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Tubercular Palatal Perforation : First Clinical Sign of Undiagnosed Pulmonary Tuberculosis

KEYWORDS: Oral tuberculosis, Palatal Ulceration, Pulmonary tuberculosis

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ABSTRACT *Tuberculosis is chronic infectious disease that can affect any part of body, including oral cavity. The oral mucosa is rare location for tuberculosis, and it may be either a primary or, more often, a secondary infection. The authors in this article present a case of oral ulceration, with palatal bone perforation in undiagnosed pulmonary tuberculosis. The uniqueness of case lies in the fact that, the professional care sought for oral lesion led to diagnosis of underlying pulmonary disease in young female patient.*

Introduction

Tuberculosis is a systemic disease with worldwide distribution (1). It is a leading cause of morbidity and mortality in developing countries with an estimated 14 million persons in India (2). Head and neck tuberculosis forms nearly ten percent of extra pulmonary manifestations of disease (3). Oral lesions are seen in 0.05% to 5% patients with tuberculosis and may be either primary or secondary (4). Primary forms generally are uncommon and occur in younger patients, where as secondary lesions, on contrary are seen more often in older individuals (4,5). The oral manifestations of tuberculosis are superficial ulcers, patches, indurated soft tissue lesions or lesions within jaw in the form of tubercular osteomyelitis (2).

The purpose of this article is to report an unusual case of secondary oral tuberculosis as palatal perforation, in young female patient which led to the diagnosis of pulmonary tuberculosis.

Case report –

A 17 years old female patient presented to the department of Oral medicine, Himachal Dental College, Sundernagar complaining of painful ulceration in mouth which had been present for last six months and gradually increasing in size. She also complained of nasal regurgitation of liquids for past two months. She did not have any systemic complaints and gave no history of allergy and medications. Her family history was non contributory for any infectious disease, diabetes and cancer.

The intraoral examination showed an ulcerative lesion in midline of hard palate measuring approximately 1 x 0.5 cm in size (figure.1). The ulcer had well defined margins and yellowish white exudate was present on the floor. Adjacent mucosa was normal in appearance. On palpation, lesion was tender with indurated margins. Base of ulcer was not palpable, instead there was a patent communication with floor of nasal cavity. No extra oral abnormality was observed and regional lymph nodes were not palpable. Maxillary occlusal radiograph showed radiolucency in the center of hard palate, approximately of the same size of ulcer, suggesting palatal bone perforation (figure.2). Complete hemogram was within normal limits except slightly raised ESR. Serological tests for human immunodeficiency virus and syphilis were negative. Based on clinical examination and investigations, differential diagnosis of malignancy, tuberculosis and fungal infection was arrived at.

An incisional biopsy of oral lesion was performed and sample was sent for histopathological examination. Histopathology showed multiple, discrete granulomas composed of multinucleated giant cells, epitheloid cells, lymphocytes and caseous necrosis, suggestive of a granulomatous lesion (figure.3). Tissue samples were sent for Zeihl-Nielsen (ZN) and Periodic acid- Schiff (PAS) staining. They were positive for M. tuberculosis and negative for fungal hyphae, confirming the diagnosis for tuberculosis.

Patient was referred to the regional tuberculosis centre for further medical attention. Chest radiograph showed fluffy densities in upper portion of both the lungs (figure.4). Considering all clinical and histopathological findings, final diagnosis of asymptomatic tuberculosis with secondary involvement of palate was confirmed. A chemotherapeutic regimen of isoniazid (300 mg), rifampicin (600 mg) and pyrazinamide (1500 mg) was initiated. After four weeks of start of antitubercular drugs. The inflammatory zone and induration around the lesion was completely resolved (figure.5).Surgical closure of palatal defect was planned after the completion of antitubercular therapy.

Discussion

Tuberculosis is a chronic infectious disease caused by Mycobacterium tuberculosis. Less frequently infection can be due to Mycobacterium bovis(4). With advances in chemotherapy and improvement in public health and hygiene and nutritional status of general population, there has been dramatic decrease in incidence of tuberculosis during twentieth century (1). The organism is able to produce acute, latent, and chronic disease that most commonly affects the lungs but can involve any organ in the body. The disease is transmitted by inhalation of infective droplets that have been expelled into air by a person with tuberculosis (6, 7).

Orofacial tuberculosis can either be primary or secondary to any other part of body (5, 8). Primary oral tuberculosis is commonly observed in young age individuals. Whereas secondary form can involve any age groups; however middle and old age groups are commonly involved, having oral manifestations which are almost always painful (5). Oral manifestations can be in the form of ulcers, nodules, fissures, or tuberculomas that can be single or multiple, painless or painful; principally affecting tongue and hard palate (4).

Pathogenesis of oral tuberculosis is self inoculation with infected sputum, resulting from constant coughing of bacteria that lodge themselves in oral mucosa. Haematogenous spread and direct inoculation of tuberculous bacteria in

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mucosa can be occasional phenomenon (4, 9). It is believed that intact epithelium acts as barrier to penetration of bacilli; this can be attributed to cleaning action of saliva; presence of salivary enzymes and protective epithelial covering (4, 5, 10). However small tears in oral mucosa caused by irritation or inflammation may be sites for colonization of organisms even if the onset is by haematogenous spread (4, 5). This may probably be the route of spread in our patient, as primary quiescent lesion in lung might have been reactivated to flush fresh tuberculous bacilli.

Unusualness of this case lies in the fact that, professional care sought for the oral lesion guided the way to diagnosis of pulmonary disease. Moreover, contrary to literature; 1) in this case palatal ulcer was deep enough to cause perforation of underlying palatal bone, whereas most of the reported cases of oral tuberculosis present as superficial ulcerations, 2) this case was diagnosed in seventeen years old patient, in contrast to reported cases where secondary oral tuberculosis has more predilection towards older age group.

In such cases it is essential to consider oral tuberculosis in differential diagnosis of any oral ulcer of unknown etiology. Histopathological study is needed to exclude any carcinomatous or mycotic lesions to confirm the diagnosis of oral tuberculosis. In present case report, we confirmed the diagnosis with Zeihl-Nielsen staining, which showed the presence of tuberculous bacilli. Within one month of the start of antitubercular drugs, local inflammation and induration was completely resolved, and surgical closure of palatal defect was planned after patient's contagiousness was controlled. Therefore, early diagnosis of tuberculosis can go long way in prevention of contamination and further complications.

Conclusions

Extra pulmonary manifestations of tuberculosis can affect any part of body. Tuberculous lesions of oral cavity can assume a nonspecific clinical appearance. Dental practitioners need to aware that tuberculosis may occur in oral cavity and consider this in their differential diagnosis of any ulcerative, granulomatous and indurated lesions of oral cavity. Therefore, oral lesions and concurrent pulmonary lesions should alert the oral physician to consider systemic disease, so that confirmatory diagnostic studies can be performed to render optimal health care.

Fig. 1

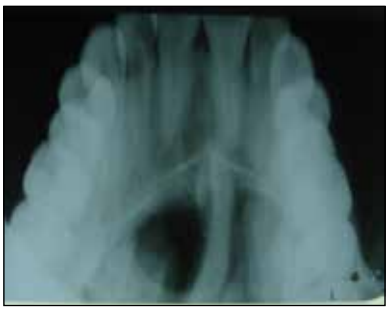

Fig. 2

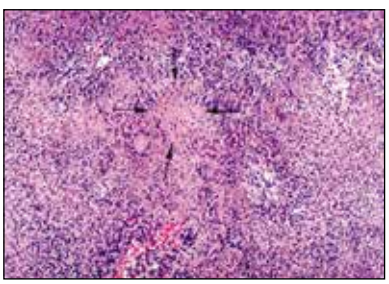

Fig.3

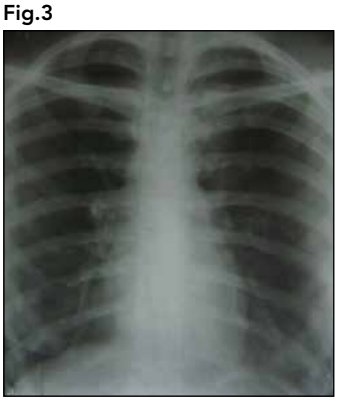

Fig.4

Fig.5

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