



An interesting case of tonsillar tuberculosis in a 10-year-old boy

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ABSTRACT

Tuberculosis of the tonsils is a rare type of extra pulmonary tuberculosis. The secondary form is more common than the primary, usually caused by the contact with the infected sputum or saliva from a sputum smear positive case of tuberculosis. We report a primary form of tonsillar tuberculosis in 10-year-old boy, with no remote history suggestive of documented pulmonary tuberculosis. Local examination revealed Grade IV tonsillar hypertrophy and congestion of posterior pharyngeal wall. Management included, Coblation assisted adenotonsillectomy under general anaesthesia. Histopathological examination revealed features suggestive of chronic adenotonsillitis, multiple epithelioid granulomas with caseous necrosis, langhans type of giant cells with scant inflammatory infiltrate in the background.

1. Introduction

Tuberculosis of tonsils is an extremely rare variety of extra-pulmonary tuberculosis. Secondary form is more common than primary form. The reported incidence of extrapulmonary tuberculosis in 10–15% and the lymph node is the commonest site followed by the pleural.[1] Tuberculosis of oral cavity and upper airway is rarely and the incidence of tonsillar tuberculosis (TB) is less than 5%.[2] Incidence of tonsillar tuberculosis is relatively reported more during the pre-pasteurization era due to mycobacterium bovis infection through the ingestion of unpasteurized cow's milk.[3] But after invent of anti-tubercular drugs and pasteurization incidence of tonsillar TB have considerably reduced. In the recent years, due to emergence of human immunodeficiency virus infection and drug resistance the incidence of tonsillar TB has witnessed a steady increase [4].

2. Case report

A 10-year-old boy was admitted with complaints of change in voice for one week, which was insidious in onset, progressive in nature and aggravated with intake of cold food, relieved partially with medications. Also, there was complaints of throat pain on and off for 3 days, which was dull aching, aggravated with intake of cold food. There was also(1) history of snoring with mouth breathing. Past history of cough with mucoid,shortness of breath,throat pain for 4 weeks, fever-low grade and weight loss of 2 kgs.Past Medical History-No History of seizure disorder,Diabetes.Immunized till date according to world health immunization schedule, last given immunization-Tetanus toxoid .On

clinical examination, pulse rate – 90 beats per minute, Blood pressure - 110/70 mm Hg, respiratory rate – 20 cycles per minute, afebrile. No pallor, icterus, cyanosis, clubbing, lymphadenopathy or pedal oedema. The systemic examination revealed no abnormality.

Local examination revealed Grade IV tonsillar hypertrophy and congestion of posterior pharyngeal wall. (6)



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Fig. 1. Chest X-ray.

Laboratory investigation – Hemoglobin was 14.1 g/dl; Total leucocyte count was 10,400 cells/ microliters. (2) HIV-Negative, Liver function test, renal function test and serum electrolytes were within normal limits.

Chest imaging: Chest X ray showed, bilateral lung fields clear (Fig. 1); CT Thorax was within normal limit.

Management included, Coblation assisted adenotonsillectomy under general anaesthesia and tonsil tissue was sent for histopathology. Sputum for acid- fast bacillus and gene xpert were negative. Throat swab culture showed normal flora. (1) Before planning for surgery patient was started on 10 days of Co Amoxiclav and symptoms were persistent hence proceeded with surgery.

Histopathological examination revealed features suggestive of chronic adenotonsillitis, multiple epithelioid granulomas with caseous necrosis, langhans type of giant cells with scant inflammatory infiltrate in the background (Fig. 2). The usual pathological examination shows epithelioid granulomas with caseous necrosis, langhans and foreign body giant cell with or without acid fast bacilli are typical features of tonsillar TB. Lymphoid follicles with germinal centres with areas of caseous necrosis is also suggestive of tonsillar TB. [5] (3) The final diagnosis was tonsillar TB. Patient was advised ATT for 6 months and followed up regularly.

3. Discussion

Tuberculosis of the tonsils is caused by intake of cow's milk that is not pasteurized; contact with infected sputum expectorated from tuberculous cavity of lung; by hematogenous spread or by inhalation of the tubercle bacilli. [6] Incidence of tonsillar TB is rare because of the antiseptic action of saliva and innate resistance of tonsils to tuberculosis. The mycobacterium colonization is difficult in oral cavity due to presence of saprophytes and thick stratified epithelium. Predisposing factors of tonsillar TB are poor oral hygiene, recent tooth extraction, periodontitis and leukoplakia. No age or gender inclination for the prevalence of tonsillar TB. [7].

Usual clinical presentation of tonsillar TB includes are tonsillar enlargement, sore throat, dysphagia, odynophagia, painful ulceration, white patches, cervical lymphadenopathy, productive cough, with or without constitutional symptoms and signs of TB. [4] In our case, the patient complained of sore throat and change in voice with no other symptoms.

Investigation for tonsillar TB include Histopathology, Ziehl Neelsen

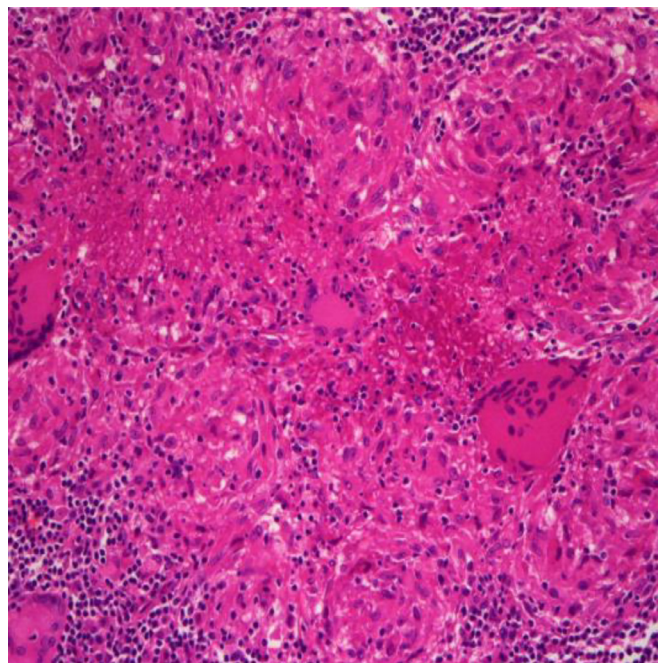


Fig. 2. Histopathology of the specimen.

staining and mycobacterial culture, Chest X-ray, sputum smear for acid fast bacillus to assess pulmonary involvement and HIV testing, as immunocompromised state and alcoholism are some predisposing factor for tonsillar TB [4]

The differential diagnosis for tonsillar TB includes traumatic ulcer, aphthous ulcer, malignancy, hematological disorders (leukemia, lymphoma and myeloma), midline granuloma, actinomycosis, syphilis, Wegener's granulomatosis, plaut- Vincent's tonsillitis [6,8,9].

The medical management of tonsillar TB include Rifampicin, isoniazid, pyrazinamide and ethambutol for two months followed by four months of Rifampicin and isoniazid. [6] In our case, the patient underwent Coblation assisted adenotonsillectomy under general anaesthesia, and (4) the histopathology revealed multiple epithelioid granulomas with caseous necrosis, langhans type of giant cells with scant inflammatory infiltrate in the background.

Conclusion

Tonsillar TB is extremely rare with very few cases reported till date, usually the patients present with odynophagia and sore throat, early detection and appropriate management is important. We report a case of primary tonsillar TB without any pulmonary involvement.

Corrections

Reviewer 1

History of snoring with mouth breathing. Past history of cough with mucoid, shortness of breath, throat pain for 4 weeks, fever-low grade and weight loss of 2 kgs. Past Medical History-No History of seizure disorder, Diabetes. Immunized till date according to world health immunization schedule, last given immunization-Tetanus toxoid

Patient was advised ATT for 6 months and followed up regularly.

Reviewer 2

1) Past history of cough with mucoid, shortness of breath, throat pain for 4 weeks, fever-low grade and weight loss of 2 kgs. Past Medical History-No History of seizure disorder, Diabetes. Immunized till date

according to world health immunization schedule, last given immunization-Tetanus toxoid

patient was started on 10 days of Co Amoxiclav and symptoms were persistent hence proceeded with surgery.

- 1) HIV-Negative, Liver function test, renal function test and serum electrolytes were within normal limits.
- 2) The final diagnosis was tonsillar TB. Patient was advised ATT for 6 months and followed up regularly.
- 3) Evidence of tuberculosis was seen in tonsillar tissue.
- 4) **Primary tonsillar tuberculosis after the invention of pasteurization is rare, which is seen in this case study**
- 5) **8) Tonsillar Tuberculosis: A Forgotten Clinical Entity**

Anirban Das, Sibes K. Das, Sudipta Pandit, and Sumitra Basuthakur
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Ethical statement

Hereby, I /insert author name/ consciously assure that for the manuscript /insert title/ the following is fulfilled:

- 1) This material is the authors' own original work, which has not been previously published elsewhere.
- 2) The paper is not currently being considered for publication elsewhere.
- 3) The paper reflects the authors' own research and analysis in a truthful and complete manner.
- 4) The paper properly credits the meaningful contributions of co-authors and co-researchers.
- 5) The results are appropriately placed in the context of prior and existing research.
- 6) All sources used are properly disclosed (correct citation). Literally copying of text must be indicated as such by using quotation marks and giving proper reference.
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I agree with the above statements and declare that this submission follows the policies of Solid State Ionics as outlined in the Guide for Authors and in the Ethical Statement.

Declaration of Competing Interest

Please check the following as appropriate:

All authors have participated in (a) conception and design, or analysis and interpretation of the data; (b) drafting the article or revising it critically for important intellectual content; and (c) approval of the final version.

This manuscript has not been submitted to, nor is under review at, another journal or other publishing venue.

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