A rare site for Primary Tuberculosis - Tonsils

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INTRODUCTION

Tuberculosis in humans is caused by Mycobacterium Tuberculosis and Mycobacterium Bovis. Tuberculosis has variable clinical presentation which often leads to misdiagnosis. Incidence of Primary Tuberculosis in lung is as high as 98%, but incidence of tuberculosis in tonsil is less than 5%. Moreover Tuberculosis in tonsil without any evidence of Pulmonary Tuberculosis is still rarer. Extrapulmonary tuberculosis represents 25% of tubercular morbidity with the most common site being lymph nodes. Thus it is diagnostic challenge for an Otorhinolaryngologist. We report a case of Primary Tuberculosis of tonsil in a healthy female which was clinically mimicking chronic tonsillitis.

CASE REPORT

A Seventeen year old female presented with recurrent episodes of upper respiratory tract infections since six months. Patient also had complaints of occasional fever and difficulty in swallowing. No history of Tuberculosis or HIV or Diabetes Mellitus or Hypertension. Family history revealed Tuberculosis to her brother ten years back, who had completed the treatment and has no evidence of recurrence.

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Physical examination revealed that patient was of moderate built without any lymphadenopathy. Oral examination showed bilateral enlargement of the tonsils. Posterior pharyngeal wall was clear. Routine investigations were within normal limits except Erythrocyte sedimentation rate (ESR) which was 60 mm/ 1st hour (Normal = upto 20 mm/1st hour). Chest radiography was normal and patient was HIV seronegative. Bilateral tonsils were removed and sent for histopathological examination. Histopathology revealed tonsils displaying normal epithelium with deeper tissue showing many epithelioid cell granulomas, Langhan’s giant cells, caseous necrosis and mononuclear cells surrounded by fibrosis.[Figure 1][Figure 2] Ziehl Nelson staining for Acid Fast Bacilli was negative. Patient was then started with anti-tuberculous drugs. Patient is being followed up for six months and showed evidence of improvement.

DISCUSSION

Diagnosis of Tuberculosis requires high degree of suspicion. This is an era of advanced medical sciences where complete treatment of tuberculosis is possible. Thus losing the patient with tuberculosis due to delay in the diagnosis is not at all justifiable. Tuberculosis of oral cavity is uncommon while that occurring in tonsils is extremely rare. Vayisoglu et al studied forty eight cases of Tuberculosis of head and neck between January 2000 to June 2009 and found only two cases of primary Tonsillar Tuberculosis.
Primary Tuberculosis – Tonsils

Figure 1: H & E stained section 10x showing multiple epithelioid cell granulomas (Black Arrows) and zone of lymphocytes

Figure 2: H & E stained section 10x showing multiple Langhan’s Giant cells (Black Arrows), caseous necrosis and zone of lymphocytes

Shrock et al similarly did a retrospective study on head and neck Tuberculosis and concluded that tonsillar tuberculosis is rare and rarely manifest with organ specific symptoms. Tongue and Palate are the common sites whereas Tuberculosis of Tonsil is very rare with the reported incidence of less than 5%. Risk factors include patient with weak immune system due to diseases like Diabetes Mellitus and HIV. People with Diabetes Mellitus have two to three times more risk when compared to people without Diabetes mellitus. In our case patient was seventeen year old young HIV seronegative and non diabetic. Other predisposing factors include poor dental hygiene, dental extraction, leukoplakia and periodontitis. No such predisposing factors were present in our case. However, history of tuberculosis in close family contact with brother is seen in this case. But further detailed interrogation revealed that he had sputum positive pulmonary tuberculosis ten years back and had completed full course of therapy. Tuberculosis of tonsil can result from infection by contact with tuberculous material. Miller in 1963 concluded that pasteurization of milk decreased the incidence of intestinal tuberculosis.

Tonsil is made up of rich lymphoid tissue and is situated at a site where infected sputum is always drenched. But still Tuberculosis of tonsil is reportedly very rare because of following
possible reasons: (A) Antiseptic and cleansing action of Saliva. (B) Presence of Saprophytes in the oral cavity. (C) Inherent resistance to the Tuberculous infection. (D) Presence of thick and protective squamous epithelial covering. It is also postulated that the infection is acquired by inhalation and harbouring of bacilli in the Waldeyer ring. Most common clinical presentations include sore throat, painful deglutition and cervical lymphadenopathy. In our case patient presented with recurrent upper respiratory tract infection with sore throat but there was no evidence of ulcerations or cervical lymphadenopathy.1

Arbol pointers are used to hint towards the diagnosis of Tonsillar Tuberculosis. These pointers are as follows: (A) Unexplained granular or asymmetric enlargement of tonsil. (B) Tonsillar enlargement without exudates. (C) Painful deglutition (D) Presence of enlarged Jugulodigastric lymph nodes. (E) Obliteration of crypts.1 However, all these features are non-specific and diagnosis can be missed. Our case presented with unexplained enlargement of tonsil, enlargement without exudates and painful deglutition and therefore clinically could not be suspected as tuberculosis. Chakravarti et al reported a case of concomitant tuberculous lesions in the palatine tonsil and posterior oropharyngeal wall. Tuberculosis of oral cavity can be either primary or secondary with tongue and palate being common sites. Tonsillar granulomata can be seen in patients with poor immunity due to chronic alcoholism, HIV etc. and tuberculosis of tonsils might be suspected if both tonsils are enlarged unequally associated with cervical lymphadenopathy.2

Final diagnosis is based on histopathological findings. Ziehl Nelson staining for Acid fast bacilli further helps in the diagnosis.1 However, bacilli may be negative on AFB stain or culture as in our case. Differential diagnosis of oral pharyngeal tuberculosis includes the following: Syphilis, Actinomycosis, midline granulomas, Wegener’s disease, carcinoma, Aphthous ulcers or traumatic ulcers.3 In this case the positive history of contact and distinctive soft granulomas, consisting of central caseous necrosis with typical Langhan’s giant cells and epithelioid cells, the diagnosis of tuberculosis was straight forward.

CONCLUSION
Thus to conclude even though rare, a long standing history of sore throat, with history of tuberculosis in close contact should alert the clinician of the possibility of tuberculosis of tonsils is one of the differential diagnosis especially in the places where incidence is high. Tonsillectomy followed by antituberculous drugs is the gold standard of treatment and gives good results.

REFERENCES