

Primary Tuberculosis of Tonsils : A Rare Case Report

Shravanthi Mantra Prithviraj, Shanthi Priya D, Deepak Raj K

Abstract

The occurrence of tuberculosis primarily affecting the tonsils, without concurrent active pulmonary tuberculosis, is an exceptionally uncommon clinical condition. A 16-year-old otherwise healthy individual presented with a persistent sore throat, dysphagia, and cervical lymphadenopathy. Initial investigations, including throat cultures and serological tests, were inconclusive. However, a detailed clinical examination and imaging revealed an uneven tonsillar enlargement. Histopathological analysis of tonsillar tissue confirmed the diagnosis of primary tuberculosis. In our case, the absence of pulmonary involvement and the atypical presentation delayed the diagnosis. Timely recognition and appropriate management are crucial for preventing complications and transmission of the infection.

Key Words:

Tonsil, Tuberculosis, Anti-tubercular Therapy

Introduction

Mycobacterium tuberculosis, characterized as a nonmotile, non-spore-forming, obligate aerobe, acid-fast bacillus, can affect various organs beyond the lungs, including the lung apices, vertebrae, peritoneum, meninges, liver, spleen, lymph nodes, and the genitourinary tract.^[1] However extra-pulmonary TB secondary to pulmonary tuberculosis is not uncommon. The occurrence of tuberculosis primarily affecting the tonsils, without concurrent active pulmonary tuberculosis, is an exceptionally uncommon clinical condition.^[2] The tonsils, components of the lymphoid tissue in the oropharynx, are often associated with benign conditions such as tonsillitis or hypertrophy. This case report sheds light on the clinical intricacies of a 16-year-old female patient who presented with an atypical tonsillar mass, subsequently diagnosed as primary tuberculosis.

Case Report

A sixteen-year-old female presented with recurrent episodes of throat pain and difficulty in swallowing for

the past 6 months. The patient was asymptomatic 6 months back after which she developed complaints of recurrent throat pain, associated with difficulty in swallowing. No history of cough, cold, fever, difficulty in swallowing, evening rise of temperature, mouth breathing, change in voice, loss of weight and loss of appetite. The girl was on antibiotic treatment for which she did not respond. There was no significant past or family history.

On general physical examination, the girl was of thin built with bilateral level II cervical lymphadenopathy. On examination of the Oral cavity, Right tonsil showed grade IV enlargement, (*Fig 1*) whereas the Left tonsil showed grade II enlargement, both the tonsils with no congestion. Posterior pharyngeal wall was normal. Examination of the ear and nose were within normal limits. Examination of the Respiratory system was also normal.

Routine investigations revealed Hb – 11.6g%, TLC – 7020/mm³, and ESR – 50 mm. Liver and renal function tests were normal. Mantoux test was negative with an

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Fig 1- Oral Cavity Examination Showing Right Tonsil Showed grade IV enlargement, whereas the Left Tonsil showed grade II Elargement, both the Tonsils with no Congestion.

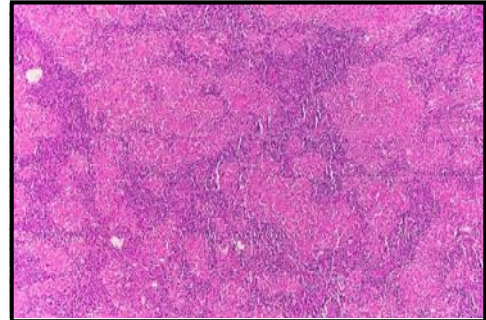


Fig. 2- Histopathological Image of Tonsil in 40 X shows Tonsillar Parenchyma with Sheets of Lymphocytes

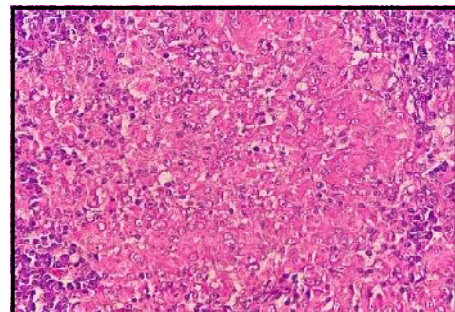
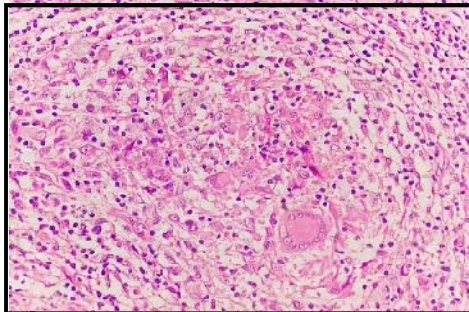


Fig 3 and Fig 4- HPE image in 100X Shows Multiple Caseating Granulomas Composed of Epithelioid Cell Collections, Langerhans type of Multinucleated Giant cell, and Necrosis Surrounded by Lymphocytes.

induration of 4 mm. X-Ray of the chest was also normal. The girl was HIV seronegative.

The patient underwent tonsillectomy, for a clinical diagnosis of chronic tonsillitis and the specimen sent for histopathology showed numerous granulomas composed of collections of epithelioid cells. Langerhans type of multinucleated giant cells and lymphocytes which are suggestive of Features of granulomatous inflammation – Probably of Tuberculous etiology. (Fig 2,3,4)

The features were consistent with a diagnosis of tuberculosis of tonsils. The patient weighed 46kg and hence she was started on ATT (FDC) with HRZE for the first 2 months, followed by HRE for the next 7 months, a total of 9 months duration. On 6 months follow-up, the patient is asymptomatic and relieved of her symptoms.

Discussion

Mycobacterium tuberculosis is spread through airborne transmission, primarily when individuals with pulmonary disease cough. Upon inhalation, infected droplet nuclei containing M. tuberculosis bacilli reach the alveoli, where

alveolar macrophages attempt to consume them. Some individuals can naturally clear the infection through their immune system, while in others, the bacterium evades macrophage degradation, replicating within them. The bacilli may be carried by macrophages to regional lymph nodes and disseminate hematogenously to other sites.^[3]

Oral tuberculosis is a rare occurrence, with tonsillar forms being particularly uncommon.^[4] The incidence of tonsillar tuberculosis has historically been low, with Wilkinson’s 1929 study estimating an incidence of around 0.5%.^[4] Abrol & Sinha’s 1965 research reported no cases of tonsillar tuberculosis.^[5,6] In the era before pasteurization, tonsillar tuberculosis was more common due to Mycobacterium bovis infection transmitted through the consumption of unpasteurized cow’s milk.^[7]

The upper respiratory tract typically exhibits resistance to tuberculosis, attributed to the inhibitory effects of saliva, including its cleansing action, the presence of saprophytes,

the antagonism of striated musculature, and the thickness of the epithelial covering of the oropharyngeal mucosa.^[8] Tuberculosis involvement in the oral cavity and oropharynx can be either primary or secondary to pulmonary tuberculosis, with primary lesions more common in younger patients and secondary lesions in older individuals.^[8] Common sites of oral tuberculosis include the tongue, palate, lips, gingiva, buccal mucosa, palatine tonsils, and the floor of the mouth.^[8,9]

Primary tonsillar tuberculosis is characterized by symptoms such as a sore throat, tonsil enlargement, and cervical lymphadenopathy.^[9] The World Health Organization (WHO) recommends culture as the gold standard for diagnosing TB disease.^[3] Differential diagnosis of oropharyngeal TB includes conditions like traumatic ulcers, aphthous ulcers, hematological disorders, actinomycosis, syphilis, midline granuloma, Wegener's disease, and malignancy.^[10,11]

Diagnosing tonsillar tuberculosis relies on histopathological findings and the identification of tubercle bacilli. Even if confirmatory TB tests are negative, typical features such as epithelioid granulomas with caseous necrosis, Langhans' and foreign body giant cells with/without acid-fast bacilli are indicative of tonsillar TB.^[9,10] Treatment involves antituberculosis therapy, and tonsillectomy is not mandatory, depending on the tonsil's condition and the illness's duration. A general guideline suggests tonsil removal under antituberculosis therapy coverage for recent infections and avoiding surgery for old calcified fibrotic tonsils.^[11]

Conclusion

Tonsillar tuberculosis could be considered if there is an uneven enlargement of the tonsils on both sides, accompanied by cervical lymph node swelling. Patients seek medical help due to sore throat and difficulty in swallowing. Early detection and intervention are essential for cure. Isolated and primary tuberculosis of the tonsils in the absence of concurrent pulmonary TB is an uncommon entity, which prompted us to report this case.

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Conflict of Interest

There are no conflict of Interest

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