ORIGINAL ARTICLE

Otorhinolaryngological Manifestation of Tuberculosis

K. Akbar Khan, Nazir Ahmad Khan, Mohamad Maqbool

Abstract

The present study included 135 patients who presented to the ENT department of SHMS Hospital, Srinagar with tuberculosis of ear, nose and throat region. In addition 69 patients with pulmonary tuberculosis who were registered and treated at chest disease hospital were also detected having tuberculosis of the ear nose and throat. The majority of the cases in the study consisted of cervical lymphadenopathy, (79.7%), tuberculous laryngitis (8.3%), tuberculosis of cervical spine with associated retro pharyngeal abscess (6.8%), tuberculosis of nose and middle ear (2.9% and 1.96% respectively). Majority of these patients (44.1%) belonged to the lower socioeconomic status. Mantoux test was positive in 96% of cases. Chest x-rays showed evidence of active or healed pulmonary tuberculosis in 28.9% cases. The overall diagnostic index of tubercular bacilli on microscopic examination and culture was 30%. Majority of the patients suffering from tuberculous cervical lymphadenits were diagnosed by fine needle aspiration cytology. Both subjective as well as objective improvement was noted with the anti-tubercular therapy.

Key words

Tuberculosis, Cervical Lymphadenopathy, Laryngitis, Retropharyngeal abscess

Introduction

Tuberculosis still remains one of the commonest chronic granulomatous infections, especially in the developing world. World Health Organisation (WHO) statistics have revealed an annual incidence of 100 cases detected per 1,00,000 population in Europe and North America, the incidence is much higher in the Asian countries, almost 300 cases per 1,00,000 population.

The commonest organs effected are the lungs but tuberculosis of other regions of the body is also encountered in day to day practice. Studies regarding the otolaryngological manifestations of tuberculosis are sparse. The non availability of specific and confirmatory diagnostic facilities in many parts of the developing world renders clinical data unreliable and the true incidence of tuberculosis of the ear, nose and throat region still remains, more or less unexplored. The commonest manifestations of tuberculosis in ear, nose and throat region can present as cervical lymphadenopathy, otitis media, chronic laryngits, lupus vulgaris and chronic retropharyngeal abscess associated with the tuberculosis of the cervical spine.

The present study was conducted to assess the incidence and different manifestations of tuberculosis affecting the ear, nose and throat in patients attending the outpatient department of a teaching hospital in Kashmir.

Material and Methods

The study was conducted on 204 patients with tuberculous manifestations of the ear, nose and throat region.

From the Department of ENT, SMHS Hospital, Government Medical College Srinagar, J&K.
Correspondence to : Dr. Nazir Ahmad Khan C/o Zaffar Medicate, Gole Market, Karan Nagar, Srinagar, 190 010, J&K.

over a period of 17 months from August 1987 to December 1988. 135 (66.17%) patients reported to the ENT department of SMHS Hospital Srinagar and 69 (33.82%) patients were referred from chest disease hospital Srinagar. The patients referred from the chest disease hospital were receiving treatment for pulmonary tuberculosis and were detected having involvement of ENT region. Age was not a bar and both male and female patients were included in the study. The patients were followed up for a period of 3-6 months.

A detailed history was obtained from all the patients in order to assess the involvement of the ear, nose and throat. Emphasis was placed especially on symptoms like chronic ear discharge, haemoptysis, chronic cough, persistent neck swellings, fever and weight loss. Relevant past and family history of tuberculosis was also obtained. The socioeconomic status of all the patients was assessed.

General physical and local ear, nose and throat examination was carried out on all the patients. In addition to the routine investigations, all the patients were subjected to chest x-rays. Radiological examination of the soft tissue neck, cervical spine and the mastoids (Townes and Stenvers view) was carried out in relevant cases.

Endoscopic examination including nasopharyngoscopy, hypopharyngocopy, direct laryngoscopy and bronchoscopy was performed wherever indicated.

Fine needle aspiration cytology was performed on all suspected neck swellings. Investigations also included culture and sensitivity and AFB staining of the sputum, pus from discharging sinuses, laryngeal secretions and ear discharge. Direct laryngoscopic and lymph node biopsies were obtained in relevant cases.

On confirming the diagnosis, all the patients were treated by antitubercular drugs. Few patients needed conservative surgery followed by antitubercular treatment. The patients were followed up and evaluated for response to antitubercular treatment at regular intervals. The average period of follow up ranged between 3-6 months.

Results

Over a period of 17 months from August 1987 to December 1988, 204 patients were evaluated for otorhinolaryngological manifestations of tuberculosis. 135 patients presented to the ENT department of SMHS Hospital and remaining 69 were referred from the chest disease hospital. The majority of patients 163 (79.7%) presented with tuberculous cervical lymphadenopathy, 17 (8.3%) cases were discovered to have tuberculous laryngitis, 14 (6.8%) cases had tuberculous involvement of the cervical spine associated with retropharyngeal abscess formation. 6 (2.9%) patients presented with lupus vulgaris and 4 (1.96%) were found to have tuberculous otits media.

Table 1. ENT manifestations of tuberculosis

Sno.	Nature of the lesion	No. of cases	%age
1.	Tubercular cervical lymphadenopathy	163	79.70%
2.	Tuberculous laryngitis	17	8.30%
3.	Tuberculosis of cervical spine with retro pharyngeal abscess	14	6.80%
4.	Nasal tuberculosis (lupus vulgaris)	6	2.90%
5.	Tuberculous otits media	4	1.96%
	Total	**204**	**100%**

Table 2. Incidence of different types of lesions in males and females.

Sno.	Nature of the lesion	No. of cases	Males	%	Females	%
1.	Tubercular cervical lymphadenopathy	163	74	45.3	89	54.6
2.	Tuberculous laryngitis	17	14	82.3	3	17.64
3.	Tuberculosis of cervical spine with retro pharyngeal abscess	14	11	78.5	3	21.42
4.	Nasal tuberculosis (lupus vulgaris)	6	1	16.66	5	83.3
5.	Tuberculous otits media	4	3	75	1	25

Male-female ratio varied depending upon the site of involvement. It was observed that the incidence of tuberculous cervical lymphadenopathy was higher in the females (55%) as compared to the males with an incidence of (45%). Bilateral cervical nodal involvement was noticed in 62% cases. 13.5% cases presented with cold abscesses, whereas 5% patients presented with sinus formations. Tuberculous laryngitis was diagnosed in 17 patients, the majority being males (82.3%), only 3 (17.64%) females were found to have involvement of the larynx. Dysphonia ranging from vocal fatigue to complete aphonia was the commonest presenting complaint in all the cases with tuberculous laryngitis. Interarytenoid area was found to be the commonest site involved with 2 (11.76%) patients having severe ulceration of this area. Two patients studied had epiglottic involvement as well, while one patient developed vocal cord paralysis.

Patients with chronic retropharyngeal abscesses presented with nuchal pain and dysphagia. Radiography of cervical spine in all these cases revealed widening of retropharyngeal soft tissue shadow with osteolytic changes in the cervical vertebrae. Amongst these cases pulmonary tuberculosis was confirmed in 9 (64%) cases.

All the cases with lupus vulgaris presented with recurrent ulceration , crusting of the nasal vestibule with destruction of alae nasii, one of these patients had associated pulmonary tuberculosis as well.

Four patients with tuberculous otits media were also diagnosed, two of them had unilateral disease and presented with profuse mucopurulant discharge and deafness of long duration. Polyp formation was noticed in one cases while two patients had granulation tissue formation. All the patients with tuberculous otits media also had underlying pulmonary tuberculosis.

Culture sensitivity and AFB staining performed on ear discharge, laryngeal secretions, sputum and pus form retropharyngeal abscesses could confirm diagnosis in 30% of patients only.

Fine needle aspiration cytology confirmed the diagnosis in 70% cases with tuberculous cervical lymphadenopathy. Lymph node biopsies were only performed in cases were fine needle aspiration cytology was inconclusive. Histopathological examination of the tissue obtained from ear, nose and larynx confirmed the diagnosis of tuberculosis in these regions.

All the patients after confirmation of diagnosis were commenced on antitubercular treatment. Drugs used were Isoniazid, ethambutol, rifampicin and pyrazinamide. The duration of treatment averaged six months.

Surgical management was carried out wherever indicated, this included excisional biopsy of cervical lymph nodes, excision of sinuses and drainage and curettage of cold abscesses. One patient with tuberculous otitis media required modified radical mastoidectomy.

Discussion

Tuberculosis still remains a challenging clinical entity throughout the developing world, despite efforts being made at every level to control this chronic granulomatous disease. Not a single country in the world has succeeded in reaching the point of absolute control.

Though pulmonary tuberculosis forms the commonest entity, extrapulmonary sites like ear, nose and throat are also involved in a sizeable number of patients. Low standards of living, poor sanitation and hygiene, consumption of unboiled milk contribute towards the high incidence of tuberculosis in our country. The incidence of tuberculosis affecting the ear, nose and throat region was about 0.6% in patients attending a teaching hospital in Srinagar.

Tuberculous involvement of the cervical lymph nodes was the commonest site in our study especially in the younger females, this was also noticed by Mulay and Hiranandani in their study(1). Nodes in the anterior triangle of the neck were more commonly involved (36.1%), bilateral involvement was noticed in 62% cases and multiple nodal involvement was seen in about 86% cases. These finding are quite similar to the ones reported by Younus *et al* (2).

Majority of the patients suffering from laryngitis and retropharyngeal abscess formation in association with tuberculosis of cervical spine were males, an observation also made by Hunter *et al*, Thallier *et al* and Fang *et al* in their studies(3-5). Posterior part of larynx was found commonly affected in patients suffering from tuberculous laryngitis and a substantial number of cases showed evidence of underlying pulmonary tuberculous, a finding also observed by Desa and Kakar *et al* (6-7).

Conductive deafness and mucopurulant ear discharge were the main presenting features in all the cases of tuberculous otits media, 3 out of 4 patients had associated pulmonary tuberculosis. Yaniv *et al* reported pulmonary tuberculosis in 25 out of 31 patients suffering from tuberculous otits media(8).

Mantoux test was positive in 96% of cases, making it a reliable investigation in our set up, on the other hand AFB staining of laryngeal secretions, ear discharge and pus drained from abscesses confirmed the diagnosis in only 30% of cases. Fine needle aspiration cytology seemed to be a reliable investigation for patients suffering from tuberculous cervical lymph nodes with a detection rate of 70%, patients with inconclusive diagnosis were subjected to excisional biopsies. Lau *et al* also noticed similar experience with the reliability of fine needle aspiration cytology in the diagnosis of tuberculosis of cervical nodes(9).

Studies from 1950's and 1960's, Reddy(1950), Sen(1955) do not seem to agree with the diagnostic accuracy of fine needle aspiration cytology but this could be attributed to limited experience of cytopathologists during that era(10,11).

Antitubercular treatment given to all the patients in the study was found to be very effective in controlling the diseases. Surgery was considered only in the cases with extensive disease. Only one of our cases required modified radical mastoidectomy followed by antitubercular treatment.

Conclusion

Tuberculosis of the ENT region though not very frequent, still remains an important clinical entity, which should be kept in mind especially in developing countries. Cervical lymph node involvement remains one of the commonest manifestations.

Low standards of living, overcrowding, poor hygiene and sanitation are the main contributors for the failure of eradication of this disease.

Fine needle aspiration cytology has proved to be a very valuable investigation in the diagnosis of cervical lymph node involvement.

Antituberculous drugs form the mainstay of the treatment although some patients might need surgical intervention.

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