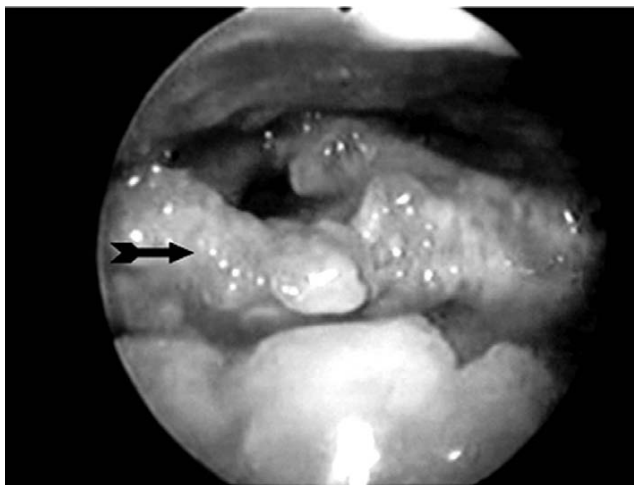


Fig. 3a Tubercular Laryngitis showing ulceration of epiglottis, aryepiglottic folds and arytenoids.

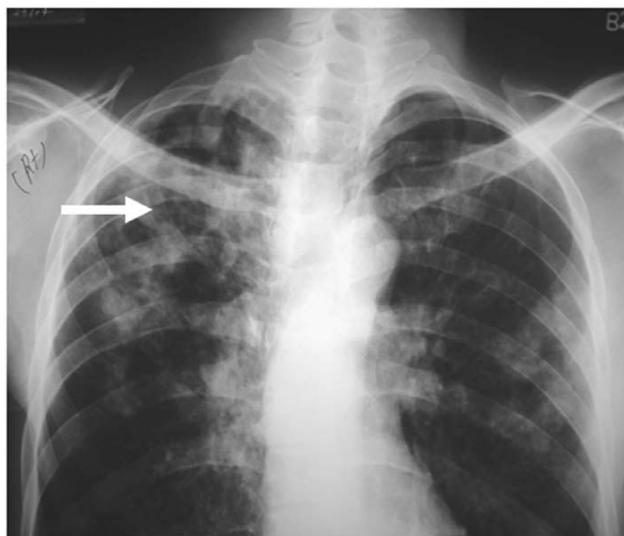


Fig. 3b X-ray chest showing Rt side apical lesion of Pulmonary Koch's

kg), Isoniazide (3–5 mg/kg), Pyrazinamide (15–30 mg/kg), and Ethambutol (15 mg/kg) lasting for 2 months and then the continuation phase comprising of 2 drugs consisting of Rifampicin and Isoniazide for 4 months. All these patients showed remarkable improvement in symptoms, regression of chest findings and laryngeal lesions on endoscopic evaluation during serial follow up of the patients.

Discussion

Tuberculosis is one of the most common granulomatous lesions of larynx. Out of a total number of 180 patients examined, Tuberculosis was seen in 9 cases (5%). The incidence is high as compared to study by Kliensasser O [7] (2%) probably due to high incidence of pulmonary tuberculosis in India, which is 1.8% of total population. In our study laryngeal tuberculosis was found more in males and 8 patients had tubercular laryngitis secondary to pulmonary kochs while 1 patient had primary laryngeal tuberculosis in which the chest x-ray was normal. This was also observed by Shin (2000) [8] who did a study on clinical manifestations of laryngeal tuberculosis in 22 patients. Out of these 22 patients, 13 cases had active pulmonary tuberculosis and 9 were proven to have normal lung status. The male: female ratio of 2.1:1 and the most frequent chief complaint was hoarseness of voice. Most of the patients belonged to the middle age group and most of them had history of smoking. Endoscopies showed the involvement of posterior commissure in nine cases (100.00%) and turban epiglottis in three cases (33.33%). The diagnosis of laryngeal tuberculosis was confirmed by histopathological evaluation of laryngeal tissues. The diagnosis was further confirmed on improvement with antitubercular treatment.

According to Farooq A et al [9] laryngeal tuberculosis is almost always secondary to pulmonary tuberculosis. In most cases, it is a result of contamination by sputum containing acid-fast bacilli. Rarely it develops following a lymphogenous or haematogenous spread. All regions of the larynx can be affected but there is a certain predilection for the posterior commissure. Earliest findings are said to be red, unilateral, congested vocal cord with pinpoint nodules lying under and involving mucosa. Intervening epithelium is quite red and shows tissue loss. This is usually followed by mouse bitten appearance of vocal folds going on to develop edematous, red, enlarged epiglottis (turban epiglottis), and may later lead to vocal cord fixation. Treatment consists of anti-tubercular drugs.

Laryngeal tuberculosis is usually seen in the 3rd to 4th decade in males which has been supported by various studies like Nimesh P. Parikh (1987) [10] who reported highest number of patients in the age group 21–50 years in a study of change of voice in 100 cases. Tubercular laryngitis usually presents with concurrent far advanced pulmonary tuberculosis in which its presentation is clinically similar

to laryngeal carcinoma. Laryngeal tuberculosis can occur irrespective of the immunization status and the result of tuberculin test. Some patients have been previously immunized with BCG and others have had a negative montoux test [11]. Hoarseness with or without odynophagia against a background of symptoms usually associated with tuberculosis like fever, cough, weight loss and night sweats are suggestive of laryngeal tuberculosis. Lesions of the cord or cord immobility may produce hoarseness. Stridor may also be the presenting feature of this disease.

Laryngeal tuberculosis may be primary or secondary. Primary infection of larynx occurs when there is direct infection of the mucosa by the organism via aerosolized particles resulting in granulomatous formation. Secondary infection of the larynx occurs when there is direct spread as inactive, advanced, cavitary pulmonary tuberculosis. Here the highly infectious sputum is expectorated via the tracheo-bronchial tree (bronchogenic theory). The infection usually remains intra laryngeal and the lesions are ulcerative and granulomatous. Later the healing occurs by minimal fibrosis. Haematogenous spread occurs less frequently and is mostly seen in patients suffering from miliary tuberculosis. The larynx often shows diffuse vascular necrosis and severe painful edema. The healing often comprises of stenosis due to fibrosis. In adults laryngeal tuberculosis is invariable secondary to pulmonary tuberculosis while in children usually there is no evidence of pulmonary disease and their chest X rays at presentation are usually normal. Also a pseudotumoral form of laryngeal tuberculosis may be seen in which there is complete healing as evidenced by disappearance of hoarseness within 6 weeks of starting antitubercular treatment. In recent years after the introduction of chemotherapy, the overall picture of laryngeal tuberculosis has changed to pseudotumoral tuberculosis [12]. In our study a definitive diagnosis of laryngeal tuberculosis

was made by laryngoscopy and isolating Mycobacterium tuberculosis from biopsy of laryngeal specimen. Remarkable improvement on starting antitubercular treatment also confirmed the diagnosis.

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