

Primary Tuberculosis of the Gingiva: A Case Report*

SUMMARY

Primary tuberculosis of the oral cavity is a rare entity and it may pose a diagnostic problem. Dentists should be aware of the possibility of the occurrence of oral lesions of tuberculosis. Our case is a 7-year-old female who suffered from left sided lymphadenopathy and a hypertrophic lesion in the gingiva of the second deciduous molar. The tooth was extracted and a biopsy was taken from the lesion. A second biopsy was taken from the lymph node. Primary tuberculosis was diagnosed following the histopathologic and bacteriologic examinations.

Keywords: Primary Tuberculosis; Gingiva; Lymphadenopathy; Oral Ulcers; Tuberculin Test

Gulsum Ak¹, Sertan Ergun¹, Mustafa Ertugrul², Ulker Guc¹, Hakki Tanyeri¹

¹Istanbul University, Faculty of Dentistry, Department of Oral Medicine and Surgery

²Istanbul University, Faculty of Medicine, Department of Pediatrics
Istanbul, Turkey

CASE REPORT (CR)

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Introduction

Tuberculosis is a chronic granulomatous disease of infectious etiology with a worldwide prevalence, caused by acid fast *Mycobacterium tuberculosis* and, less commonly, by *Mycobacterium bovis*^{8,11,13,18}. It is known that there is a natural resistance to invasion of *Myobacterium tuberculosis* in the oral cavity but some factors, like carious teeth and periodontal diseases, may break the natural barrier of the oral mucosa^{10,14,16}. Although there are strong control measures for infected dairy cattle, it is possible, particularly in developing countries, that bovine tubercle bacilli cause human infections^{4,10,11}. Oral tuberculous lesions may be either primary or secondary⁷. Primary tuberculosis in the oral cavity is typically seen in younger patients, with the prevalence of 0.2-1.5% of tuberculosis cases^{5,12}. It may be associated with cervical lymphadenopathy. The most affected site is the tongue, but lips¹⁵, cheek^{1,19}, soft palate^{2,6}, uvula and gingival mucosa may also be involved.

The purpose of this article is to emphasize the importance of early diagnosis of primary tuberculosis of the oral cavity, which has become so rare that it may be overlooked in the differential diagnosis of oral lesions with apparent systemic infection.

Case Report

A 7-year-old girl was referred to our department on February 26 2002, with an intraoral ulcer that her mother first noticed 3 months previously (Fig. 1). She reported left cervical lymphadenopathy for 1 month. The ulcerated area was seen in the buccal sulcus adjacent to the second deciduous molar, extending to the mucogingival junction. The lesion was painless, measured 1 x 0.5 cm, and showed minimal induration with an irregular periphery and undermined borders. The second deciduous molar was carious. Oral examination revealed good oral hygiene. A panoramic radiograph revealed a radiolucent area in the region of the apex of the tooth and surrounding bone (Fig. 2).

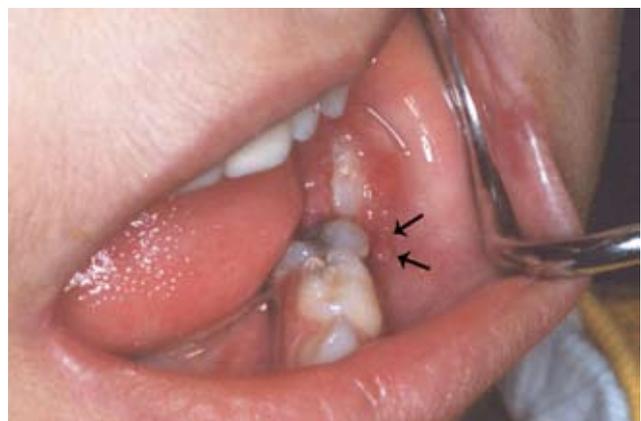


Figure 1. Intraoral ulcer

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Figure 2. Radiolucent area in the region of the apex of the tooth and surrounding bone

The tooth was extracted and an incisional biopsy was taken from the ulcerated area (Fig. 3). The biopsy specimen showed caseating granulomatous lesions composed of epithelioid cells and some Langerhans' giant cells, very characteristic for tuberculosis (Fig. 4). Due to the histopathologic report, the patient was admitted to the hospital for a complete medical examination. A punch biopsy was taken from the area of lymphadenopathy. Histopathologic examination of the punch biopsy specimen showed granulomatous features. Her haematological and biochemical values were within the normal reference range. Sputum studies showed no acid fast bacilli. Radiographs of the chest showed no evidence of present or past pulmonary disease (Fig. 5).



Figure 3. The tooth was extracted and an incisional biopsy was taken from the ulcerated area

Considering the diagnosis of primary tuberculosis of the gingiva, the patient was treated with a course of 3 anti-tuberculous drugs consisting of rifampicin, isoniazid and pyrazinamide. In addition to these drugs, the patient was given iron, vitamins and a 2% chlorhexidine mouthwash. Treatment was continued for 6 months. The response to anti-tuberculous therapy was excellent and the oral lesions healed within 3 weeks (Fig. 6). The appearance of the lesion after 2 years follow up is seen in fig 7.

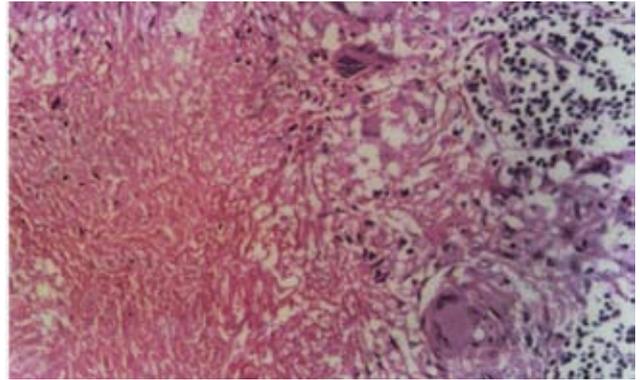


Figure 4. Epithelioid cells and Langerhans' giant cells



Figure 5. No evidence of present or past pulmonary disease



Figure 6. The oral lesions healed within 3 weeks



Figure 7. After two years follow-up

Discussion

The oral lesions of tuberculosis occur in various forms. They may appear as ulcers, nodules, fissures, tuberculomas or granulomas^{9,10,14,16}. Primary involvement is more common in children and it usually presents as a single painless ulcer, typically on the gingiva. It may extend from the gingival margin to the depths of the adjacent vestibule, and is often associated with enlarged cervical lymph nodes.

Tuberculosis is an important component of the differential diagnosis for oral ulcers. The differential diagnosis should include malignancy, traumatic and aphthous ulcers, syphilis, sarcoidosis and deep mycotic infections^{10,13,20}. Early biopsy and bacteriological tests help differentiate between the lesions included in the differential diagnosis.

The diagnosis of oral tuberculosis is based on histopathologic examination together with a tuberculin test. Additional direct microbiologic examination of swabs taken from the ulcer and of sputum, using special stains, as well as bacterial cultivation from the involved area, are considered important. Another useful tool which is being used in recent years for diagnosis of infectious diseases including tuberculosis is polymerase chain reaction analysis¹⁷. In addition to these, chest radiographs play an important role in the diagnosis. In our case, histopathologic examination of the biopsy specimens from the gingival lesion and lymphadenopathy were the most important aids in the diagnosis of tuberculosis^{3,9,10,14,16}.

In conclusion, primary tuberculosis of the oral cavity is relatively rare and often is not considered in the diagnosis of oral lesions. It should always be included in the differential diagnosis of oral ulceration, as a delay in the diagnosis may cause serious consequences.

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Correspondence and request for offprints to:

Prof. Gulsum AK
Istanbul University
Faculty of Dentistry, Department of Oral Medicine and Surgery
34390 Capa Istanbul
TURKEY
E-mail: gulsumak@ixir.com