

## Prevalence of Pattern of Oral Manifestation of Various Systemic Diseases In A Known Population: An Observational Study

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### ABSTRACT

**Introduction:** The tissues of the oral cavity frequently reflect the condition of a person's general health and often may indicate the presence of a systemic disease, since many lesions or diseases occur primarily within the oral cavity.

**Materials & Methods:** It included 112 subjects of both gender. Head, neck, and oral examinations were conducted by dentist, calibrated by senior oral physicians. Presence of oral findings was recorded such as periodontitis, oral ulcerations, coated tongue etc.

**Results:** Out of 112 patients, males were 62 and females were 50. The difference was non-significant ( $P=0.1$ ). Various systemic diseases were HIV/AIDS in males (3) and females (2), tuberculosis in males (6) and females (3), Hepatitis in males (4) and females (6), Diabetes in males (27) and females (14), hypertension in males (15) and females (20) and meningitis in males (7) and females (5). The difference was significant ( $P<0.01$ ). Out of 5 cases of HIV/AIDS patients, 4 had periodontitis, 5 had candidiasis and 1 had oral ulcer. Out of 9 cases of tuberculosis, 2 had periodontitis, 1 had candidiasis and 4 had oral ulcers. Out of 10 cases of hepatitis, had 1 periodontitis, 2 had candidiasis and 2 had oral ulcer and 40 had periodontitis, 22 had candidiasis and 32 had oral ulcer out of 41 patients with diabetes. The difference was significant ( $P<0.05$ ). Out of 5 cases of HIV/AIDS patients, 4 had herpes simplex, 2 had SCC and 1 had coated tongue. Out of 9 cases of tuberculosis, 2 had herpes simplex infection, 2 had coated tongue. Out of 10 cases of hepatitis, 2 had coated tongue and 10 had coated tongue in patients with diabetes. The difference was significant ( $P<0.05$ ).

**Conclusion:** Most common oral manifestation was candidiasis, oral ulcers and periodontitis. Careful examination may be useful in detection of systemic diseases.

**KEYWORDS:** Candidiasis, Periodontitis, Oral Ulcers.

### INTRODUCTION

The mouth is a mirror of health or disease, a sentinel or early warning system. As the gateway to the body, a constant barrage of invaders like bacteria, viruses, parasites, and fungi, challenges the mouth. Many systemic diseases have oral manifestations. These lesions develop on the oral mucosa, tongue, gingiva, dentition, periodontium, salivary glands, facial skeleton, extraoral skin and other related structures. These oral manifestations must be properly recognized if the patient is to receive appropriate diagnosis and referral for treatment. In a sizeable number of instances, the oral clues are the first and sometimes even the only evidence of a disturbed state e.g. the much described Koplik's spots in the buccal mucosa which precede the cutaneous eruption of

measles. In other cases, the oral symptoms and/or signs may parallel the complaints and clues elsewhere in the body.<sup>1</sup>

The tissues of the oral cavity frequently reflect the condition of a person's general health and often may indicate the presence of a systemic disease, since many lesions or diseases occur primarily within the oral cavity. These lesions may be useful adjuncts to these clinical diagnoses and occasionally can be the presenting sign or symptom of a specific systemic disease, such as an infection by the HIV virus.<sup>2</sup> Notably, presence of some infectious diseases in mouth can still reveal patient's condition or a therapeutic response, being an adjunct to clinical conduct and prognostic. Dentists can play a key part in the diagnosis and management of patients and

have an exceptional opportunity to become familiar with and to interpret changes in oral tissues. In cooperation with physicians, the dentists can often influence the early diagnosis and treatment. A comprehensive plan for management of the nonspecific conditions and the side effects of the specific diseases is available and can be used by dentists in the supportive care of the mouth.<sup>3</sup> The present study was conducted to assess the oral findings in patients with various systemic diseases.

**MATERIALS & METHODS**

This study was conducted in the Government District Hospital, Barmer, Rajasthan. It included 112 subjects of both gender. All were informed regarding the study and written consent was obtained. Ethical clearance was taken before study. General information such as name, age, gender etc was recorded. Head, neck, and oral

examinations were conducted by dentist, calibrated by senior oral physicians. Presence of oral findings was recorded such as periodontitis, oral ulcerations, etc. Results thus obtained were subjected to statistical analysis using chi- square test. P value less than 0.05 was considered significant.

**RESULTS**

Table 1 shows that out of 112 patients, males were 62 and females were 50. The difference was non-significant (P-0.1). Table 2 shows that various systemic diseases were HIV/AIDS in males (3) and females (2), tuberculosis in males (6) and females (3), Hepatitis in males (4) and females (6), Diabetes in males (27) and females (14), hypertension in males (15) and females (20) and meningitis in males (7) and females (5). The difference was significant (P-0.01).

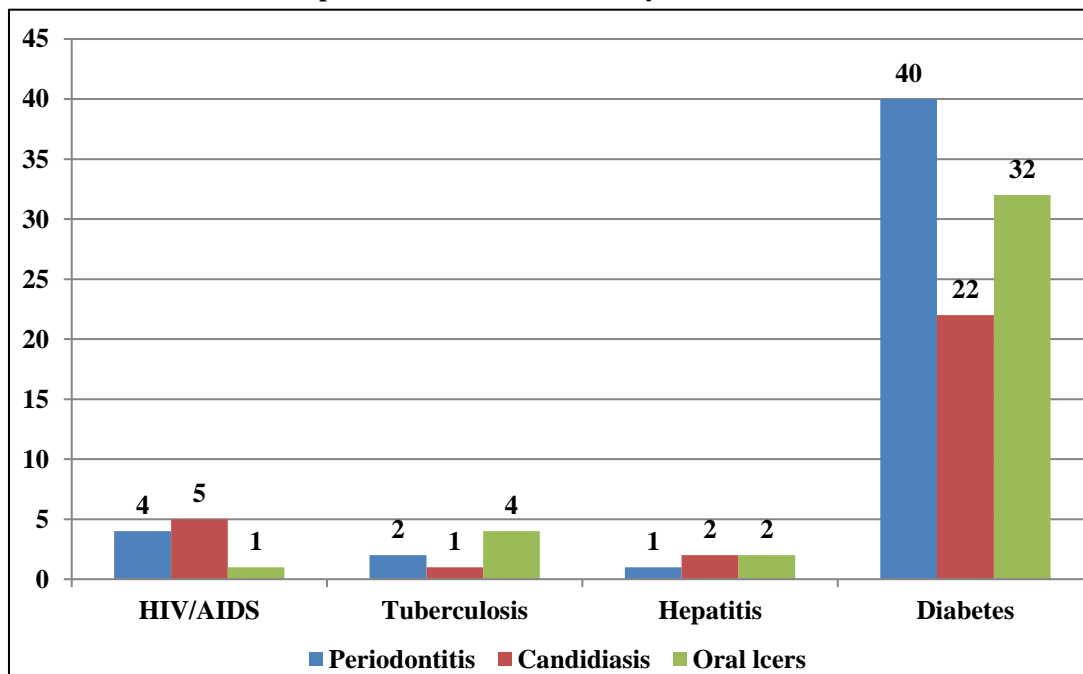
**Table 1: Distribution of patients**

Total- 112		
Males	Females	P value
62	50	0.1

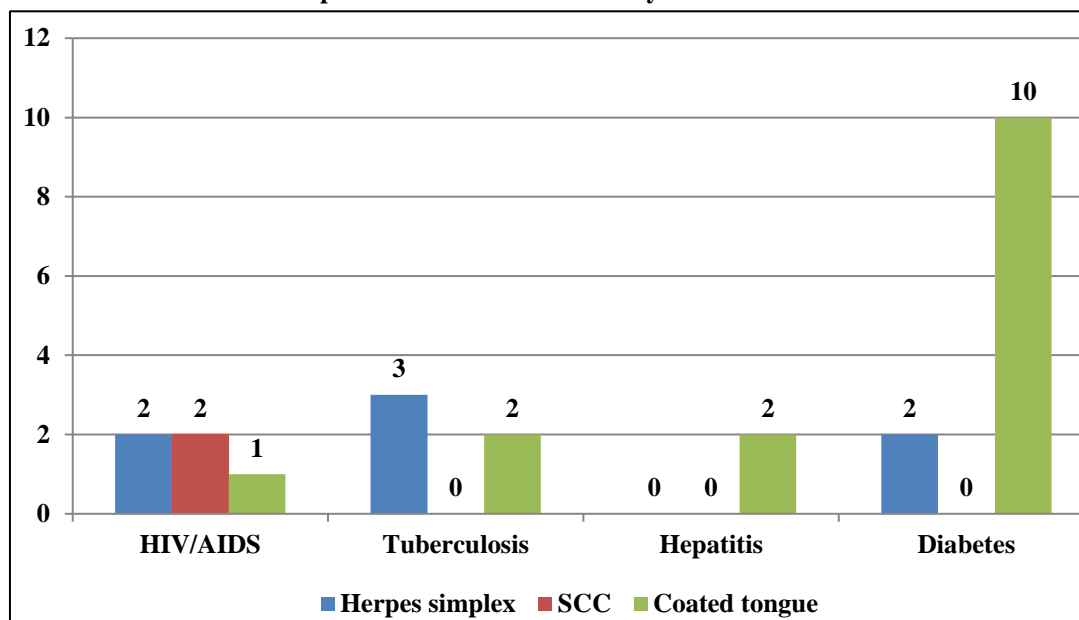
**Table 2: Various systemic diseases in patients**

Systemic diseases	Males	Females	P value
HIV/AIDS	3	2	0.01
Tuberculosis	6	3	
Hepatitis	4	6	
Diabetes	27	14	
Hypertension	15	20	
Meningitis	7	5	
Total	62	50	

**Graph 1: Oral manifestation of systemic diseases**



Graph 2: Oral manifestation of systemic diseases



Graph 1 shows that out of 5 cases of HIV/AIDS patients, 4 had periodontitis, 5 had candidiasis and 1 had oral ulcer. Out of 9 cases of tuberculosis, 2 had periodontitis, 1 had candidiasis and 4 had oral ulcers. Out of 10 cases of hepatitis, had 1 periodontitis, 2 had candidiasis and 2 had oral ulcer and 40 had periodontitis, 22 had candidiasis and 32 had oral ulcer out of 41 patients with diabetes. The difference was significant ( $P < 0.05$ ).

Graph 2 shows that out of 5 cases of HIV/AIDS patients, 4 had herpes simplex, 2 had SCC and 1 had coated tongue. Out of 9 cases of tuberculosis, 2 had herpes simplex infection, 2 had coated tongue. Out of 10 cases of hepatitis, 2 had coated tongue and 10 had coated tongue in patients with diabetes. The difference was significant ( $P < 0.05$ ).

## DISCUSSION

Oral cavity is an important diagnostic area not just because it contains derivatives of all of the primary germinal layers, and includes tissues not demonstrable anywhere else in the body, but also because of its role played in diagnosing a number of systemic diseases just because of their oral manifestations. There are many oral manifestations of diabetes mellitus, some having been described as early as 1862. About a third of diabetic patients complain of xerostomia, which may be due to an overall diminished flow of saliva and an increased salivary glucose level. Concomitant diffuse, non-tender, bilateral enlargement of the parotid glands, called diabetic sialadenoses, maybe seen in these patients.<sup>4</sup>

Xerostomia, results in increase susceptibility to opportunistic infections like *Candida albicans*. Other oral manifestation includes Erythematous candidiasis presenting as central papillary atrophy of the dorsal tongue papillae, mucormycosis, benign migratory glossitis, altered taste and burning mouth syndrome.<sup>5</sup>

The increased glucose levels in the saliva and crevicular fluid in poorly controlled diabetes result in high incidence of dental caries. Poor healing, xerostomia with subsequent increased accumulation of plaque and food debris, higher susceptibility to infections, and pronounced hyperplasia of attached gingiva all contribute to the increased incidence of periodontal disease in diabetics.<sup>6</sup>

In our study, out of 112 patients, males were 62 and females were 50. We found that various systemic diseases were HIV/AIDS in males (3) and females (2), tuberculosis in males (6) and females (3), Hepatitis in males (4) and females (6), Diabetes in males (27) and females (14), hypertension in males (15) and females (20) and meningitis in males (7) and females (5). This is in agreement with Paim et al.<sup>7</sup>

We found that most common oral manifestation was candidiasis, oral ulcers and periodontitis.

Periodontal disease, especially severe and moderate types, and candidiasis, pseudomembranous, erythematous, and angular cheilitis types, in this sequence, were the most common alterations found, followed by recurrent aphthous ulcers, coated tongue, simplex herpes, and squamous cell carcinoma. Even with the great prevalence of periodontal diseases, this specific condition could not be related to any of the infectious diseases, once patients presented a poor oral health, reinforced by the lack of oral health care in hospitals. Moreover, candidiasis has been considered as one of most prevalent lesions associated with systemic disorders. This is similar to Shearer et al.<sup>8</sup>

## CONCLUSION

Most common oral manifestation was candidiasis, oral ulcers and periodontitis. Careful examination may be useful in detection of systemic diseases.

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