CASE REPORT

Tuberculosis: oral alveolus and pulmonary alveoli coexisting

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SUMMARY

Tuberculosis of the oral cavity is uncommon in this antibiotic era. We report a case of a long standing non-healing ulcer of the right upper maxillogingival sulcus, found to be tuberculosis of a rather unusual site in the oral cavity, the alveolus.

BACKGROUND

Presence of a nodular lesion or a non-healing ulcer in the oral cavity in this era is usually taken to be a malignant process. Presence of a painless non-healing ulcer in the oral cavity with or without the presence of lymph nodes raises the suspicion of malignancy. Incidence of primary tuberculosis in the oropharyngeal cavity was fairly common in the preantibiotic era.¹ This has changed to a great extent due to hygienic living conditions, awareness regarding the disease and the advent of antitubercular therapy. Hence it is of utmost importance to have a suspicion of tuberculosis as a cause of oral ulcer, as it can tend to misguide the treating physician.

CASE PRESENTATION

A 35-year-old woman presented to our department of pulmonary medicine with a 6-month history of slow but progressively growing oral ulcers. Initially, the lesions were nodular and confined to the right lower half mandibular gingiva. The patient reported increased salivation and pain on mastication, for which she was given analgesics by her local physician. She had never been a smoker or tobacco chewer. For the past 1 month, she had increased pain, referred to the right ear, on mastication, and persistent irritation in the throat, though

no change in voice was observed. The patient also had a history of loosening of a tooth and abscess formation, for which tooth extraction was performed 6 months earlier.

On clinical examination, the right lower gingiva showed some nodular lesions and an erythematous irregular ulcerated lesion involving the right posterior maxillary ridge along with socket of the molar and premolar teeth. The patient's ulcer was 5×5 cm with undermined edges and erythematous margins covered with slough, involving the proximal maxillary gingiva; she had poor oral hygiene ([figure 1](#)). The first impression the ulcer gave was of an oral carcinoma, a rather common condition in our country. Purulent exudates were present in the ulcerated area and the lesions were tender to touch. There were no significant palpable cervical lymph nodes.²

INVESTIGATIONS

A biopsy was taken from the ulcer, which revealed presence of a subepithelial zone, dense inflammatory infiltrates such as epithelioid granuloma, lymphocytes and Langerhans cells along with caseation necrosis. No cells suspicious for malignancy were found. Routine blood investigations were within normal limits except for raised erythrocyte sedimentation rate. A plain X-ray of the chest was taken for further evaluation, which revealed a cavitary lesion in the right upper zone suggestive of tuberculosis ([figure 2](#)). A sputum smear was examined for acid-fast bacilli and was found to be positive. Orthopantomogram was performed to evaluate any underlying bone involvement, which showed an irregular maxillary ridge on the right side and loss of bone ([figure 3](#)).

Figure 1 Showing an ulcer in the right gingivobuccal recess extending over the right alveolus and involving the socket of the molar and premolar teeth.

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Figure 2 Plain X-ray of the chest posteroanterior view showing a tubercular cavitary lesion in the right upper zone.

DIFFERENTIAL DIAGNOSIS

The differential diagnoses included traumatic lesions, aphthous ulcers, mycotic infections, histoplasmosis, paracoccidiomycosis, Behçet's disease, malignant tumours, foreign body reactions, sarcoidosis and other autoimmune pathologies.³

TREATMENT

The patient was prescribed rifampicin, isoniazid, ethambutol and pyrazinamide.

OUTCOME AND FOLLOW-UP

The patient was relieved of her symptoms in 1 month and gradually the oral lesions also decreased. X-ray of the chest taken after 2 months showed clearing of the right upper zone cavitary lesions and the patient had symptomatically improved.

DISCUSSION

Mycobacterium tuberculosis has for ages been and still continues to be a threat to mankind not only because of its mortality but also because of its prolonged morbidity. The vast diversities in clinical presentation of the disease and involvement of any organ in the body make the disease more serious. The primary form of tuberculosis is most often localised to the lungs, however, organs such as the lymph nodes, meninges, bones, skin, etc, may be primarily involved in some instances.³ In a few cases the infection may spread to other systems via blood, lymphatics or sputum, establishing secondary tuberculosis. Primary

Figure 3 Orthopantomogram showing an irregular right maxillary ridge and unhealthy teeth.

oral tuberculosis lesions are uncommon.⁴ It is reported that only 0.05–5% of total cases present with oral manifestations. Among cases of oral tuberculosis the most common site is the dorsal tongue,^{2 5 6} followed by gum and palate. People in Indian villages, especially children, often consume unprocessed milk and are therefore prone to developing oral, mainly bovine, tuberculosis.^{7 4} As men are more exposed to animals as a part of their household activities, they are more affected than women.⁸ Major clinical presentations include non-healing ulceration, lymphadenopathy, pain, mass in the oral cavity, gingival swelling and odynophagia. Among the various presentations, ulcers and papillomas are the most common and may be single or multiple.⁹ Oral mucosa has a strong defence against infections due to the presence of salivary enzymes and antibodies, and because of its thickness.^{10 11} Oral lesions need to be differentiated from traumatic lesions, aphthous ulcers, mycotic infections, histoplasmosis, paracoccidiomycosis, Behçet's disease, malignant tumours, foreign body reactions, sarcoidosis and other autoimmune pathologies.^{3 5 12}

In our patient, there was significant loss of alveolar bone around the premolar and molar teeth suggesting osteomyelitis along with alveolar involvement. The presence of a cavitary lesion on chest X-ray was a chance discovery as the patient had no symptoms pertaining to the respiratory system and no systemic manifestations either. The patient gave a history of a tooth extraction 6 months earlier due to loosening of the tooth and pain during mastication. There might have been a possibility of inoculation of microorganisms during the procedure. There have been cases where such instances have occurred in clinics where the treating dentists had tuberculosis.¹³ There are reports where a DNA PCR technique has been emphasised for the diagnosis of oral tuberculosis. This may hold true in countries having low incidence and prevalence of tuberculosis. This may be a suggestive test, but the presence of a viable bacteria needs to be established, especially when the number of bacteria detected is low. In our case, the histopathology from the oral ulcer as well as the sputum smear examination and cultures confirmed the aetiology to be *M tuberculosis*.

Learning points

- ▶ Clinicians should be cautious regarding atypical ulcers of the oral cavity.
- ▶ He should bear in mind the various aetiologies considering age prevalence.
- ▶ Presence of an offending agent and systemic manifestations, if any, must be considered so that these lesions are not misdiagnosed.
- ▶ Tubercular ulcers can be effectively treated if managed in time.

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