

Otorhinolaryngological Manifestations of Tuberculosis- A Retrospective Observational Study in a Teaching Hospital in Upper AssamM K Mili¹, Mohsina Siddique², Monikuntal Sarmah³, Shankadhvaj Borah⁴¹Associate Professor, Department of ENT, Assam Medical College²Postgraduate Trainee, Department of ENT, Assam Medical College³Registrar, Department of ENT, Assam Medical College⁴Postgraduate Trainee, Department of ENT, Assam Medical College

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Corresponding Author: Dr. Monikuntal Sarmah

Conflict of interest: Nil

Abstract:

Background: Tuberculosis is a potentially serious infectious disease affecting mankind since long time. Tuberculosis of head and neck can involve neck nodes, larynx, oral cavity, ear, pharynx and many more. In India tuberculosis is a major health problem causing millions of deaths every year. An effort was undertaken to research the Otorhinolaryngological manifestations of tuberculosis.

Material and Method: The study is a hospital based observational study of one year duration carried out in the department of ENT in a tertiary care teaching hospital in upper Assam region.

Result: Total 50 patients out of whom 18 were male and 32 were female. Most commonly affected group belongs to 10-20 years. Most common site was cervical lymph node (44) followed by Tubercular otitis media (4) then tubercular laryngitis (2). All the patients were negative for HIV. Both excision biopsy and FNAC proven cases were included in the study.

Conclusion: Tuberculosis can involve any site in head and neck region. Most common being cervical neck node presenting as neck swelling. Variable manifestations of TB require high degree of suspicion. Most patients were treated using ATT.

Keywords: Tuberculosis, cervical lymphadenitis, ENT.

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Introduction

Tuberculosis (TB) has been a threat for humanity since long ago. Despite effective treatment regimen and governmental support it still takes a huge toll by mortality and morbidity especially in high disease load countries like India. Though lung is the commonest organ affected, no part of the body is immune. [1]

Out of the numerous extra pulmonary manifestations of TB, a huge number turns up in ear, nose and throat (ENT) region in the form of cervical lymphadenopathy, otitis media, laryngitis, pharyngitis and nasal tuberculosis. [2] Tuberculosis can affect every organ in the body except nail, hair and teeth. [3] TB is caused by the bacillus *Mycobacterium tuberculosis* that typically affects the lungs (pulmonary TB) but can also affect other sites (extrapulmonary TB).

About a quarter of the world's population is infected with *M. tuberculosis*. It is estimated that extrapulmonary TB constitute 15-20% of TB cases among HIV negative adults in India. TB of head and neck region comprises 10% of all cases of

extrapulmonary TB, mainly in the form of cervical lymphadenopathy, tubercular laryngitis pharyngitis, nasal TB. [4,5] The varied presentation and vague symptoms of extra pulmonary TB make diagnosis and treatment monitoring difficult. It may often mimic malignancy and misdiagnosed which leads to an unnecessary delay in diagnosis. [3]

Aim and Objectives:

The aim of the current study is to evaluate the numerous Otorhinolaryngological extrapulmonary TB symptoms that affect the ear, nose, throat, head, and neck region in patients attending department of ENT in a tertiary care teaching hospital in upper Assam region.

Materials and Methods:

It is a hospital based observational study. The study group comprised of 50 patients attending the outpatient department of ENT, ASSAM MEDICAL COLLEGE with various signs and symptoms. The study was conducted from February 2022 to January 2023. All cases of extra pulmonary

tuberculosis in the ear, nose, and throat region attending ENT OPD and willing to participate in the study were included.

All age group patients were included. A thorough ENT history was taken from each patient to assess the involvement of ear, nose, and throat. Details regarding demographic data were properly taken. Particular attention was paid to symptoms such as prolonged ear discharge, haemoptysis, voice changes, chronic coughs, persistent neck swellings, fever, and weight loss.

Also contact history, family history, and history were properly obtained. In all patients ear, nose and throat examination done along with general and systemic examination. Chest X-ray (PA view) was done in all patients. Endoscopic examination like otoendoscopy, diagnostic nasal endoscopy and video- laryngoscopy were done where there is indication. All suspicious neck swellings underwent ultrasound neck and fine needle aspiration cytology (FNAC).

Sputum culture and sensitivity, AFB staining, pus from discharged sinuses, laryngeal secretions, and ear discharge were also investigated. Mantoux test is done in all cases. Investigations also include sputum for AFB, culture, and sensitivity, also AFB

staining of pus from discharging sinuses, abscess, laryngeal secretions, and ear discharge. Cytological abnormalities such as caseation necrosis or Acid-fast Bacilli (AFB) were regarded as favourable results in the FNAC for the diagnosis of tuberculosis.

Results:

A total of 50 patients were diagnosed with Otorhinolaryngological TB in our hospital during the period of review. These included patients with tubercular cervical lymphadenopathy, laryngeal tuberculosis, and tubercular otitis media. 18 of the patients were male and 32 were female.

Majority of patients, 44 (88%) had cervical lymphadenopathy. Out of 31 patients (70.4%) presented with neck swelling and 13 patients (29.5%) presented with neck ulceration along with swelling. TB otitis media was diagnosed in 4 cases (8 %) with symptoms of refractory otorrhoea and hearing loss. One patient with otitis media had mastoid abscess. Laryngeal tuberculosis was diagnosed in 2 patients (4 %) with symptoms of pain while swallowing. Nasal tuberculosis was diagnosed in 1 case (2.5%), presented with epistaxis.



Figure 1: Tubercular cervical lymphadenopathy

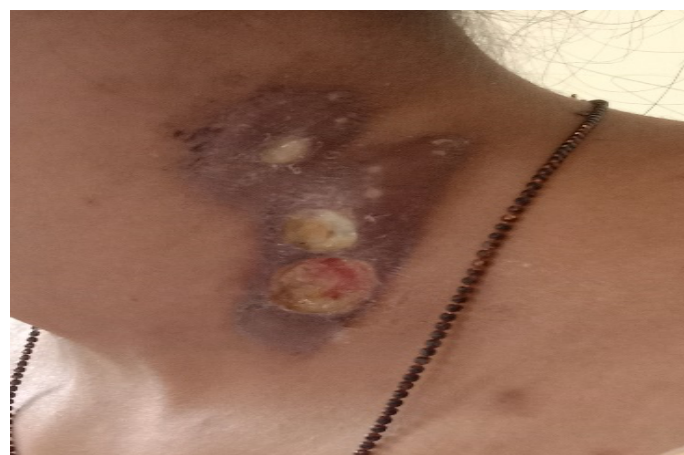


Figure 2: Tubercular neck swelling with ulceration



Figure 3: Lymphadenitis with sinus formation

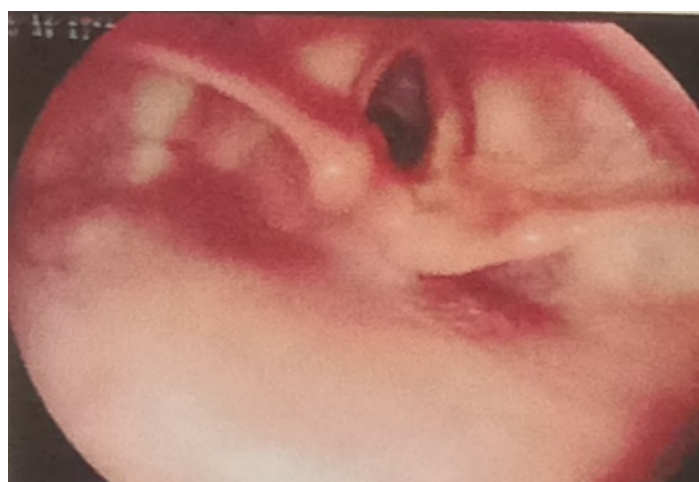


Figure 4: tubercular laryngitis causing left vocal cord palsy

Table 1: Age Distribution of Study Group

Age (years)	n(value)	percentage
0 - 10	4	8%
10 - 20	27	54%
20 - 30	12	24%
30 - 40	5	10%
40 – 50	2	4%
>50	0	0%

Table 2: Sex Distribution of Study Group

Sex	N (Value)	Percentage
Male	18	36%
Female	32	64%

Table 3: Nature of Manifestation

Diagnosis	No	Percentage
Tubercular cervical lymphadenitis.	44	88%
Tubercular otitis media.	4	8%
Tubercular laryngitis.	2	4%
Nasal tuberculosis.	0	0%

Incidence of Tubercular Manifestations in ENT

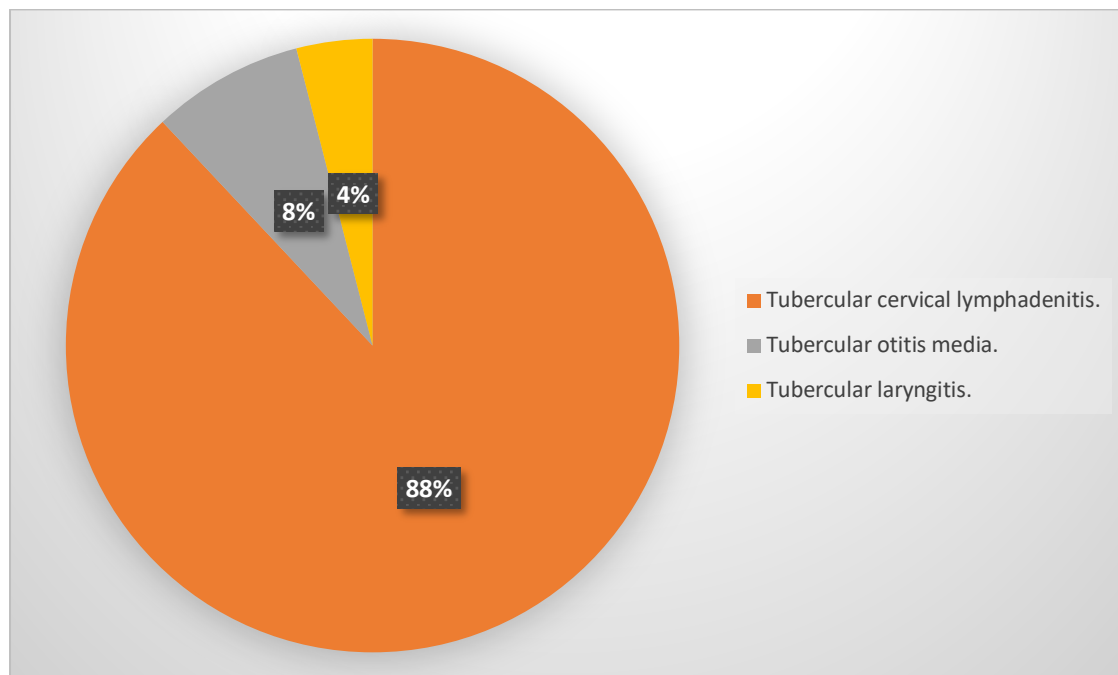


Figure 5:

Discussion

TB is a global and leading infectious cause of death worldwide. TB is still a rampant disease in India with extrapulmonary forms of disease on the rise. A higher index of clinical suspicion is essential to diagnose extra pulmonary tuberculosis due to its lack of characteristic symptoms which often leads to misdiagnosis. [6] The present study showed a higher incidence of female (64%) than male (36%). This corresponds to various studies where there is higher incidence of female.

This is similar to a study conducted by Soumyajit Das et al where female preponderance is seen. (60.3% females, 39.7% males). [3] Agarwal et al., also found a higher preponderance of females in his study (42% males vs 58% females). [9] the most commonly affected group in the study was 10-20 years age comprising of 54% (27 cases). This was similar to the studies done by Arora et al and Soumyajit Das et al where most affected age group was from 15-24 years age which constituted 38% of the total cases. [10,3]

The most common form of extrapulmonary TB affecting head and neck region is tubercular cervical lymphadenitis affecting 44(88%) of all cases. It is similar to a study conducted by Sarfraz et al where cervical lymphadenitis is the commonest manifestation constituting 55% of all TB cases. [6] In neck, the most commonly affected nodes found in the study were level V, level III followed by supraclavicular neck nodes. Baskota et al in their study found that level V node was most commonly involved while Jha et al found upper

deep jugular nodes to be most commonly affected. [7,8] All patients with suspected neck swelling were advised FNAC and were started on antitubercular therapy after diagnosis.

The second most common manifestation was tubercular otitis media and mastoid abscess, 4 cases were detected (8%). This is similar to a study conducted by Akkara et al where TBOM constitutes 2nd most common manifestation.[1] But Soumyajit Das et al found laryngeal tuberculosis to be the 2nd most common manifestation.[3] Tubercular laryngitis comprised of 2 cases (4%) constituting 3rd most common manifestation.

Conclusion

Tubercular cervical lymphadenopathy is common. Due to the rarity of involvement, the diagnosis of tuberculosis in other locations, such as the larynx, middle ear cleft, thyroid, and pharynx, can occasionally be difficult and delayed. The clinical signs and symptoms of tuberculosis in the head and neck might vary and are frequently misleading. It is crucial that the physician is aware of the illness and takes it into account when making a diagnosis. The need of the hour is for precise and targeted diagnostic techniques that can identify the disease early. This is especially true in nations like India where tuberculosis prevalence is high and HIV coinfection is on the rise.

Contribution of authors:

1. All authors have contributed.

2. The article is original with the authors and does not infringe any copyright or violate any other right of any third party.
3. The article has not been published (whole or in part) elsewhere in any form, except as provided herein.
4. All authors have reviewed the final version of the above manuscript and approved it for publication.

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