

Tonsillar Tuberculosis: Keep it as a diagnostic possibility

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ABSTRACT

Isolated tuberculosis of tonsil in the absence of active pulmonary tuberculosis is a very rare clinical entity, it is frequently simulates the tonsillar malignancy and secondary form is more common. 8 years old male student from Baghdad with recurrent attacks of tonsillitis. Presented with 3 months history of tonsillar enlargement, associated with cough, fever and sweating, he was diagnosed as a case of suppurative tonsillitis, that was not improved with antibiotics, tonsillectomy was done for him. Histopathological finding was chronic specific TB granulomatous tonsillitis with characteristic multiple variable sizes of caseating and non caseating granulomatous tissue reaction and acid fast bacilli (AFB) stain was positive for TB bacilli. Antitubercular chemotherapy was prescribed for a complete course of 6 months duration with a full improvement in the general condition of the patient. Tuberculosis is still a possible cause of tonsillitis and the patient should be treated with full course of anti TB medication even after tonsillectomy.

Key words: tuberculosis, tonsil, AFB

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INTRODUCTION

Tuberculosis (TB) is the single leading infectious cause of mortality. That 10.4 million persons developed tuberculosis (TB) worldwide in 2016,¹ Extra-pulmonary tuberculosis (EP-TB) is seen in only 10–15% of all tuberculosis cases, among which lymph nodes are most common site, followed by pleura.² Primary tuberculosis of the oral cavity and oropharynx is quite uncommon. Isolated tuberculosis of tonsil in the absence of active pulmonary tuberculosis is a very rare clinical entity,^{3,4} TB of tonsil may be seen in up to 2% of patients with pulmonary tuberculosis.⁵

Tuberculosis of tonsils is frequently simulates the tonsillar malignancy. Secondary form is more common than primary one, and in present day, contact with the infected sputum or saliva in a case of sputum smear positive pulmonary tuberculosis is the main source of the

disease.⁶

CASE PRESENTATION

An eight-year old male student from urban area in Baghdad, presented with 3 months history of tonsillar enlargement, associated with cough, fever and sweating mainly at night for which he consulted a doctor who diagnose him as suppurative tonsillitis. He was prescribed antibiotics without any significant improvement; a decision was made to do tonsillectomy for him, on the bases of having recurrent attacks of tonsillitis since 3 years.

The patient has no relevant family history, no other medical or surgical history, he completed his vaccination schedule in his early years, and he has no history of contact with patients known to have tuberculosis.

Chest X ray report showed no abnormal find-

ing (Figure 1). Complete blood film show elevated erythrocyte sedimentation rate (ESR) and elevated white blood cells (WBC) count with lymphocytosis.

Bilateral adenotonsillectomy was done to the patient. The biopsy specimens were sent for histopathological and microbiological examination.

The gross pathological findings were bilateral tonsillectomy biopsy specimens each around 2.9 centimetre. Dense fibrotic unhealthy cut section. Post nasal space mass measure 4.4 centimetre with fleshy inhomogeneous and unhealthy cut section. Histopathologically, the picture is that of chronic specific TB granulomatous tonsillitis and of post nasal space adenoid morphological changes with characteristic multiple variable sizes of caseating and non-caseating granulomatous tissue reaction with plenty of giant cells included langhans one on a background of chronic inflammatory processes changes with distended crypt filled with keratin, mixed chronic inflammatory mature lymphocytes, and foamy histiocytic cells with rare scattered cholesterol crystal. Acid fast bacillus (AFB) stain was positive for TB bacilli. No evidence of malignancy was seen. Immunohistochemical study showed polyclonal positive for both kappa and lambda Ig light chain (a reactive change of lymphoid cell background).

The patient was diagnosed as a tonsillar TB. Antitubercular chemotherapy was prescribed for a complete course of 6 months duration started as 2 months initial phase with 2 tablets of combined fixed dose 4 drugs formula; Isoniazid 75 mg, Rifampicin 150 mg, Pyrazinamide 400 mg, and ethambutol 275mg. Then followed by 4 months continuation phase with 2 tablets of combined fixed dose 2 drugs formula; Isoniazid 75 mg and Rifampicin 150 mg. The doses were calculated according to the patient's body weight. The duration of the treatment went uneventful without adverse events and the patient was doing well and showed a full improvement in his general condition.

DISCUSSION

In clinical practice isolated involvement of the tonsils with tuberculosis is not commonly seen.³ Tuberculosis of the oral cavity may be either primary or secondary.^{3,5}



Figure 1: PA view chest X ray shows normal lung fields and mediastinum

In the prepasteurization era, incidence of tonsillar tuberculosis is relatively high due to infection with *Mycobacterium bovis* through the ingestion of unpasteurized milk of cow.⁷

Tuberculosis of the tonsils can result from infection by contact with material containing tubercle bacilli. Tonsillar TB commonly presents with sore throat and cervical lymphadenopathy.⁸ Our patient was presented with only tonsillar enlargement without cervical lymphadenopathy.

Tonsil is made up of lymphoid tissue and is situated at a site which is frequently drenched with infected sputum. In spite of that tuberculous infection of the tonsils is a rarity because of the antiseptic and cleansing action of saliva, inherent resistance of tonsil to tuberculous infection, presence of saprophytes in the oral cavity making colonization difficult, and the thick protective stratified squamous epithelial covering over tonsil.⁹

Although tuberculosis of tonsil is now an uncommon finding, tonsillar granulomata are commonly seen in patients with poor host reaction due to alcoholism, HIV infection, and so forth. Predisposing factors for primary oral tuberculosis include poor dental hygiene, dental extraction, periodontitis, and leucoplakia. It has been postulated that such infections are acquired by inhalation, with harbouring of disease in Waldeyer's ring.¹⁰ Also these are not a finding in our patient

Differential diagnosis of oral and pharyngeal tuberculosis includes traumatic ulcers, aphthous ulcers, haematological disorders, actinomycosis, syphilis, midline granuloma, Wegner's disease, and malignancy.¹⁰

Usually patients with tonsillar TB are presented with a history of sore throat and progressive dysphagia. With no history of any serious illness, chronic cough, or other chest symptoms. Without any relief in spite of taking various courses of antibiotics, for sore throat,¹¹ while our patient presented with 3 months history of tonsillar enlargement, associated with cough, fever and sweating mainly at night.

Our patient was a known case of recurrent attacks of tonsillitis. This was similar finding to Anirban et al⁶ and histopathological examination of the tissue is must for the diagnosis of tonsillar TB.⁶

Irwin Moore classifies tonsillar TB into primary tuberculosis of tonsil, where lungs are not involved, and secondary tuberculosis of tonsil, where sputum smear positive pulmonary TB is documented.¹² Accordingly our case is a secondary tuberculosis of tonsil.

According to Çelik et al, Histopathology, Ziehl Neelsen staining and mycobacterial culture, if possible should be done with the tissue obtained by punch biopsy of the diseased tonsil or after tonsillectomy.¹³ Same was applied to our case and we reached the final diagnosis , because there is no age or sex predilection in cases of tonsillar TB and the clinical presentations are tonsillar enlargement , productive cough, with or without constitutional symptoms and signs of TB.¹⁴

CONCLUSION

Tuberculosis is still a possible cause of tonsillitis, the patient should be treated with full course of anti TB medication even after tonsillectomy, and we should take care in practice when we would like to examine a patient with tonsillitis that it is important to use proper in-

fection control measure such as using N95 respirator by the examiner to reduce the likelihood of infectious that could occur from TB

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Abbreviation list: Acid fast bacillus (AFB), Erythrocyte sedimentation rate (ESR), Extra-pulmonary tuberculosis (EP-TB), Human immunodeficiency (HIV), Milligram (mg), Tuberculosis (TB), White blood cells (WBC)

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