

Tonsillar Tuberculosis: A Forgotten Clinical Entity

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ABSTRACT

Tuberculosis of tonsils is an extremely rare variety of extra-pulmonary tuberculosis which frequently simulates the tonsillar malignancy, especially in elderly individuals. 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. Chronic or recurrent tonsillitis with enlarged tonsils and sore throat is the main clinical presentation. As it is very difficult to differentiate it from tonsillar malignancy on clinical ground, histopathological examination of the tissue is must for the diagnosis of tonsillar TB. Antitubercular therapy is adequate for its successful resolution. Here, we report a primary form of tonsillar tuberculosis in a 76-year-old male, in whom, no pulmonary tuberculosis was documented.

Keywords: Antitubercular therapy, tonsillar TB, tissue diagnosis

Introduction

Extra-pulmonary tuberculosis (EP-TB) is seen in only 10–15% of all tuberculosis (TB) cases, among which lymph nodes are most common site, followed by pleura.^[1] Tuberculosis of oral cavity and upper airway is rarely seen, and tuberculous affection of palatine tonsils is extremely uncommon clinical entity. In the prepasteurization era, incidence of tonsillar tuberculosis is relatively high due to *Mycobacterium bovis* infection through the ingestion of unpasteurized milk of cow.^[2] But after invent of highly effective antitubercular drugs (ATDs) and pasteurization, incidence of tonsillar TB is reduced to zero, but now-a-days its incidence is again increasing due to emergence of human immunodeficiency virus (HIV) infection and drug resistance. On the other hand, secondary form of tonsillar TB is more common than primary form. Here, we report a rare case of primary tonsillar TB in an elderly male to increase the awareness of the fact that tonsillar TB still exists, among the present generation clinicians, and also to revisit the earlier literature.

Case Report

A 76-year-old nondiabetic, nonsmoker male patient presented with recurrent sore throat, progressive difficulty in deglutition, odynophagia, and loss appetite for 3 months. There were no

history of cough, esophageal reflux or retrosternal burning sensation, post-nasal drip, fever, and fatigue. There was no history of household contact with the patient of sputum smear positive pulmonary tuberculosis. General examination revealed only anemia and bilateral cervical lymphadenopathy. Jugulo-digastric lymph nodes and lymph nodes of posterior triangle were enlarged which were multiple in number, matted, nontender, firm, and fixed to underlying structure. Overlying skin was free and normal. Approximate size of the lymph nodes was 2 × 2.5 cm, and surface of the lymph nodes were smooth, but margins were not distinct. His temperature was 37.4°C, respiratory rate, 18 breaths/minute, pulse rate, 96 beats/minute, and blood pressure, 140/84 mmHg. Systemic examination revealed no abnormality. Examination of oral cavity showed bilateral proliferative enlargement of both tonsils associated with erythema and edema of surrounding pharyngeal wall. Enlarged tonsils were covered yellowish-white plaque, but there was no ulceration or bleeding spots. Crypts were filled up with pus. Complete haemogram and blood biochemistry were normal except hemoglobin, 8.5 g/dL, and erythrocyte sedimentation rate after first hour, 56 mm. Sputum for acid fast bacilli and Gram stain were negative and pyogenic culture of sputum showed no growth. Chest X-ray was normal. Gram stain and pyogenic culture of throat swabs were negative. Tablet Co-amoxiclav – 625 mg three times daily was given, but no improvement was documented. Fine needle aspiration cytology of enlarged cervical lymph nodes showed epithelioid granulomas with Langhans' giant cells, lymphocytes and areas of necrosis,

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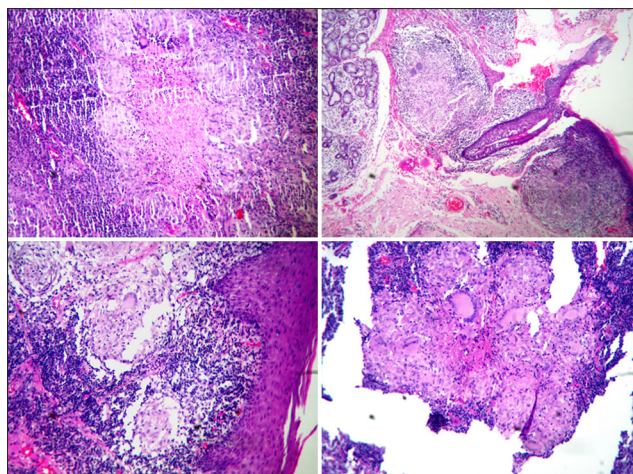


Figure 1: Microphotograph of histopathology of resected specimen of tonsils showing lymphoid follicles with germinal centres, epithelioid granulomas with Langhans' and foreign body giant cells, and areas of necrosis. (H and E stain, $\times 10$)

but no acid fast bacilli (AFB) was seen on Ziehl Neelsen staining. As advised by otolaryngology department of our institution, bilateral tonsillectomy was done, and histopathological examination of the resected specimen showed lymphoid follicles with germinal centres, epithelioid granulomas with Langhans' and foreign body giant cells and areas of caseous necrosis – suggestive of chronic granulomatous inflammation due to tuberculosis [Figure 1]. No AFB was seen on Ziehl Neelsen staining. Hence, final diagnosis was tuberculosis of both tonsils, and as there was no past history of antitubercular therapy (ATT), a combination of rifampicin, isoniazid, pyrazinamide, and ethambutol was advised for 2 months, followed by four months of rifampicin and isoniazid. On follow up, there was complete resolution of the lesions of oral cavity and associated cervical lymphadenopathy.

Discussion

Tuberculosis of the tonsils is caused either by infection with *Mycobacterium bovis* due to ingestion of unpasteurized cow's milk (primary form), or it may be due to contact with infected sputum expectorated from tuberculous cavity of lungs. It may occur due to hematogenous spread or inhalation of tubercle bacilli which harbour in the Waldeyer's ring. In present day, the secondary form is mainly found, as pasteurization of milk almost eliminate the primary TB of tonsils.^[3] On this basis, 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.^[4]

Although palatine tonsils are located so critically that they are almost always exposed to infected sputum or saliva, especially in cases of sputum smear positive pulmonary TB, but incidence of tonsillar TB is still very low, because of following reasons:^[4]

- The antiseptic action of saliva
- Colonization of tubercle bacilli is difficult in presence of saprophytes of oral cavity

- Thick stratified squamous epithelium of the tonsils provides resistance to colonization of tubercle bacilli
- Inherent resistance of the tonsils to tuberculosis.

Predisposing factors for the tonsillar TB are poor dental hygiene, recent tooth extraction, periodontitis, and leukoplakia. There is no age or sex predilection in cases of tonsillar TB. Clinical presentations are tonsillar enlargement (mass), painful ulceration, white patches, cervical lymphadenopathy, productive cough, sore throat, dysphagia, odynophagia, with or without constitutional symptoms and signs of TB.^[4-6] Sore throat is the most common presentation.^[5] Few features are suggestive of tonsillar TB – asymmetric enlargement of tonsil, tonsillar enlargement without exudate, obliteration of crypts, painful deglutition, and the presence of enlarged mobile jugulo-digastric lymph nodes.^[4] But, its presentation frequently simulates tonsillar malignancies which are more common in elderly patient, and it is very difficult to differentiate them only on clinical ground, though high index of clinical suspicion is necessary for the diagnosis of tonsillar TB. In fact, in our case bilateral tonsillectomy was done followed by histopathological examination in suspicion of malignancy in 76-year-old male presenting with recurrent sore throat and progressive, proliferative enlargement of the both tonsils. Hence, tissue diagnosis is mandatory for tonsillar TB. Besides that, other atypical feature of our case was the absence of pulmonary involvement. In the era of pasteurization of milk, such form of primary tonsillar TB may be due to inhalation of tubercle bacilli which harbour in the Waldeyer's ring and subsequently produce active TB in the tonsils, despite of their inherent resistance to tubercle bacilli.

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.^[7] Epithelioid granulomas with caseous necrosis, Langhans' and foreign body giant cells with or without acid fast bacilli are typical features of tonsillar TB from pathological point of view. Chest X-ray and sputum smear for acid fast bacilli should be done to exclude pulmonary involvement. HIV status should be screened as tonsillar TB is more commonly seen in patients with poor cell mediated immunity due to alcoholism, HIV infection etc.^[8]

Differential diagnosis of tonsillar TB includes malignancy, traumatic ulcer, aphthous ulcer, lympho-reticular malignancies, actinomycosis, midline granuloma, Wegner's granulomatosis, Plaut-Vincent's tonsillitis etc.^[3,9,10]

Tonsillar TB can successfully be treated with two months of rifampicin, isoniazid, pyrazinamide, and ethambutol, followed by four months of rifampicin and isoniazid without any sequelae.^[3]

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