

Tuberculosis of the oral cavity

- A CASE REPORT AND REVIEW OF LITERATURE

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INTRODUCTION:

The incidence of tuberculosis has greatly decreased in developed countries of the world during the past several decades as a result of the improvement of public health care and the development of appropriate chemotherapy.

With the decline in incidence of tuberculosis, secondary oral lesions have become rare. Primary tuberculosis infection of the mouth is very rare because of pasteurization. Diagnosis of tuberculosis by oral lesions only, secondary to primary infection is uncommon but not rare. More commonly the secondary tuberculous lesions are always associated with a primary focus elsewhere in the body, generally in the lungs. The present case concerns an uncontrolled diabetic patient with tuberculous ulcers on the right buccal mucosa and on the inner aspect of the upper lip. Thus, lesions were noticed prior to the recognition of miliary tuberculosis.

CASE REPORT :

A 60 year old male patient was referred to the Oral and Maxillofacial unit, with painful ulcers on the right buccal mucosa (Fig. 1) and inner aspect of upper lip (Fig. 2). The lesions were irregular in shagged undermined edges.

The floor of the ulcers was grayish white in colour and appeared necrotic. Palpation of ulcers revealed tenderness and demonstrated no induration. The duration of the lesions was 16 months, suggestive of chronic non-healing ulcers.

The medical history revealed that the patient was an uncontrolled diabetic. There was family history of diabetes. The patient had a personal history of tobacco and occasional alcohol abuse.



FIG. 1 - Lesion as seen on the buccal mucosa

Regional examination revealed bilateral submandibular lymphadenopathy. These nodes were firm in consistency, nontender and not fixed to the underlying tissues. There was



FIG. 2 - Lesion as seen on the upper lip.

no significant lymph node swelling in other parts of the body. A white patch was observed on the right thigh. The intraoral mucous membranes exhibited pallor. Many teeth had been extracted but had not been replaced. Most of the remaining teeth were extensively decayed. Periodontal status was poor.

Multiple incisional biopsies were performed under local anaesthesia, and sent for histopathological examination. The histopathological picture showed foreign body giant cells. The foci of granulomatous inflammation was surrounded by a great number of infiltrating mononuclear lymphoid cells (Fig. 3). A diagnosis of tuberculous granuloma without caseous necrosis was returned.



FIG. 3 - Photomicrograph showing foci of granulomatous inflammation surrounded by infiltrating mononuclear lymphoid cells. H & E.

The chest radiograph showed multiple miliary shadows in the lower halves of right and left lungs. Orthopantomograph did not show any bony erosions.

The Erythrocyte sedimentation rate was 40 mm in 30 minutes. Fasting blood sugar was 156 mg. per 100 ml of blood. Tuberculin test was non-contributory, ultrasound, examination of the abdomen did not reveal any abnormality. Elisa test for HIV was negative. Elisa based serodiagnostic tests of tuberculosis for IgG/IgM/IgA were elevated.

Miliary tuberculosis with tuberculous lesions of the oral mucosa was the established

diagnosis. Although tuberculosis of the oral mucosa was diagnosed first, it was most likely that it occurred secondarily to the pulmonary disease. The patient was put on anti-tuberculous treatment (3 drug regimen) and was followed up at regular intervals. Six weeks after onset of treatment the oral lesions had completely resolved. The patient was kept under regular follow up.

DISCUSSION :

Oral lesions of tuberculosis are uncommon as tuberculosis is usually diagnosed early elsewhere in the body, generally the lungs. The most common intraoral lesion of tuberculosis is an ulcer, with ragged, undermined edges surrounded by red, inflamed peripheral zone with little or no induration. The ulcer is surrounded by small tuberculous nodes called "sentinel tubercles" which in the course breakdown, resulting in a rapidly enlarging ulcer. The ulcer may or may not be painful. It may be distinguished from a malignant ulcer by a lack of induration.

Darlington and Salmon² classified oral tuberculous lesions into the following three groups :

- Group 1 - tooth apex and socket cases
- Group 2 - cases that involve oral mucous membrane
- Group 3 - Tuberculosis of the maxilla and mandible⁵.

The frequent sites that are involved are tooth socket, tongue, gingiva, lip and palate. Gingiva, tooth socket and buccal fold were reported to be frequent sites for primary oral tuberculous lesions. On the other hand secondary oral tuberculous lesions involved tongue⁶, palate and lip. The other intra oral Group 2 sites, which are prone to tuberculous lesions are buccal mucosa and retromolar region.

According to Shengold³ and Sheingold, Group 2 lesions are usually a manifestation

of an advanced pulmonary infection, and the present case can also be considered to be of this type. Intraorally tuberculis may be seen as primary infection or as secondary lesion. The primary lesion is usually asymptomatic with enlarged regional lymph nodes and is rare, but does occur in children and adolescents. Diagnosis of tuberculosis by asymptomatic primary oral lesion is uncommon but not rare. The secondary lesion is usually painful with or without regional lymph node involvement. Miliary tuberculosis is a serious complication in which there is diffuse dissemination of tubercle bacilli through the vascular system to the various anatomical structures including the oral cavity.

Tuberculosis of the oral cavity may be due to - (1) hematogenous infection, (2) infected sputum coming in contact with breached epithelium. According to Brodsky, when intraoral surgical procedures such as tooth extraction, apicoectomy, and removal of cysts, were undertaken in patients with high Gaffky counts in sputum, the post operative tuberculous infections resulting in the oral cavity were extremely rare. Local factors which may predispose to the invasion of tubercle bacilli include: poor oral hygiene, chewing and smoking tobacco, local trauma, chronic irritation, pyogenic foci. Systemic predisposing factors include: acquired immunodeficiency syndrome, diabetes, leukemia, lymphoma, I.V. drug abuse, chronic renal diseases, immunosuppression, malnourished individuals, prolonged corticosteroid therapy.

In general tuberculosis of the oral cavity is rare because of the following factors:

1. pH of oral cavity.
2. Cleansing action of saliva which prevents settling of tubercle bacilli on the oral mucosa.
3. Resistance of striated musculature to bacterial invasions and
4. Thickness of epithelium

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