

## Otorhinolaryngological Manifestations of Tuberculosis

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### ABSTRACT

**Objective:** Tuberculosis, one of the oldest disease in man, is even today, a leading cause of human suffering and loss of life. TB has the potential to infect any organ in the body due to lympho-haematogenous dissemination. Therefore, this study was conducted to know the manifestations of the disease in various regions of Otolaryngology.

**Methodology:** The study was conducted in the ENT department, Khyber Teaching Hospital, Peshawar. Duration of study was two years from January, 2005 to December, 2006.

**Results:** A total of 100 patients presented with primary head and neck TB during the study period. Most of these (97%) had tubercles cervical lymphadenopathy. Age ranged from 8 to 55 years. The mean age was 31.5 years. Thirty six were male and 64 were female. Sixty five patients were diagnosed by FNAC examination and 32 required biopsy and histopathological confirmation. One patient each of laryngeal TB, cervical spine TB and retropharyngeal abscess (TB) were diagnosed by MRI.

**Conclusion:** TB is a challenging disease, its diagnosis requires a high index of suspicion. FNAC is a reliable and easy way to diagnose, however, gold standard is biopsy for histopathology.

**KEY WORDS:** T.B of Head & Neck, Cervical lymphadenopathy.

Pak J Med Sci July - September 2011 Vol. 27 No. 4 855-857

### How to cite this article:

Hafeez M, Inayatullah, Ahmad I, Zakirullah. Otorhinolaryngological Manifestations of Tuberculosis. Pak J Med Sci 2011;27(4):855-857

### INTRODUCTION

Tuberculosis is one of the oldest disease in men, is even today, a leading cause of human suffering and loss of life. Approximately 9 million people developed TB worldwide in 2002, and 2 million of them died of their disease.<sup>1</sup> TB is known to affect almost every organ in the body due to lympho-

haematogenous dissemination, and it should be a concern of each and every medical practitioner.<sup>2</sup> However, many otolaryngologists have a limited experience of TB of head & neck. The aim of this study was to know different manifestations of the disease in various regions of otolaryngology.<sup>3,4</sup>

### METHODOLOGY

This was a retrospective study over a period of two years from January, 2005 to December, 2006 at Khyber Teaching Hospital, Peshawar, of patients who primarily presented to us with TB of head and neck.

A total of 100 patients were included in the study. Patient who presented with otolaryngological manifestation secondary to established TB elsewhere were excluded. Patients included in the study were in the age group of 8 to 55 years. The mean age was 31.5 years.

Detailed history and meticulous clinical examination was done. Most cases of the TB cervical

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\* Received For Publication: October 22, 2010

\* Accepted: July 19, 2011

lymphadenopathy were diagnosed by FNAC while few required confirmation by biopsy. Laryngeal T.B was diagnosed by biopsy. Retropharyngeal abscess and cervical spine T.B was diagnosed by MRI.

## RESULTS

Data analysis of patients with head and Neck T.B is shown in Table I and II. A total of 100 patients presented with primary head and neck TB during the study period. Most of these (97%) had tubercles cervical lymphadenopathy. Age ranged from 8 to 55 years. The mean age was 31.5 years. 36 were male and 64 were female. There was no significant difference in the side of neck involvement, but the posterior triangle was commonest site involved. Ninety five patients presented with discrete single, multiple or matted lymph node of small to moderate size and not more than 3cm in diameter. Two patients presented with very large lymph node more than 6cm in diameter. Sixty five patients were diagnosed by FNAC examination and 32 required biopsy and histopathological confirmation. Three patients one each of laryngeal TB, cervical spine TB and retropharyngeal abscess (TB) were diagnosed by MRI.

All patients were treated with 2 (HR) ZE / 4 (HR) regimen, that is isoniazid and rifampicin, and pyrazinamide and ethambutal in the first phase for two months. The drug treatment was daily. Isoniazid and rifampicin were given as fixed dose combinations. pyrazinamide and ethambutal were given as separate formulation. After the initial phase, only isoniazid rifampicin was continued on daily basis for 7 months as fixed drug combination.

Two patients did not complete therapy and were lost to follow up. The others responded to therapy. However, one patient had a residual lymph node at the end of treatment that was excised and did not

showed evidence of T.B. One lady developed neck abscess while on therapy. This was aspirated repeatedly and she subsequently recovered. Three patients had recurrence of disease later in spite of complete treatment. In these patients, at least culture and drug sensitivity should always be done. This will help to tackle the problem of multidrug resistance TB to a certain extent. In some cases use of steroids may be considered.

## DISCUSSION

Although T.B is more common in males, in this study female – male ratio was 1.8:1. Various recent studies have also reported a higher incidence in females. Lymphadenitis is the commonest extra-pulmonary manifestation of T.B occurring in more than 25% of all cases of TB, and of these the cervical lymphnodes are most often involved.<sup>5</sup>

Cervical lymphadenitis is also the commonest head and neck presentation of TB followed by laryngeal TB. In the neck posterior triangle nodes (66%) are commonly involved. In our study most patients present with an isolated discrete or a collection of matted lymphnodes.<sup>6,7</sup>

About 10% are reported to present with fluctuant mass and 5% are reported to present with a discharging sinus. 70% of our patients could be diagnosed on FNAC examination. FNAC was done by a single standard lab and a diagnostic criteria was made. FNAC results were considered positive for TB showing chronic inflammatory cells especially epithelioid cell and histocytes forming small granulomas. Also giant cells along with necrotic background were suggestive of TB. Most studies have found that FNAC has a high diagnostic yield of more than 80%. Because of its simplicity and diagnostic accuracy it should be first line of investigation, however in this study 35% cases required excision biopsy due to

Table-I: Data analysis of patient with head and neck TB.

Site	No of patients
Cervical lymph node	97
Larynx	1
Cervical spine	1
Retropharyngeal abscess	1
Sex	
Male	36
Female	64

Table-II: Data analysis of patients with TB LNS (M=97).

Sex	No of patients
Female	63
Male	34
Presentation	
Neck mass	97
Site	
Posterior triangle	66
Anterior triangle	31

negative FNAC because of inadequate aspirate or hemorrhagic or hypocellular aspirate. A negative FNAC should be followed by excision biopsy. Tuberculosis of cervical lymph node is a medical disease. Surgical intervention is considered only when excision is needed for biopsy purpose or when a node remain enlarged after antimicrobial therapy.<sup>8</sup>

Laryngeal TB was initially believed to characteristically involve the posterior larynx because of the patients; recumbent position, but TB lesions have been reported throughout the laryngeal frame work. The anterior half is twice as often affected as the posterior half. Incidence is less than 1% of all cases. Vocal folds are the commonest site to be affected and hoarseness is the commonest symptom. Other symptoms include dysphagia, odynophagia, referred otalgia, cough and strider. Diagnosis is made by sputum microscopy and biopsy.<sup>9</sup>

Spinal Tuberculosis is rare and commonest vertebra to be affected by mycobacterium tuberculosis in adults is the 10<sup>th</sup> thoracic vertebra and the cervical spine is affected in less than a fifth of cases of pott's disease of the spine. Pain is the commonest symptom resulting in stiffness. Abscess formation is initially contained in the prevertebral fascia. MRI provides the positive diagnosis and exact extent, and is also invaluable in post therapeutic course.

Tuberculous retropharyngeal abscess may be due to involvement of the retropharyngeal lymph nodes, secondary to pott's disease of the cervical spine. The former is accompanied by cervical lymphadenopathy in about 70% of cases. Only 30% patients have systemic upset and low grade fever, and malaise is uncommon. Most cases present with sore throat and odynophagia. Treatment involves aspiration, usually through the intra oral route and appropriate chemotherapy.<sup>10</sup>

Considering the high percentage of patients having associated other organ TB at the time of presentation, evidence of systemic TB should always be excluded at the time of diagnosis. This will result in better control and fewer complications. Nine percent of the patients had a history of previous TB infection

or developed infection again later on. In these patients culture and sensitivity should always be done. This will help to tackle the problem of multi drug resistance TB to a certain extent.

## CONCLUSION

TB is a challenging disease, its diagnosis requires a high index of suspicion. TB of cervical lymph nodes is the commonest presentation of head and neck TB followed by laryngeal TB and cervical spine TB. FNAC is a reliable and easy way to diagnose tuberculous cervical lymph nodes, excision biopsy is indicated when FNAC is non conclusive. However the gold standard is biopsy for histopathology.

## ACKNOWLEDGMENT

Special thanks to Mr. Gohar Said of Composing Center, Peshawar for his help in typing and giving a final shape to this manuscript.

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