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Case Report

Primary Gingival Tuberculosis – A Rare Diagnosis For Non-Healing Oral Ulcers

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Abstract

Non-healing persistent oral ulcers can be a common presentation in patients with a wide range of diagnosis for these type of conditions such as aphthous ulcers, traumatic ulcers, syphilitic ulcers, mucocutaneous lesions, squamous cell carcinoma, bacterial, fungal and viral infections. But there is a recent resurgence of tuberculosis infection again due to strains developing resistant to chemotherapeutic agents. This has allowed for the emergence of atypical oral lesions in tuberculosis patients. Differentiating these conditions from the tuberculous lesion becomes most crucial. This case report will discuss one such oral Tuberculosis non healing ulcers without any systemic signs and symptoms.

Key words: Tuberculosis; Non-healing; Oral ulcers; Gingiva

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INTRODUCTION

The occurrence of tuberculosis infection significantly had decreased worldwide after the evolution of antibiotics and environmental changes. But there is a recent resurgence of tuberculosis infection again due to strains developing resistant to chemotherapeutic agents. This has allowed for the emergence of atypical oral lesions in tuberculosis patients. The diagnosis of these lesions were not readily available to the practicing dentists and also there is threat of spread to the dental workers, necessitating for including tuberculosis in the routine diagnosis of such lesions in clinical set-ups. This case report will discuss one such oral non healing ulcers without any systemic signs and symptoms making the diagnosis of oral tuberculosis a rare phenomenon for the dentists.

CASE REPORT

A 45-year-old female patient presented with a chief complaint of non-healing painful shallow ulcers and redness with irritation to hot and spicy foods which started as a nodule and swelling in the region of left labial gingiva of incisors till canine tooth. Patient gave a history of lesion being present for a more than a month with the ulcers not healing over this time. The patient had difficulty in eating foods and brushing teeth. The patient did not provide with any history of triggering reactions or trauma in congruence with the presentation of lesion. Her medical history did not reveal any significant findings and no report of blood dyscrasias was found. There was no history of fever, weight loss and cough. Oral examination revealed an ulcer measuring 0.4cm x 0.3cm in the attached gingiva of left canine tooth and erythematous lesion involving mesial papilla of right central incisor, maxillary frenum, distal papilla of left central incisor and attached gingiva of left lateral incisor (Figure 1A, 1B). The ulcer was shallow, round shaped with thin edges and slight induration at the base with tenderness on palpation. On clinical examination, lesion showed spontaneous bleeding on palpation. Intraoral periapical radiographic examination of the lesion region did not reveal any positive findings (Figure 1C).

Following differential diagnosis were considered: aphthous ulcers, traumatic ulcers, syphilitic ulcers, mucocutaneous lesions, squamous cell carcinoma, bacterial, fungal and viral infections. Chest x-rays did not reveal any pathology (Figure 2). The patient was provided with symptomatic relief for the irritation and burning sensation of lesion for a period of 2 weeks. After 2 weeks' time, patient still reported the same complaint with little symptomatic relief but no resolution of the ulcerations and erythema. At this follow up patient underwent oral prophylaxis procedure to rule out the local factors. A routine blood investigation was also done that showed a normal complete blood count, blood glucose levels, liver function and kidney function tests. Enzyme-linked immunosorbent assay (ELISA) was done to rule out the possibility of HIV (Human Immunodeficiency Virus) infection; the tuberculin skin test was negative. Still the lesion did not regress over this period (Figure 3A). So, an incisional biopsy of the gingival region at the affected site was planned under local anesthesia for histopathological evaluation (Figure 3B). Histopathological examination of the excised specimen under 10X and 20X magnifications revealed the presence of granuloma with the foci of caseous necrosis surrounded by epitheliod cells and lymphocytes (Figure 4A, 4B). Occasional Langhans giant cells along with moderate and diffuse chronic inflammatory cell infiltrate (Figure 4C - 40X Magnification). High power view shows dysplastic features like

nuclear and cellular pleomorphism, hyperchromatism, altered nuclear cytoplasmic ratio and abnormal mitotic figures.

Based on the provisional histopathological diagnosis of tuberculosis granuloma, patient was referred to chest medicine out-patient department of the main hospital for further evaluation and treatment. Ziehl-Nielsen staining of the several acid fast bacilli was also done to confirm the provisional diagnosis (Figure 4D).

Complete anti-tuberculosis treatment protocol was initiated for the patient after all investigations. The protocol involved the following: first phase of treatment included isoniazid 300 mg, rifampin 600 mg, pyrazinamide 1500 mg and ethambutol 800 mg daily for 2 months; second phase involved isoniazid 300 mg and rifampin 600 mg daily for 4 months. The lesion started resolving immediately within 2 weeks of phase 1 anti-tuberculosis therapy and started healing within 4 weeks of treatment initiation (Figure 4A). There was almost complete resolution of lesion upto 80-90% from the initial stage.

Follow-up was done every 1 month to evaluate the recurrence and resolution of the lesion. There was no recurrence of the lesion reported during the follow-ups (Figure 4B).

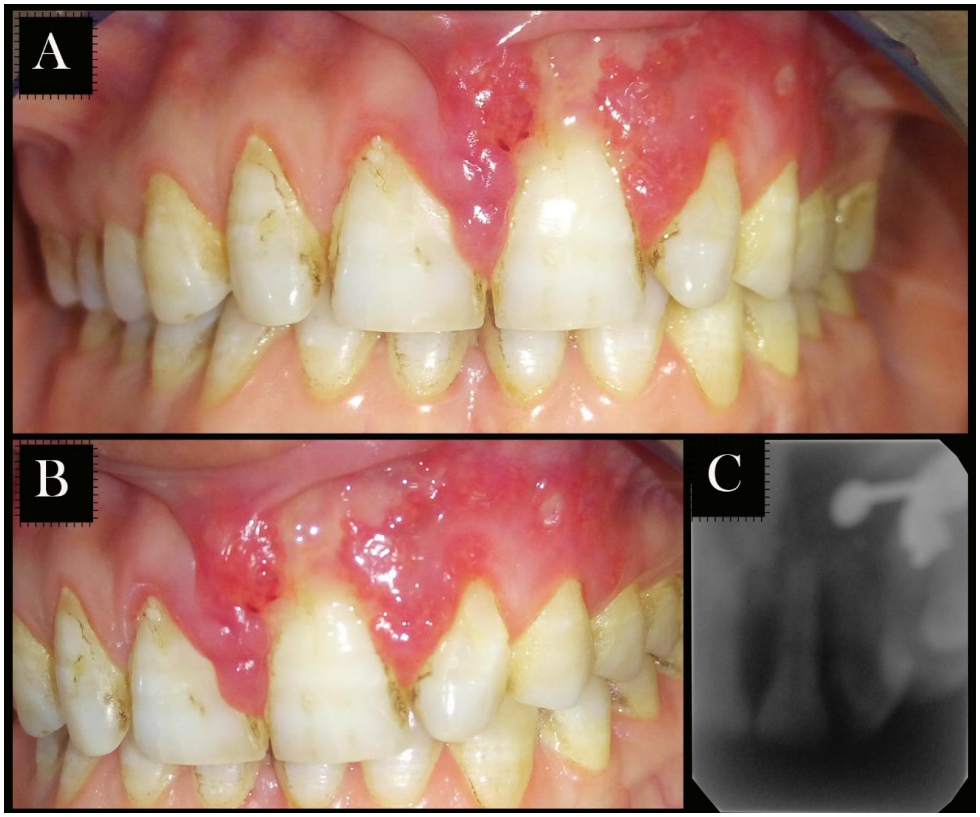

Figure 1: A – Initial preoperative presentation of the lesion showing the spread of erythema and ulceration from the maxillary frenum to the left canine region; B – ulcer in relation to attached gingiva of the I premolar region; C – IOPA xray showing the presence of bone loss in relation to # 21, 22.

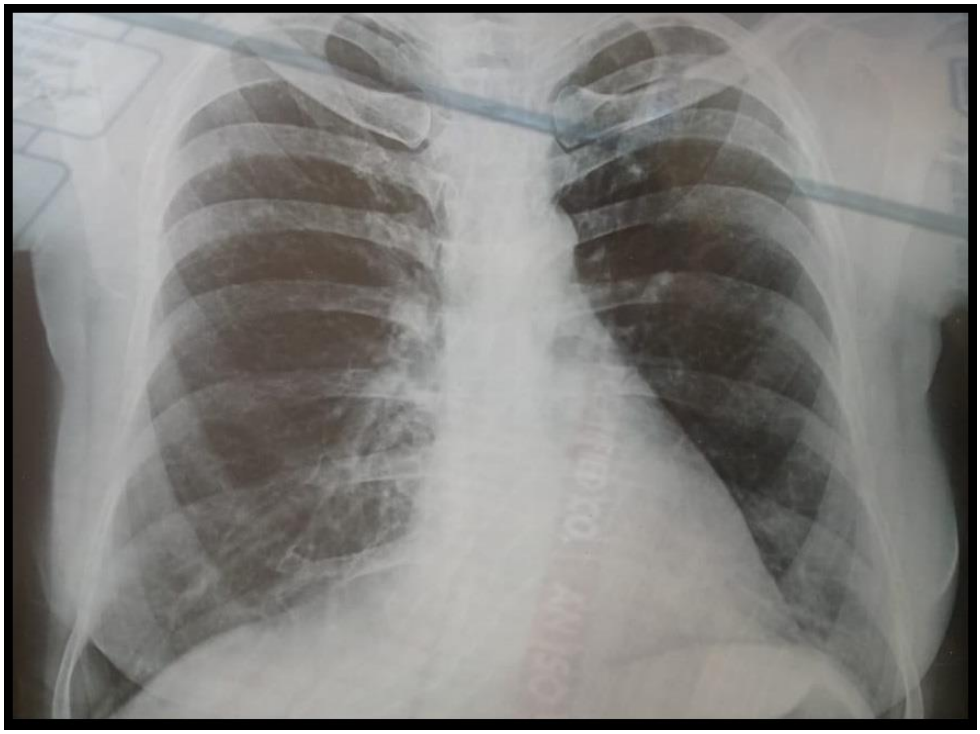

Figure 2: Chest X ray showing the absence of any primary pathological TB lesion.

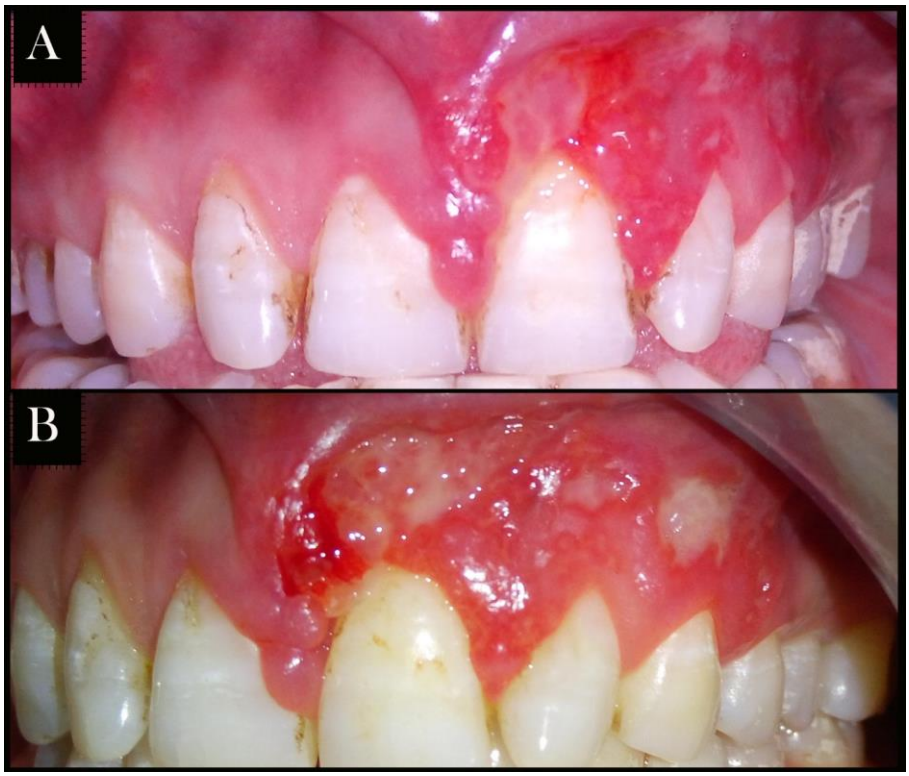

Figure 3: A – Lesion did not regress over this period of 2 weeks of symptomatic relief with topical corticosteroid.; B – Lesion shows persistent ulceration, sloughing and erythema with bleeding on percussion.

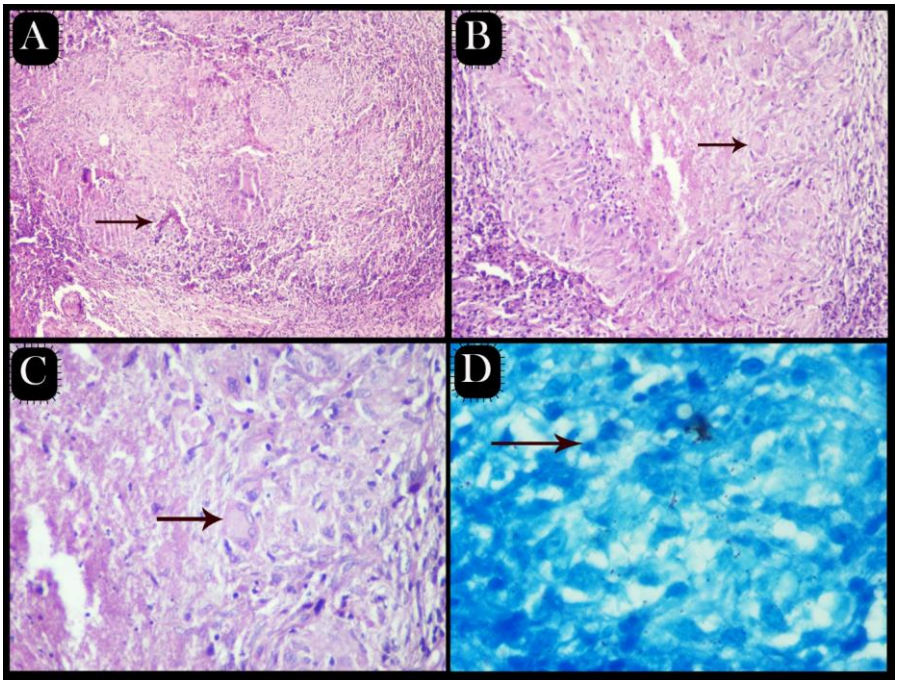

Figure 4: A and B – Histopathological examination shows presence of granuloma with the foci of caseous necrosis surrounded by epitheliod cells, lymphocytes in 10X and 20X magnifications respectively; C – occasional Langhans giant cells along with moderate and diffuse chronic inflammatory cell infiltrate in 40X magnification; D – Ziehl-Nielsen staining of the several acid fast bacilli.

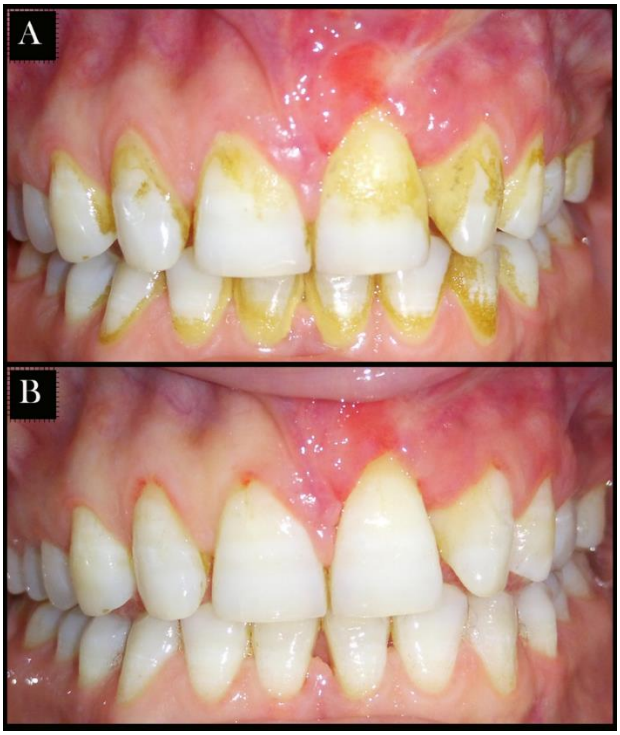

Figure 5: A – Lesion showed signs of remission within 4 weeks of initiation ATT, subsiding erythema,

disappearance of sloughing and ulceration. B- Lesion showed complete remission with the therapy and no recurrence in follow ups.

DISCUSSION

Based on the literature review before 1950s, tuberculosis(TB) lesion in the intraoral region had been accounted to only 0.1-5% of the total TB lesions. But the resurgence of oral tuberculosis lesion in the recent times have been attributed to the outbreak of multidrug resistant TB and exposure of acquired immunodeficiency syndrome(AIDS) in patients[1]. In accordance to kakisi et al [2], prevalence of oral TB lesion from the reports estimated to the highest in Asian countries with 44% and India being the majority. The most common presentation of TB lesion in the oral cavity was the tongue followed by mandible. Gingiva was a commonly manifested site in females rather the males [2]. These findings concord with our case report. Other sites being soft palate, buccal mucosa, lip and very rarely hard palate. The morphology of the lesion manifested in oral cavity can be attributed to ulcerations with induration and ill-defined margins being the most common presentation followed by swelling, pus discharge with or without fistula formation. Sometimes lesion appear as a diffuse granulomatous enlargement and erosions of the gingiva observed in other case reports [3,4,5]. The most common patients' symptoms with TB lesions could be generalized to pain, burning sensation and bleeding. The systemic symptoms such as cough, fever, dyspnoea, loss of weight and hemoptysis were not commonly seen in the oral TB patients [2]. Absence of systemic symptoms in the oral TB patients made the diagnosis little ardent for clinicians and dentists for proceeding with treating the patients. Some of the reasons elicited for the lower levels of M.tuberculosis in oral cavity are cleansing effects of saliva, the relative paucity of lymphoid tissue in the tongue, and the antagonistic oral commensals [6].

These patients are often referred from peripheral centres to the hospitals as cases of 'non-healing ulcers' which has not resolved after previous treatment with antibiotics, antifungals and other medications such as corticosteroids, local anaesthetics and multivitamins.

Chest x-rays, immunodeficiency testing and tuberculin skin test are some of the imperative diagnostic tools in TB diagnosis. But tuberculin skin test was found false negative in 28% of cases [2] which ultimately leads to confirm the final diagnosis of oral TB lesions with the incisional tissue biopsy. This is pathognomical of Oral M.tuberculosis infection. Histopathology of TB lesion confirmed the presence of caseation necrosis and distinctive epitheloid structures such as langhans cells which revealed a granulomatous lesion. Other granulomatous lesions and conditions should also be considered before confirming the TB diagnosis. Similar histopathological findings of granulomatous lesion were seen in another case report of oral tuberculosis lesion in labial vestibule and inner commissure which was different from the presentation of this case [7]. Acid fast staining with Ziehl-Nielsen stain was also mandatory for aiding in the diagnosis of oral TB lesions. Other diagnostic methods involved polymerase chain reaction(PCR) on tissue specimens obtained. But PCR test seemed inconclusive in previous case report [8].

After the confirmation of Oral TB diagnosis, treatment modality involved the initiation of antitubercular therapy (ATT) with the time duration of 6 to 12 months. There were 84% cure which was comparatively similar to cure rate in this case achieved by resolution or healing of the affected tissue after 8 months of follow-up shown in the

systematic review [2].

Shallow gingival ulcers, deep necrotic gingival ulcers with damaged alveolar bone, soft tissue defects in the gingiva and hard palate with exposure of the bone surface, and irregular palatal erosions occurred simultaneously; perforation of soft tissue at two locations (the gingiva and hard palate) had been reported previously because the involvement of the alveolar bone in tuberculosis is rare [9]. The most common site of oral tuberculosis is the tongue while the hard palate is the least common site of infection [2]. There was an unusual presentation with multiple ulcers mainly involving the gingiva and hard palate, sites rarely affected by tuberculosis, made diagnosis difficult [10]. Typical non healing ulcers not responding to antibiotics (30%)or steroids (4%) should be suspected for oral TB lesions [2].

CONCLUSION

The dentists are actively required to assess these kind of patients and integrate with chest medicine physician and microbiologist to aid in prompt diagnosis and treatment planning for quick redressal of the patient's complaint. Clinicians, especially periodontists should have to develop skills to diagnose these non-healing lesions and be aware of all these diagnostic methods for early detection and referral of patients to respective physicians for fast relief.

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REFERENCES

1. Miziara ID. Tuberculosis affecting the oral cavity in Brazilian HIV-infected patients. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2005; 100: 179–182
2. Kakisi OK, Kechagia AS, Kakisis IK, Rafailidis PI, Falagas ME. Tuberculosis of the oral cavity: a systematic review. Eur J Oral Sci 2010; 118: 103–109.
3. Karthikeyan BV, Pradeep AR, Sharma CGD. Primary tuberculous gingival enlargement: a rare entity. J Can Dent Assoc 2006; 72: 645–648.
4. Sharma CGD, Pradeep AR, Karthikeyan BV. Primary tuberculosis clinically presenting as gingival enlargement: a case report. J Contemp Dent Pract 2006; 7: 108–114
5. Nachbar F, Classen V, Nachbar T, Meurer M, Schirren CG, Degitz K. Orificial tuberculosis: detection by polymerase chain reaction. Br J Dermatol 1996; 135: 106–109
6. Eguchi J, Ishihara K, Watanabe A, Fukumoto Y, Okuda K. PCR method is essential for detecting Mycobacterium tuberculosis in oral cavity samples. Oral Microbiol Immunol 2003; 18: 156–159.
7. Verma S, Mohan RPS, Singh U, Agarwal N. Primary Oral Tuberculosis BMJ Case Rep Published online: [20th march 2019] doi:10.1136/bcr-2013-010276.

8. Imamura M, Kakihara T, Yamamoto K, Imai C, Tanaka A, Uchiyama M. Primary tuberculous osteomyelitis of the mandible. Pediatr Int 2004; 46: 736–739
9. Alawi F. An update on granulomatous diseases of the oral tissues. Dent Clin North Am 2013;57:657-71
10. Zhang X, Wang J, Wu Y, Jiang L, Zhou Y, Chen Q, et al. Tuberculosis with atypical manifestations involving multiple sites of the oral cavity: A case study. Indian J Dermatol Venereol Leprol 2017;83:116-8.

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