

Tuberculous Lymphadenitis: Early Diagnosis and Intervention

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How to cite the article:

Hegde S, Rithesh KB, Baroudi K, Umar D. Tuberculous lymphadenitis: Early diagnosis and intervention. J Int Oral Health 2014;6(6):96-8.

Abstract:

Tuberculosis (TB) is reported to be one of the most widespread systemic bacterial infectious diseases frequently triggered by *Mycobacterium TB*. It is anticipated to have a prevalence of approximately 8 million individuals each year, and 3 million individuals die of complications related with the ailment. We present a case of a 5-year-old female patient with a painless swelling in her left submandibular region. She was diagnosed with left submandibular TB lymphadenitis based on histopathology report. Extra pulmonary TB of the oral cavity and its associated structures are diagnostic challenge. Lesions are often slow developing, painless, and hence are primarily ignored. Although manifestations of TB are atypical in head and neck area, clinicians should integrate them in the differential diagnosis. A hasty diagnosis with well-timed treatment can thwart complications.

Key Words: Anti tuberculosis therapy, giant cells, submandibular tuberculous lymphadenitis, tubercular lymphadenitis, tuberculosis

Introduction

Tuberculosis (TB) is a chronic granulomatous infection principally caused by *Mycobacterium TB* and less frequently by ingestion of *Mycobacterium bovis* infected unpasteurized cow's milk or by other atypical mycobacteria.¹ TB is a large-scale health hitch with 8 million citizens infected yearly and 3 million people dying from diseases related to TB complications. The frequency of TB in underdeveloped nations is snowballing, and this is believed to coexist with poor hygiene environments and increased occurrence of acquired immunodeficiency syndrome.² TB chiefly affects the pulmonary system besides involving extra-pulmonary locations comprising head and neck region. Extra pulmonary TB is rare occurring in 0.05-5% of patients with TB.¹ In this way, this disease rarely features in the

differential diagnosis of head and neck lesions. Here, we report the case of a child patient diagnosed with submandibular TB lymphadenitis, which resolved completely after anti TB therapy.

Case Report

A 5-year-old female child reported to Oral and Maxillofacial Surgery department in AJ Institute of Dental Sciences, Mangalore, with the complaint of a painless swelling in the left side of the lower jaw since 1 month. The swelling was small in size and has gradually increased to the present size. The patient presented history of abscess with draining sinus secondary to decayed tooth in the left lower back tooth 2 months back. She underwent extraction of the involved tooth and incision and drainage of the abscess. Pus was sent for culture and sensitivity test that showed no growth. General examination concluded that the patient was moderately built and minor signs such as weight loss, fever, and cough were absent. Past medical and family history was not significant. When the patient reported, there was no discharge noticed with respect to the site.

Extra-oral examination presented a distinct diffuse enlargement with imprecise borders of nearly 3 cm × 2 cm in the left submandibular region (Figure 1). The superimposing skin was the same as the surrounding skin. On palpation, a single cervical lymph node was felt in the left submandibular region, which was enlarged, firm, non-fluctuant, incompressible and firm in consistency; although, there was negative indication of tenderness to the adjoining tissues. On intraoral examination, there was odontogenic involvement noticed. A clinical diagnosis of left submandibular TB lymphadenitis was pondered. Differential judgment of left submandibular sialadenitis left submandibular gland calcification was considered.

The routine blood investigations were done for the patient along with peripheral smear, blood culture and C-reactive protein test; however, there was no variation identified except that erythrocyte sedimentation rate was elevated (20 mm/h). Her chest X-ray gave a normal impression. Patient was advised for ultrasound of the neck that gave the impression as submandibular sialadenitis with no obvious collection and necrotic level IB lymph node. A computed tomography scan with intravenous contrast was also instructed for her, report of which presented with an enlarged lymph node. The patient was posted for excision of the lymph node under general anesthesia. When the excised specimen was histopathologically examined, it showed lymph node with thickened capsule, infiltrated by coalescent epithelioid histiocytic granuloma with areas of



Figure 1: Diffuse swelling in left submandibular region.

central caseous necrosis (Figure 2). The report gave feeling as “TB lymphadenitis”

Patient was referred to a physician who instructed a WHO endorsed anti-tubercular therapy: Isoniazid (INH, 100 mg/day), rifampicin (RIF, 300 mg/day), pyrazinamide (400 mg/day) for 2 months and INH (80 mg/day) and RIF (150 mg/day) for another 4 months. This anti-tubercular therapeutic regimen was administered for 4 months, and follow-up showed complete resolution of the lesion, thereby signifying a successful outcome.

Discussion

TB is a major cause of unpleasant health and mortality worldwide. The risk of infection however is a lot larger in midst of communities in inferior socioeconomic groups. Yearly nearly 2.2 million individuals acquire TB in India of which approximately 0.87 million are infectious cases and responsible for about more than 330,000 per annum. TB is considered as the most usual opportunistic infection in belts where HIV infection is rampant.¹

Primary tubercular infection of orofacial tissues does follow minus systemic infection; however it is enormously uncommon and largely transpires in younger patients. The focus organ of mycobacterium TB is bronchopulmonary apparatus, and those in the head and neck region are commonly secondary. Primary involvement is prevalent in youngsters and adolescents than in grown-ups.^{3,4} Primary orofacial TB customarily comprises the gingival, mucobuccal folds and inflammatory foci neighboring to the extraction sites or teeth.⁵ Secondary oral TB can arise at any age but is most usual in mid and older age persons. It emerges from a mended primary focus or owing to endogenous extension of the infection. Secondary TB is mostly persistent in nature and can begin significant damage to the tangled tissue with caseation, fibrosis and cavity formation.⁶

Orofacial lesions may show various presentations such as nodules, fissures, ulcers or granulomas.⁷ It is difficult to

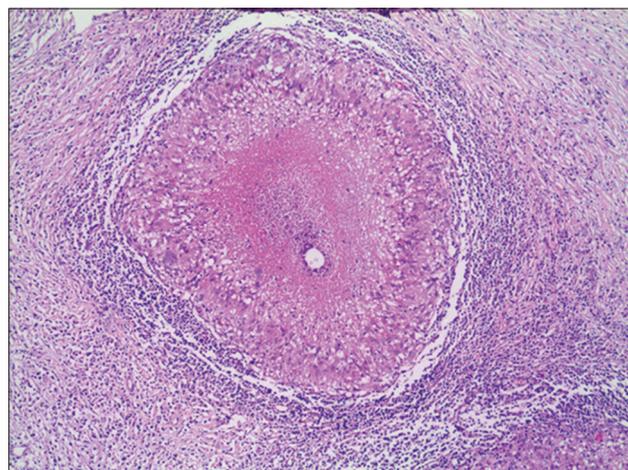


Figure 2: Numerous epithelioid cells and multiple Langhans giant cells are seen (H and E, ×10).

differentiate oral cavity TB from additional conditions on the core of clinical signs and symptoms only. When evaluating such cases, clinicians should consider both infectious processes, such as primary syphilis, fungal diseases, and non-infectious processes such as chronic traumatic ulcer and squamous cell carcinoma. If there is no systemic attachment, an excisional biopsy is suggested to determine a complete diagnosis.⁸

The basic principles for the treatment of pulmonary TB apply to extra-pulmonary TB as well. For TB at any site, a 6-9 months course of treatment regimen that include INH and RIF is recommended.⁹

The diagnosis of primary TB in our patient was an enigma because prior to the development of a visible swelling of the jaw, the patient complained of toothache and was treated with antibiotics and eventually tooth extraction and drainage of sinus tract without improvement. Hence, the responsibility of the clinician is to ruminate TB lymphadenitis as a differential diagnosis in such cases and do the needful.

In our case, differential diagnosis of left submandibular sialadenitis, left submandibular gland calcification was considered. The diagnosis was confirmed by biopsy because the clinical features were non-specific and radiographic features of the lesions were negative for pulmonary involvement. Histopathology of the lesion demonstrated multinucleated giant cells, especially Langhans giant cells and histiocytes. Ultrasound examination done on cervical lymph nodes exhibited the size of the expanded lymph nodes. An anti-tubercular therapeutic schedule was administered for 4 months and it was noted that the patient was responding to treatment.

Conclusion

TB of the head and neck region though not very redundant, still remains an imperative clinical subsistence, which should be kept in mind, especially in developing countries. At instances like the

current case, where there is the absence of systemic signs and symptoms, swift identification of TB can become challenging. Awareness by the clinician of such atypical presentations would make identification of TB uncomplicated. Initial diagnosis of the ailment would be beneficial not only to provide early treatment to the patient, but also averting the spread of the disease to others.

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