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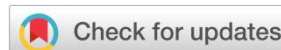
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Review Article

Clinical Characteristics of Oral Tuberculosis: A Scoping Review

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Abstract

Introduction: Oral tuberculosis (TB) is a rare manifestation of *Mycobacterium tuberculosis* infection, yet it may signal systemic disease. Because oral TB lesions often mimic traumatic ulcers, oral malignancy, or chronic infection, diagnosis is frequently delayed. **Objective:** To map the clinical characteristics of oral TB lesions, the oral sites most often involved, and the diagnostic approaches reported in recent literature. **Methods:** A scoping review was conducted in accordance with the PRISMA-ScR guidelines. PubMed and Scopus were searched for English- or Indonesian-language primary reports published between 2020 and 2025 that described oral manifestations of TB. Four reviewers independently screened records and extracted data; findings were synthesized narratively and mapped quantitatively by lesion pattern, anatomical site, and diagnostic pathway. **Results:** Of 58 records identified, 13 articles were included after deduplication and screening. Oral TB most often presented as chronic ulceration with poorly defined margins and erythematous or grayish-white surfaces, although nodules and tumor-like masses were also described. The tongue was the most frequent main site (5/13; 38.5%), followed by buccal and/or labial mucosa (4/13; 30.8%), palate (2/13; 15.4%), and, less commonly, gingiva or a post-extraction socket (1/13 each; 7.7%). Diagnosis typically combined clinical assessment, imaging when indicated, biopsy with histopathology, and, in several reports, molecular or culture confirmation. Clinical improvement after standard anti-TB therapy was described in the included cases. **Conclusion:** Across recent case-based reports, oral TB most commonly appears as chronic tongue or mucosal ulceration and requires multimodal confirmation. Greater familiarity with these patterns may help dentists recognize suspicious lesions earlier, particularly in TB-endemic settings.

Keywords: Tuberculosis, Clinical characteristics, Oral manifestations, Oral lesions, *Mycobacterium tuberculosis*

INTRODUCTION

Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis*, with the lungs being the most common site of infection. The infection can also spread to other parts of the body, including the oral cavity. Although oral tuberculosis is rare, its presence often indicates a systemic infection and can increase morbidity. Oral TB lesions present in various forms, such as chronic ulcers, nodules, granulomas, or soft tissue enlargements, and frequently mimic other conditions like cancer, syphilis, or trauma. These overlapping clinical characteristics often make diagnosis difficult and lead to delays.

Tuberculosis has a significant global impact and a complex etiology involving the immune system, the environment, and socioeconomic conditions. Data from the World Health Organization (WHO) indicate that approximately 10.6 million new TB cases occurred worldwide in 2022, with Indonesia among the countries bearing the highest burden.¹ Oral manifestations of tuberculosis frequently occur in individuals with

compromised immune function, including patients with TB-HIV coinfection or poor nutritional status.

The condition of the oral cavity can reflect an individual's systemic health status; thus, the presence of oral TB lesions may serve as an early indicator of active infection or disease dissemination. The presenting symptoms are typically persistent and painful, and they do not respond to conventional local therapy. Establishing a diagnosis requires histopathological examination and confirmation via microbiological testing.

Dentists play an important role in early detection, particularly through recognition of oral TB lesion characteristics, and interdisciplinary collaboration between medical and dental professionals can strengthen overall case management. Earlier reviews have discussed clinical features and diagnostic considerations of oral TB.^{2,3} However, a focused scoping review that systematically maps recent case-based evidence (2020–2025) on lesion characteristics, oral sites, and diagnostic pathways remains limited.

This gap is clinically relevant because oral TB lesions frequently resemble traumatic ulcers, chronic infections, or malignancy and may therefore go unrecognized for months, particularly in TB-endemic regions where a dentist may be the first health professional to examine the oral mucosa. The present scoping review was undertaken to address this gap by assembling and quantitatively summarizing case-based literature published between 2020 and 2025, with particular attention to lesion morphology, anatomical distribution, and diagnostic pathways.

The aim of this study is to map the oral manifestations of tuberculosis reported in the recent scientific literature, covering clinical presentations, lesion locations, and diagnostic methods in greater detail. In addition, the review seeks to surface secondary knowledge gaps that remain after this mapping exercise, so that future research can be directed more purposefully toward strengthening early detection in dental practice.

The research questions are, first: what clinical characteristics of oral TB lesions have been reported in recent primary literature, then second: which oral tissue sites are most frequently involved, and third: what diagnostic approaches are used to confirm oral TB.

METHODS

This study is a scoping review conducted to identify, characterize, map, and synthesize evidence from diverse primary designs, following the methodological guidance of PRISMA-ScR.⁴ The stages of the review comprised identifying the research questions, searching information sources, selecting evidence, charting the data, and collating and reporting the results (Figure 1).

The articles used as literature eligibility criteria for this thesis are those that meet the following criteria: a) PCC Criteria (Population, Concept, Context), the PCC criteria are employed to formulate questions, facilitate the search process, and frame the research question. In this study, the criteria format used is as follows: Population: patients diagnosed with TB (pulmonary or extrapulmonary), Concept: Oral manifestations or oral lesions associated with TB, and Context: Original research articles, including case reports, case series, and observational studies; b) Inclusion criteria were: articles reporting cases or data regarding oral manifestations of TB, published between 2020 and 2025, and full-text articles available in Indonesian or English Exclusion criteria were: articles in non-human studies and that are not primary research (e.g., reviews, editorials, letters to the editor).

Search Strategy

PubMed and Scopus databases were used as the Information sources and literature search strategy. Boolean operators were used to combine search terms. The search string used in this review was: (("oral tuberculosis" OR "oral lesion" OR "oral ulcer") AND ("tuberculosis" OR "Mycobacterium tuberculosis") AND ("case report" OR "original research")).

Research Procedure

The research procedure follows the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) flow diagram.⁵ The literature selection process was conducted through the following steps: Formulate the research question and define the topic; Establish PCC, inclusion, and exclusion criteria; Search database journals using specific keywords; Limit the initial screening to publications from 2020 to 2025; Remove duplicate records across all database results; Screen titles and abstracts to exclude irrelevant studies; Read full-text articles to confirm eligibility based on inclusion criteria; Extract, analyze, and present data from the final set of articles. Title/abstract and full-text screening were performed by three reviewers working independently. Disagreements were resolved by discussion or adjudication by a senior reviewer. Figure 1 shows the PRISMA-ScR Diagram Flowchart in this review.

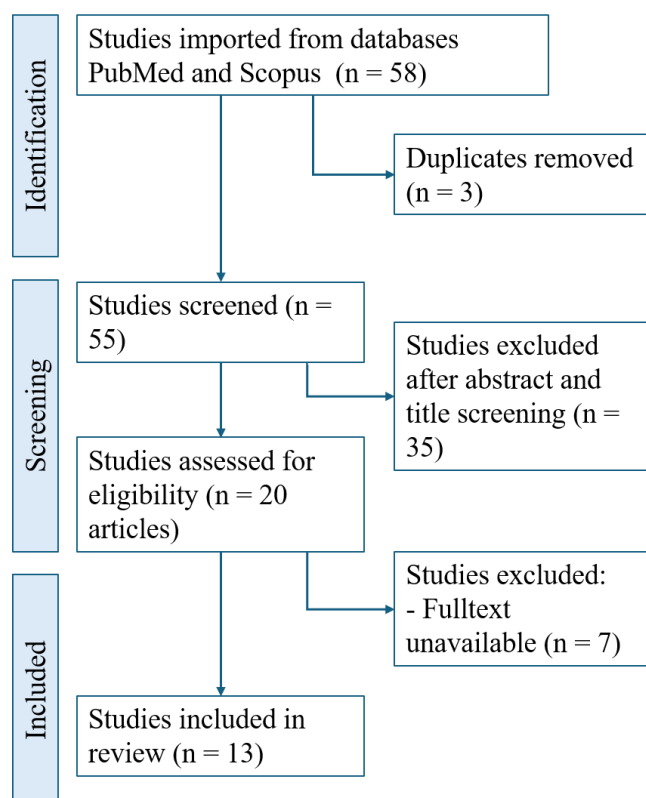


Figure 1. PRISMA-ScR Diagram Flowchart

Data Extraction

Data were extracted from articles that met the inclusion criteria. The extracted variables included the author(s), year of publication, study design, title, type of TB, diagnostic method, clinical findings, and main conclusions.

RESULTS

A comprehensive literature search using PubMed and Scopus yielded an initial total of 58 articles. After removing three duplicate entries, 55 unique records remained for screening. Initial title and abstract screening identified 20 relevant articles. These articles were then assessed for full-text availability and

eligibility based on the inclusion criteria. Seven articles were excluded due to full-text unavailability or non-alignment with the inclusion criteria. Consequently, 13

articles fulfilled all criteria and were included in the final analysis (Table 1)

Table 1. Sample characteristics

Article Code	Author	Year	Title	Types of TB	Type of Study	Diagnostic Methods
1	Juan Tang, et al. ⁶	2023	A case of oral tuberculous ulcer and literature review	Primary oral tuberculosis	Case reports with literature review	Clinical examination, PPD test, chest imaging, immunology, bacteriology, histopathological examination (H&E stain), with histopathological examination considered the gold standard.
2	Tribikram Debata, et al. ⁷	2024	Rare case of extrapulmonary tuberculosis masquerading as an intraoral sinus in association with a nonhealing extraction socket in a teenage girl	Primary oral tuberculosis	Case report	Clinical examination, Oral Panoramic Radiograph (OPG), Routine Blood Investigations (ESR), Excisional Biopsy, Histopathological examination (H&E stain), and CBNAAT testing of pus discharge
3	Cintia Milani, et al. ⁸	2024	Tuberculosis of the tongue in a patient under treatment with adalimumab	Primary oral tuberculosis	Case report	Molecular rapid test (sputum), chest radiography, clinical and immunological examination, microscopy, bacterial cultures, biopsy
4	Paulo S.S. Pina, et al. ⁹	2022	A buccal mucosa ulcer as the first sign of tuberculosis	Oral manifestation of pulmonary TB	Case report	Clinical examination, incisional biopsy, histopathological
5	Priyanka Sachdeva, et al. ¹⁰	2020	Primary oral tuberculosis - A case report	Primary oral tuberculosis	Case report	Histopathological examination, hematological investigations, radiographic investigations (chest radiograph)
6	Bahaa Razem, et al. ¹¹	2021	Lingual primary tuberculosis mimicking malignancy	Primary oral tuberculosis	Case report	Histopathological examination
7	Joana Fragoso, et al. ¹²	2020	Oral ulcer as presentation of cavitating pulmonary tuberculosis	Oral manifestation of pulmonary TB	Case report	Biopsy, CTScan, antibacterial sensitivity test, serology for HIV, HCV, and HBV
8	Sevilla-Fuentes, et al. ¹³	2024	Tongue Tuberculosis as a Complication of Pott's Disease in a Patient on Systemic Steroid Therapy without Pulmonary Tuberculosis	Oral manifestation of spinal TB	Case report	Biopsy, MRI, histopathological examination, clinical examination and serology
9	Shyamkum	2023	Primary	Primary oral	Case reports	Radiographic imaging

	ar Sriram, et al. ¹⁴		Tuberculosis of Buccal and Labial Mucosa Literature	tuberculosis	with literature review	microbiological tests, immunological response tests, histopathology, molecular investigation
10	Nakkeeran Adhithiya, et al. ¹⁵	2024	Gingiva as the primary site of extrapulmonary tuberculosis: A rare case report with brief review of literature	Primary oral tuberculosis	Case reports with literature review	Histopathological examination, liquid culture, cartridge-based nucleic acid amplification test (CB-NAAT), and clinical correlation with antitubercular therapy (ATT)
11	Ines Kechaou, et al. ¹⁶	2021	Palate Tuberculosis with Paradoxical Lymphadenitis	Palatine tuberculosis with cervical lymph node involvement	Case report	Biopsy of palatine lesion showing granulomatous tissue with caseous necrosis, cervical ultrasonography, facial CT scan, tuberculin skin test, chest radiography, abdominal ultrasonography
12	Rocío Valenzuela-Narváez, et al. ¹⁷	2020	An Unusual Granular Ulcer Secondary Oral Tuberculosis	Oral manifestation of pulmonary TB	Case report	Clinical examination, anatomopathological study
13	Aboubakr Mabrouki, et al. ¹⁸	2022	A Giant Nodule of the Soft Palate Mimicking a Tumor: A Case of Oropharyngeal Tuberculosis	Oral manifestation of pulmonary TB	Case report	Contrast-enhanced cervicofacial scan, magnetic resonance imaging (MRI), and histopathological examination of a biopsy specimen

Table 2. Characteristics of Oral Tuberculous Lesions

Article Code	Types of Lesions	Location	Size	Color	Lesion margin	Other Findings
1	Ulcerative nodule	Left dorsal surface of the tongue, possibly extending to the surrounding area.	±2.0 cm diameter	Not specified (possibly erythematous)	Indistinct, boundaries are not clearly defined.	Distinct, worsening pain; a central area of ulceration with raised, indurated surrounding tissue.
2	Post-extraction socket lesion with sinus tract and ulceration	Mandibular first molar region (extracted tooth area)	Not specified	Not specified	Not specified	Pain, swelling, purulent discharge, granulomatous inflammation, irregular alveolar bone destruction, persisting for approximately one month.

3	Multiple ulcerative lesions	Tongue — dorsum, right and left lateral borders, extending to the ventral surface.	Broad, gradually enlarging	Not specified (possibly erythematous/inflammatory)	Irregular, ill-defined borders, indurated.	Severe pain, difficulty eating, ulcers persisting for >1 year prior to diagnosis.
4	Ulceration	Right buccal mucosa, from the labial commissure to the right buccal mucosa.	± 4 cm	Red with a yellowish area	Irregular	Painful, solitary, chronic for ±4 months, gradually enlarging.
5	Solitary ulceration	Left lower labial mucosa	± 4 cm × 4 cm	Whitish-gray	Irregular, with thin and undermined edges.	Painless, base slightly indurated, unchanged for 2 years, no other symptoms.
6	Ulceration	Tongue (lateral sides, tip, and posterior third)	Varies	Not specified	Irregular	The lesion is typically solitary and painful, accompanied by limited tongue protrusion and trismus; it is of short duration but progressive, resembling a traumatic ulcer or cancer.
7	Papillomatous ulceration	Posterior third of the dorsum of the tongue	±3 cm	Not specified	Not specified	Pain, duration of 4 months, bilateral cervical lymphadenopathy, weight loss >10%
8	Solitary ulceration	Tongue	Covers ±80% of the tongue's surface	Not explicitly stated	Not explicitly stated	The lesion spread rapidly to both sides of the tongue, causing severe pain that made swallowing impossible; it persisted for several months and did not improve with antifungal therapy.
9	Chronic, non-healing ulceration	Buccal and labial mucosa (mainly); gingiva and tongue are also frequently affected.	Varies	Granular (Trélat)	Irregular and undermined edges	Painless, indurated ulcer with inflammatory exudate, persisting for >3 weeks, resistant to conservative therapy; may be accompanied by regional lymphadenopathy.
10	Ulcerative lesion with gingival hyperplasia	Right maxillary gingiva and alveolar mucosa (between teeth #11–#14)	Not specified	Erythematous (bright red)	Irregular	Granular surface, resembling gravel; bleeds easily; painless; persists for several weeks; does not improve after periodontal therapy.
11	Multiple ulcerations	Palate	diameter <1 cm	Not specified	Not specified	No necrosis or ulceration; poor oral hygiene; persistent after tooth extraction; resistant to antibiotics.
12	Chronic granular ulceration	Vestibular mucosa of the left mandibular premolar region (buccal)	Diameter ± 2 cm	Not specified (covered with Trélat's granules)	Irregular edges	Granular surface, deep depression, asymptomatic, no lymphadenopathy, chronic course of 3 years.

13	Tumor-like nodular mass	Right soft palate, pushing the uvula to the left.	Diameter $\pm$ 3 cm	Clearly defined, separable	Clearly defined, separable	Firm consistency, odynophagia, nocturnal snoring, without signs of inflammation or ulceration.
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Table 3. Distribution of Included Cases

Domain	Category	n	%
TB type	Primary oral TB	7	53.8%
	Oral manifestation of pulmonary TB	4	30.8%
	Oral manifestation of spinal TB (Pott's disease)	1	7.7%
	Palatine TB with cervical lymph node involvement	1	7.7%
Main oral site	Tongue	5	38.5%
	Buccal and/or labial/vestibular mucosa	4	30.8%
	Palate/soft palate	2	15.4%
	Gingiva/alveolar mucosa	1	7.7%
	Post-extraction socket	1	7.7%
Predominant lesion pattern	Ulceration (solitary, multiple, papillomatous, granular, or ulcerative nodule)	11	84.6%
	Socket lesion with sinus tract	1	7.7%
	Tumor-like nodular mass	1	7.7%

DISCUSSION

Oral manifestations of tuberculosis (TB) are rare, accounting for only approximately 0.05% to 5% of total TB cases, thus carrying a high risk of misdiagnosis and delayed treatment.⁶ Innate immunity against TB infection of the oral mucosa is influenced by the integrity of the oral mucosa and saliva. Minor mucosal lesions resulting from chronic inflammation, trauma, leukoplakia, or poor oral hygiene can serve as sites for *Mycobacterium tuberculosis* to colonize.²⁰ Oral TB lesions are most often secondary to pulmonary TB infection, but primary cases can also occur, particularly in mucosal areas with trauma or decreased local immunity.^{9,15} The route of infection spread to the oral cavity is generally not through direct inoculation from sputum, but rather through hematogenous or lymphatic spread, with *Mycobacterium tuberculosis* reaching the submucosa and causing mucosal ulceration.^{15,21} The most common clinical manifestation is a painless, non-healing chronic ulceration, often accompanied by regional lymphadenopathy.^{6,14,15} Because it is non-specific and can mimic other granulomatous or neoplastic lesions, such as sarcoidosis, Crohn's disease, deep mycoses, cat-scratch disease, foreign-body reactions, tertiary syphilis, and Melkerssone-Rosenthal syndrome, additional special tests including histopathology or microbial culture are required.²²

The diagnosis of oral TB requires a multidisciplinary approach with histopathological confirmation, liquid culture, and molecular examinations such as cartridge-based nucleic acid amplification tests (CB-NAAT).^{6,15} The CB-NAAT testing technology was endorsed by the World Health Organization (WHO) in December 2010 and recognized as a major advancement in global TB control. Cartridge-based nucleic acid amplification testing (CBNAAT) is a real-time polymerase chain reaction (PCR) assay that enables the simultaneous detection of the *Mycobacterium tuberculosis* complex and rifampicin resistance from biological specimens within two hours.²³

Clinical characteristics of oral TB lesions across the included reports, chronic ulceration was the dominant morphological pattern, accounting for 11 of 13 cases (84.6%). Ulcers were described as solitary or multiple, occasionally papillomatous or granular, and sometimes combined with nodularity.^{6,8,10,12,13} This distribution is broadly consistent with earlier observations that ulcerative forms predominate in oral TB.¹⁹ At the same time, non-ulcerative presentations should not be dismissed: a firm, tumor-like soft-palate mass was reported and initially suggested neoplastic disease,¹⁸ while an extraction-socket lesion with sinus tract illustrated a further atypical route of presentation.⁷ Lesion size ranged from small palatal ulcers less than 1 cm in diameter to extensive involvement covering most of the tongue surface.^{13,16} Color, when recorded, was

most often erythematous or whitish-gray, and several reports emphasized irregular or undermined margins together with a granular surface resembling Trélat granules, a finding that may help distinguish tuberculous ulceration from more banal chronic ulcers.^{10,14,17} Pain was strikingly inconsistent: some lesions were painless for long periods, whereas others produced severe odynophagia, trismus, or feeding difficulty.^{10,11,13,15} Within this small case-based sample, chronicity, resistance to local therapy, and morphological irregularity appeared more consistent clinical prompts than pain intensity alone; this interpretation should be tested in larger series.

Anatomical sites of involvement the tongue was the most frequent main site (5/13; 38.5%), followed by buccal, labial, or vestibular mucosa (30.8%) and palate (15.4%), with single reports involving gingiva and a post-extraction socket (Table 3). Predilection for the tongue has been linked to repeated microtrauma from teeth or rough dental surfaces and to the rich vascular supply of lingual muscle, which may facilitate either local implantation or hematogenous seeding.^{3,11} Involvement of buccal mucosa, gingiva, and palate confirms that oral TB is not confined to one anatomical niche. The post-extraction socket case is particularly instructive for dental practice, because disruption of mucosal integrity after extraction may allow local colonization or reactivation and present as a non-healing sinus with suppuration.⁷

Oral tuberculosis are rare and are difficult to diagnose, so every chronic, abnormal looking lesion should be examined cautiously for early diagnosis and prompt treatment.²⁴ Diagnostic approaches because clinical features are nonspecific and may mimic granulomatous or neoplastic disease, confirmation in the included reports generally followed a multimodal pathway. Suspicious chronic lesions prompted biopsy; hematoxylin-eosin staining frequently revealed granulomatous inflammation with caseous necrosis, sometimes supported by acid-fast staining.^{6,9,13} Molecular assays such as GeneXpert MTB/RIF, PCR, or CB-NAAT on tissue or pus, and liquid culture in selected cases, provided microbiological confirmation.^{7,8,15} Imaging (plain radiography, CT, or MRI) and immunologic tests (tuberculin skin testing or IGRA) were used mainly to evaluate systemic involvement or to support the overall diagnostic context rather than as stand-alone proof of oral disease.^{10,11,13} In practical terms, the included reports most often combined clinical suspicion with tissue diagnosis and, where available, microbiological confirmation, while systemic work-up was guided by pulmonary or extrapulmonary clues.

Of the thirteen cases recorded, the most common types of lesions as a manifestation of oral tuberculosis are ulceration in various forms, such as single ulceration,^{10,13} multiple ulceration,⁸ and papillomatous ulceration.¹² This is in accordance with previous reports which stated that 93% of lesions in oral manifestations of TB were ulcerated.^{19,25} There are also ulcerative nodular lesions⁶ and hard, painless nodular masses that resemble tumors,¹⁸ indicating that oral tuberculosis

does not always act as an ulcer alone but can resemble mass lesions or nodules.

Lesions can vary in size from small lesions less than 1 cm on the palate to extensive lesions covering 80% of the tongue surface.^{13,16} Large and progressive lesions are often associated with long-term lesion duration or delayed diagnosis, as in one case where the lesion progressed from the size of a sorghum grain to the size of a coin over four months.⁶

The color of the lesions is mostly described as erythematous (red) or whitish-gray, such as a single ulcerated lesion on the labial mucosa,¹⁰ which has a whitish-gray color with thin, undermined edges. Some lesions exhibit a granular surface resembling "Trélat granules," which is a characteristic finding and helps distinguish tuberculosis from other chronic ulcers.^{14,17} Lesion borders are often irregular and ill-defined, for example in ulcerative nodules⁶ and some multiple ulcerated lesions, indicating active infiltration and widespread inflammation. These ill-defined borders can make it difficult to assess the extent of lesion spread clinically. Another characteristic finding is the presence of pain of varying degrees, ranging from painless^{10,15} to severe pain and functional impairment such as difficulty swallowing and trismus.^{11,13} This indicates that pain is not always the primary parameter in assessing oral tuberculosis.

Of the thirteen cases, all received WHO standard therapy in the form of a combination regimen of HRZE (isoniazid, rifampicin, pyrazinamide, and ethambutol), with a duration of therapy ranging from 6 to 12 months. In cases of glanular ulceration and Pott's disease, additional management in the form of periodontal surgery¹⁷ or cervical fixation¹³ was performed to restore function and prevent deformity. Treatment outcomes were generally good; almost all patients showed improvement within the first 4–6 weeks of therapy and fully recovered after 6–12 months.

Overall, the characteristics of oral TB lesions are highly variable and sometimes resemble other pathological conditions such as traumatic ulcers, malignancies, or other chronic infections. Therefore, establishing a correct diagnosis requires a thorough evaluation of the clinical features and diagnostic support, which includes a combined clinical, radiographic, histopathological, and molecular testing approach. The diagnosis of oral tuberculosis in existing cases generally begins with the clinical identification of suspicious lesions, followed by tissue biopsy as the primary step. Routine histopathological examination with hematoxylin-eosin (H&E) staining reveals granulomas with caseous necrosis, which is then confirmed by Ziehl-Neelsen (ZN) staining for acid-fast bacilli.^{6,9,13} Several reports also utilize molecular tests such as GeneXpert MTB/RIF or PCR from biopsy tissue or pus as definitive confirmation of the presence of *Mycobacterium tuberculosis*.^{7,8,13} In addition, liquid cultures are performed in some cases to confirm the diagnosis.¹⁵ Other supporting examinations such as X-rays, CT scans, and MRI are used if there is suspicion of involvement of other organs such as

bones.¹³ The tuberculin test (Mantoux) and IGRA are also used in some cases as additional screening.^{10,11}

Several cases indicate that the initial manifestations of systemic TB were first detected in dental clinics through complaints of chronic ulcers. Dentists play a crucial role as first-line providers in detecting oral lesions, thus contributing to the identification of tuberculosis cases, especially in patients who are unaware of their disease status. Early detection by dentists is crucial, not only to prevent the development of potentially fatal disease but also to reduce the risk of transmission to both the general public and the medical team, including the dentists themselves.¹⁰ Therefore, in patients with complaints of lesions limited to the oral mucosa, dentists need to be aware that these abnormalities could be manifestations of systemic diseases such as tuberculosis.⁹ Furthermore, tuberculosis should always be considered as a differential diagnosis in cases of atypical oral ulcers that do not show improvement with conventional therapy, especially in patients from areas with a high TB incidence.¹⁴ Comparison with prior literature and research gaps when set against earlier clinical overviews of oral TB,^{2,3} the contribution of this review lies less in claiming an entirely new clinical entity than in offering a structured and quantified reading of recent case material (2020–2025), from which patterns of lesion site and morphology become more visible to the practicing clinician. The predominance of ulceration accords with older series such as Dogra *et al.* (2013)¹⁹, while the present map additionally summarizes diagnostic approaches reported in the included cases. Even so, several secondary gaps remain apparent once the included reports are examined side by side: lesion descriptors are applied inconsistently across publications; epidemiological estimates specific to oral TB continue to be scarce; diagnostic algorithms are often incompletely described; and prospective evidence on diagnostic delay, or on dentist-initiated case finding in high-burden settings, is still rare.

This review has several limitations. First, the evidence base consisted predominantly of case reports, which limits generalizability and introduces potential publication bias toward unusual or severe presentations; the percentages reported here therefore describe the included literature rather than true population frequencies. Second, only PubMed and Scopus were searched, and the publication window was restricted to 2020–2025; relevant studies outside these sources or years may have been missed. Third, only Indonesian- and English-language full texts were included. Fourth, critical appraisal of individual sources was not performed. Fifth, quantitative synthesis or meta-analysis was not feasible because of clinical and methodological heterogeneity. These constraints favor cautious interpretation focused on pattern recognition rather than causal inference.

CONCLUSION

Oral tuberculosis is a rare condition with highly variable lesions, ranging from ulcers and granulomas to intraoral sinuses and tumor-like masses that can mimic other

diseases such as cancer or chronic infections. Although lesion locations vary, they are most commonly found on the tongue, buccal mucosa, palate, and post-extraction sockets. Diagnosis requires a thorough evaluation, including medical history, clinical, radiological, and histopathological examinations, along with confirmation through molecular testing.

The dentist plays a crucial role in detecting suspicious oral lesions, especially those that do not resolve with conventional therapy. A high index of suspicion for TB should always be maintained in the differential diagnosis, particularly in patients from endemic areas or those with a history of TB exposure, to prevent delayed diagnosis and break the chain of transmission.

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