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Uncommon Presentation of Oral Tuberculosis Mimicking Malignancy: A Diagnostic Review

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Introduction

Oral Tuberculosis (TB) is a rare but increasingly important condition that presents unique diagnostic challenges for clinicians. Although pulmonary tuberculosis is the most common form of TB, extrapulmonary TB can affect any part of the body, including the oral cavity. When tuberculosis of the oral cavity occurs, it often presents in a manner that can mimic more common or more severe conditions, including malignancies. This is particularly true for oral tuberculosis that manifests in uncommon or atypical forms, which can significantly complicate its diagnosis and management [1].

The association between oral tuberculosis and malignancy is particularly concerning due to overlapping clinical features such as ulcerative lesions, persistent non-healing sores, and oral masses, which can easily be mistaken for cancers. Given the increasing global prevalence of tuberculosis in regions where it had previously been under control, awareness of its atypical manifestations in the oral cavity is essential. In this diagnostic review, we will explore the uncommon presentations of oral tuberculosis that can mimic malignancy, focusing on the clinical, radiological, and histopathological features that differentiate these conditions. By examining case studies and diagnostic approaches, this review aims to enhance understanding and facilitate accurate diagnosis and timely treatment [2].

Description

Oral tuberculosis is a form of extrapulmonary TB that affects the oral mucosa, tongue, salivary glands, palate, and other oral structures. Historically, it has been considered rare due to the availability of antibiotics and the declining incidence of tuberculosis in developed countries. However, the resurgence of tuberculosis in both developed and developing nations, coupled with an increase in HIV co-infection and multidrug-resistant TB, has led to a renewed interest in this disease. Oral TB can present with nonspecific symptoms, making it difficult to differentiate from other conditions, especially malignancies. The disease can involve the oral mucosa, causing ulcerations, painful lesions, or swelling, and it can also affect the bone, leading to osteomyelitis. Diagnosis is often delayed due to its resemblance to more common conditions such as squamous cell carcinoma, chronic gingivitis, and other oral infections. Oral tuberculosis typically occurs due to hematogenous or lymphatic spread from a primary focus of infection, which is most often located in the lungs. The Mycobacterium tuberculosis bacillus, the causative agent of tuberculosis, can spread to the oral cavity through sputum droplets, particularly in patients with active pulmonary TB. In rare instances, the bacteria can be introduced directly to the oral cavity via infected saliva or through close contact [3].

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The diagnosis of oral tuberculosis requires a multi-faceted approach involving clinical evaluation, radiological studies, microbiological testing, and histopathological examination. A thorough patient history, including risk factors for tuberculosis such as travel to endemic areas, close contact with infected individuals, or previous history of pulmonary tuberculosis, is crucial. A detailed oral examination is essential to assess the location, appearance, and duration of lesions. Imaging studies such as panoramic radiography or CT scans can provide valuable information regarding the extent of bone involvement or soft tissue swelling. In cases of osteomyelitis, radiographic findings may show areas of bone destruction or sequestration. Diagnosis is confirmed through microbiological methods, including sputum smear microscopy, culture for Mycobacterium tuberculosis, and Polymerase Chain Reaction (PCR) testing. In cases of oral TB, a biopsy of the lesion may be necessary for acid-fast bacilli (AFB) staining, culture, and molecular testing. Histological examination of biopsy specimens is critical to confirm the diagnosis. Granulomatous inflammation with caseous necrosis is characteristic of tuberculosis. The presence of Langhans giant cells and AFB in tissue samples is strongly indicative of Mycobacterium tuberculosis infection. The treatment of oral tuberculosis follows the same regimen as for pulmonary tuberculosis and involves a combination of anti-tubercular drugs. In cases where significant bone destruction or abscess formation occurs, surgical debridement may be necessary to remove necrotic tissue and promote healing [5].

Conclusion

Oral tuberculosis is a rare but important condition that can easily be mistaken for malignancy due to its nonspecific clinical presentation. A high index of suspicion is necessary when encountering chronic, non-healing oral lesions, especially in patients with risk factors for tuberculosis. By recognizing the clinical features, differentiating it from other conditions, and utilizing appropriate diagnostic tools such as biopsy, PCR, and AFB staining, clinicians can accurately diagnose oral tuberculosis and initiate prompt treatment. Timely diagnosis and treatment are critical to preventing complications and ensuring

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favorable outcomes. As tuberculosis remains a global health concern, continued vigilance and awareness of its atypical presentations in the oral cavity are essential for improving patient care and outcome.

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Conflict of Interest

None.

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