

## ORIGINAL RESEARCH

# Clinico- pathological assessment of 30 cases of oraltuberculosis

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### ABSTRACT

**Background:** Tuberculosis (TB) remains one of the world's deadliest diseases and has surpassed AIDS as the leading cause of death due to infectious disease. The present study was conducted to assess 30 cases of oral tuberculosis.

**Materials & Methods:** 30 cases of oral tuberculosis of both genders were involved. Parameters such as patients' sex, age, developmental site, clinical presentation were obtained. All patients were diagnosed by histopathological examination.

**Results:** Out of 30 cases, males were 20 and females were 10. Common site involved was tongue in 22, labial mucosa in 3, lower lip in 2 and buccal vestibule in 3 cases. Clinical presentation was mass in 11 and painless ulcer in 19 cases. The difference was significant ( $P < 0.05$ ). Histopathological findings were non- caseating granuloma in 23 and caseating granuloma with necrosis in 7 cases. The difference was significant ( $P < 0.05$ ).

**Conclusion:** Maximum cases of tuberculosis was seen among males. Common site involved was as painless ulcer.

**Key words:** Tuberculosis, Painless ulcer, Non- caseating granuloma

### INTRODUCTION

Tuberculosis (TB) remains one of the world's deadliest diseases and has surpassed AIDS as the leading cause of death due to infectious disease.<sup>1,2</sup> The incidence of TB decreased in the 1980s because of the development of the BCG vaccine, anti-TB chemotherapy and improvements in public health care.<sup>3</sup> However, since 1985, the number of TB patients has gradually increased due to the increase of the global population and increasing amount of HIV-positive and multiple drug-resistant TB patients. According to a World Health Organization (WHO) report, TB accounted for 10.4 million new cases and 1.8 million deaths worldwide in 2015.<sup>4</sup>

Most cases show constitutive symptoms such as fever, weight loss, night sweats, or malaise with specific systemic symptoms based on the organ affected. In general, symptomatic patients are subjected to radiologic imaging of the infected organs to evaluate and plan a more accurate and specific diagnostic test.<sup>5</sup> Usually, the extrapulmonary sample obtained by fine-needle aspiration or biopsy is used for microscopy, histopathology, culture, biochemical/immunological, and molecular testing, including drug susceptibility, to start an

effective treatment.<sup>6</sup> In general, entrance of *M. tuberculosis* into these regions is covered with epithelium mucosa; therefore, immunosuppression or a break in this natural barrier caused by trauma, inflammation, poor oral hygiene or pre-existing lesions, such as leukoplakia, periapical granuloma, cysts and abscesses, could induce the occurrence of tuberculosis.<sup>7</sup> The present study was conducted to assess 30 cases of oral tuberculosis.

## MATERIALS & METHODS

The present study consisted of 30 cases of oral tuberculosis of both genders. All were explained regarding study and their written consent was obtained. Ethical approval was taken before starting the study.

Information such as patients' sex, age, developmental site, clinical presentation, duration from first visit to diagnosis, TB history, comorbidities and imaging features of the lesion and chest were obtained. All patients were diagnosed by histopathological examination. The data were recorded in a microsoft excel spread-sheet. P value less than 0.05 was considered significant.

## RESULTS

**Table I Distribution of patients**

Total- 30		
Gender	Males	Females
Number	20	10

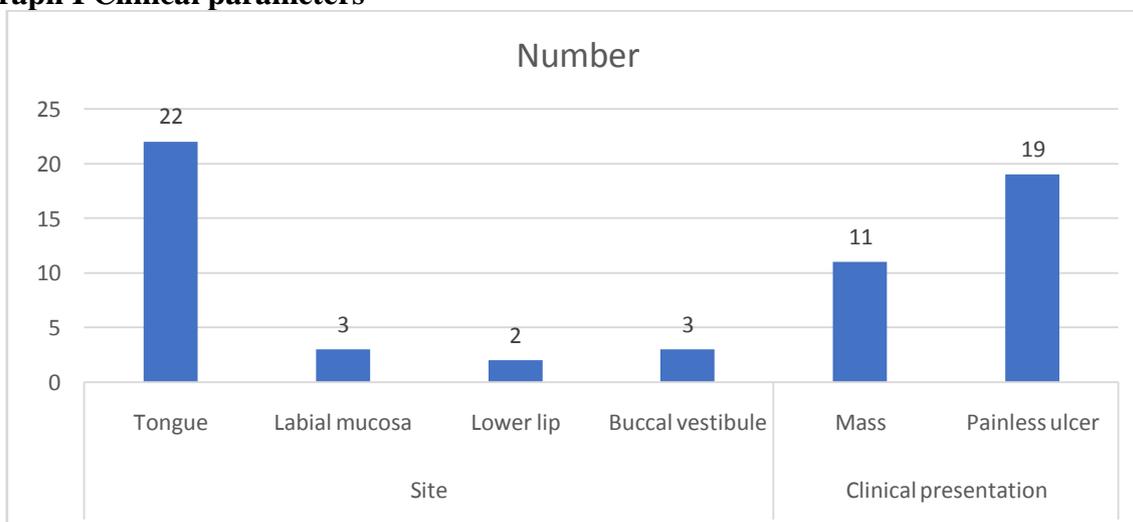
Table I shows that out of 30 cases, males were 20 and females were 10.

**Table II Clinical parameters**

Parameters	Variables	Number	P value
Site	Tongue	22	0.01
	Labial mucosa	3	
	Lower lip	2	
	Buccal vestibule	3	
Clinical presentation	Mass	11	0.05
	Painless ulcer	19	

Table II, graph I shows that common site involved was tongue in 22, labial mucosa in 3, lower lip in 2 and buccal vestibule in 3 cases. Clinical presentation was mass in 11 and painless ulcer in 19 cases. The difference was significant ( $P < 0.05$ ).

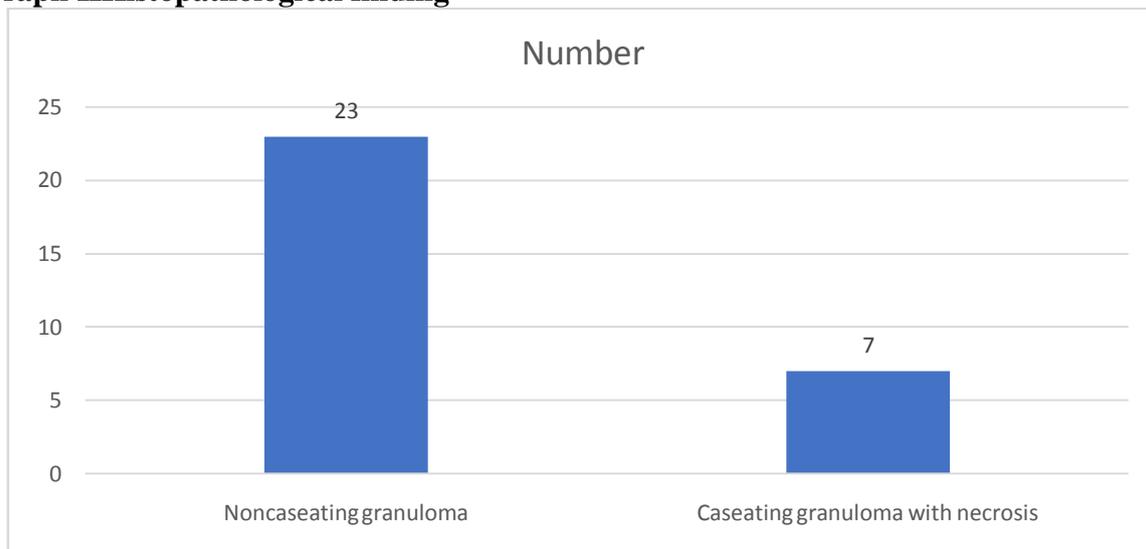
**Graph I Clinical parameters**



**Table III Histopathological finding**

Findings	Number	P value
Noncaseating granuloma	23	0.01
Caseating granuloma with necrosis	7	

Table III, graph II shows that histopathological findings were non- caseating granuloma in 23 and caseating granuloma with necrosis in 7 cases. The difference was significant ( $P < 0.05$ ).

**Graph II Histopathological finding**

## DISCUSSION

Tuberculosis has remained 1 of the top 10 leading causes of death worldwide.<sup>8</sup> Millions of people contract TB every year, and the incidence has been increasing in underdeveloped countries, thought to be associated with poor hygienic conditions and an increasing prevalence of smoking, diabetes mellitus, alcohol-related disorders, and acquired immunodeficiency syndrome.<sup>9</sup> The present study was conducted to assess 30 cases of oral tuberculosis.

We found that out of 30 cases, males were 20 and females were 10. Pang et al<sup>10</sup> enrolled 60 patients diagnosed with HNTB. The subjects consisted of 17 males and 43 females, and the average age of patients was  $45 \pm 14.67$  years. The major clinical presentation was a lump or swelling, followed by an oral ulcer and skin fistula. The most common site of tuberculosis was in the cervical lymph node. Three patients also suffered from a malignant tumor in the head and neck region. A total of 980 papers involving 5881 patients were included in our literature review. The included subjects ranged in age from 15 months to 100 years with a male-to-female ratio of 1.5:1. The larynx (38.92%), cervical lymph nodes (38.28%) and oral cavity (9.92%) were the three most common development sites. 465 patients were positive according to a HIV test, and 40 patients had comorbidities with different types of tumors. Head and neck tuberculosis should always be considered during a differential diagnosis for lesions in the head and neck region. Early diagnosis and treatment can greatly enhance the therapeutic effect and patients' quality of life.

We found that common site involved was tongue in 22, labial mucosa in 3, lower lip in 2 and buccal vestibule in 3 cases. Clinical presentation was mass in 11 and painless ulcer in 19 cases. Museedi et al<sup>11</sup> in their study twenty-one patients with a clinical and pathologic diagnosis of head and neck TB were enrolled. The age distribution was broad, with 28.5% of the patients younger than 15 years old. Seven patients had oral TB, with the most common

sites affected the labial vestibule (3 cases) and buccal vestibule (3 cases), followed by 1 case in the tongue. The predominant clinical presentation was ulceration, and the most common entity in the clinical differential diagnosis was squamous cell carcinoma. The most common histopathologic pattern of oral TB was a noncaseating granuloma. Most of the tuberculous lymphadenitis was located in the submandibular and submental areas.

We found that histopathological findings were non- caseating granuloma in 23 and caseating granuloma with necrosis in 7 cases. Mignogna et al<sup>12</sup> in their study a total of 42 cases of tuberculosis of the oro-facial region were examined. Thirteen patients had a primary form and 29 a secondary form of the disease. Diagnosis was based on careful clinical examination, Mantoux reaction, histopathological examination, microbiological cultures and immunological investigation with the detection of antibodies against Mycobacteria in the patients' serum (ELISA). Cases examined consisted of 27 males and 15 females. The age range was 3 to 73 years (mean age 31 years). Clinical manifestations comprised oral ulcers in 69.1%, bone involvement in 21.4%, and salivary gland and/or lymph node involvement in 14.3%. A total of 79.4% patients with secondary disease had pulmonary lesions, 15 of whom showed clinical and radiological signs of activity; there was one case of bilateral renal lesions and two of skin lesions.

## CONCLUSION

Authors found that maximum cases of tuberculosis was seen among males. Common site involved was as painless ulcer.

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