



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**Available online at: <http://www.iajps.com>

Research Article

**SPECTRUM OF ORAL MUCOSAL LESIONS IN PATIENTS  
WITH TYPE 2 DIABETES MELLITUS**

<sup>1</sup>Dr. Naveed Aslam Lashari, <sup>2</sup>Dr. Majid Ali Soomro, <sup>2</sup>Dr. Ahmed Hussain,  
<sup>2</sup>Dr. Maria Ibrahim Khan, <sup>3</sup>Dr. Hamid Nawaz Ali Memon, <sup>4</sup>\*Dr. Samar Raza,  
<sup>5</sup>Dr. Asim Munir Memon

<sup>1</sup>Medical Specialist, Pakistan Air Force (PAF) Hospital Lahore

<sup>2</sup>Liaquat University of Medical and Health Sciences (LUMHS) Jamshoro

<sup>3</sup>General Practitioner MBBS, MRCGP [INT], Global Medical Solutions Zayed Military  
Hospital Abu Dhabi, United Arab Emirates

<sup>4</sup>Liaquat University Hospital Hyderabad / Jamshoro

<sup>5</sup>Prince Faisal Cancer Hospital, King Fahad specialist hospital Buraidah,  
Al-Qaseem Saudi Arabia

**Abstract:**

**OBJECTIVE:** To determine the spectrum of oral mucosal lesions in patients with type 2 diabetes mellitus.

**PATIENTS AND METHODS:** The six months hospital based cross-sectional multidisciplinary and multicenter study was conducted at tertiary care hospitals and the data was also recruited from few private hospitals. All the diabetic patients of either gender presented with oral cavity symptoms were recruited, explored and studied after taking informed consent to participate in the study. After taking clinical history, physical examination and routine investigations, the patients were explored for oral lesion and its type by thoroughly clinical examination (lips, labial mucosa, floor of mouth, gingival mucosa, tongue, palate and mouth mucosa) while the expert opinion were also taken whenever needed or wherever feel necessary whereas the frequency / percentages (%) and means  $\pm$ SD computed for study variables.

**RESULTS:** During two year study period total fifty patients were explored and study. The mean  $\pm$  SD for age (yrs) of population was  $55.82 \pm 7.78$ . Regarding gender male 35 (70%) and female 15 (30%), residence as urban 27 (54%), rural 23 (46%), type of lesion as angular cheilitis 08 (16%), aphthous ulceration 12 (24%), leukoplakia 10 (20%), melanin pigmentation 07 (14%), lingual varicosities 08 (16%), fissured tongue 02 (4.0%) and hairy tongue 03 (6.0%) and anatomical site tongue 11 (22%), lip 08 (16%), palate 05 (10%), mouth mucosa 14 (28%), lingual frenum 04 (8.0%) and mouth floor 08 (16%) and other comorbidities was observed in 28 (56%) patients.

**CONCLUSION:** The study observed that the oral mucosal lesions have been associated with type 2 diabetes mellitus.

**KEYWORDS:** Oral mucosal lesion and Diabetes mellitus.

**Corresponding author:**

\*Dr. Samar Raza,

Email: zulfikar229@hotmail.com

QR code



Please cite this article in press Samar Raza et al., *Spectrum Of Oral Mucosal Lesions In Patients With Type 2 Diabetes Mellitus*, Indo Am. J. P. Sci, 2017; 04(08).

**INTRODUCTION:**

Diabetes mellitus represents a group of metabolic diseases that are characterized by hyperglycaemia due to a total or relative lack of insulin secretion and insulin resistance or both.<sup>1</sup> The metabolic abnormalities involve carbohydrate, protein and fat metabolism. Diabetes mellitus affects all age groups, but is more common in adults.<sup>2</sup> Pakistan is one of the countries that have a high prevalence of diabetes mellitus, especially type 2 diabetes mellitus and its prevalence is expected to increase in subsequent years. Various inflammatory diseases and soft tissue pathologies in oral cavities are associated with diabetes mellitus however; awareness of these complications is lacking in our population and worldwide.<sup>3</sup> It has been reported as a more frequent oral complication of diabetes compared to other oral manifestations such as dry mouth and caries.<sup>4</sup> Early detection and treatment of these oral presentations may help in the early diagnosis of diabetes with better glycaemic control.<sup>5</sup> Therefore, oral complications of diabetes need to be explored in our population and concerned with the care of diabetes in relation to effectively counter this chronic metabolic disorder.

**PATIENTS AND METHODS:**

The six months hospital based cross-sectional multidisciplinary and multicenter study was conducted during 2018 at tertiary care hospitals and the data was also recruited from few private

hospitals. All the diabetic patients of either gender presented with oral cavity symptoms were recruited, explored and studied after taking informed consent to participate in the study while the exclusion criteria were patients with connective tissue and autoimmune disorders, inflammatory bowel disease, Behçet disease, human immunodeficiency virus, hematological malignancies, infectious mononucleosis, pregnant women, Cushing syndrome, already on anti-inflammatory medication, antibiotics, corticosteroids, immunosuppressive drugs and the subjects with trauma or maxillofacial surgery. After taking clinical history, physical examination and routine investigations, the patients were explored for oral lesion and its type by thoroughly clinical examination (lips, labial mucosa, floor of mouth, gingival mucosa, tongue, palate and mouth mucosa) while the expert opinion were also taken whenever needed or wherever feel necessary. The data was collected on pre-designed proforma and analyzed in SPSS to manipulate the mean  $\pm$  SD, frequencies and percentages.

**RESULTS:**

During two year study period total fifty patients were explored and study. The mean  $\pm$  SD for age (yrs) of population was  $55.82 \pm 7.78$ . The demographical and clinical profile of study population is presented in Table 1.

**TABLE 1: THE DEMOGRAPHICAL AND CLINICAL PROFILE OF STUDY POPULATION**

Parameter	Frequency (N=50)	Percentage (%)
<b>AGE (yrs)</b>		
20-29	02	4.0
30-39	14	28
40-49	17	34
50-59	12	24
60+	05	10
<b>GENDER</b>		
Male	35	70
Female	15	30
<b>RESIDENCE</b>		
Urban	27	54
Rural	23	46
<b>TYPE OF LESION</b>		
Angular cheilitis	08	16
Aphthous ulceration	12	24
Leukoplakia	10	20
Melanin pigmentation	07	14
Lingual varicosities	08	16
Fissured tongue	02	4.0
Hairy tongue	03	6.0

<b>ANATOMICAL SITE</b>		
Tongue	11	22
Lip	08	16
Palate	05	10
Mouth mucosa	14	28
Lingual frenum	04	8.0
Mouth floor	08	16
<b>OTHER COMORBIDITIES</b>		
Yes	28	56
No	22	44

### DISCUSSION:

The rising prevalence of oral mucosal lesions among diabetic population highlights the importance of monitoring the oral health of diabetic patients as the high incidence of lesions indicates a need for urgent treatment.<sup>6</sup> A case-control study, similar to the present study, reported a prevalence of 22% for ulcerative lesions in the oral cavity among patients with diabetes type 2.<sup>7</sup> The presence of oral ulcers causes pain, burning, discomfort which interfere the oral health of patients, and may prevent them from their professional activities. The lesions (fissured tongue and angular cheilitis) detected in the study facilitate the emergence of opportunistic infections such as candidiasis.<sup>8</sup> The factors such as monitoring by health care provider, family history of diabetes and self-perception of oral health indicates and need for close monitoring to encounter the oral mucosal lesions in diabetic population.<sup>9</sup> The existence of oral lesions in patients with diabetes represents an opportunity for multidisciplinary care offered by physicians, surgeon and dentists and referrals for expert opinion can help to improve the oral health among patients with diabetes mellitus.<sup>10</sup>

### CONCLUSION:

The study observed that the oral mucosal lesions have been associated with type 2 diabetes mellitus and emphasize the importance of oral health among patients with type 2 diabetes mellitus.

### REFERENCES:

1. Rohani B. Oral manifestations in patients with diabetes mellitus. *World J Diabetes*. 2019;10(9):485-489.
2. Mauri-Obradors E, Estrugo-Devesa A, Jané-Salas E, Viñas M, López-López J. Oral manifestations of Diabetes Mellitus. A systematic review. *Med Oral Patol Oral Cir Bucal*. 2017;22(5):e586-94.
3. Al-Maweri SA, Ismail NM, Ismail AR, Al-Ghashm A. Prevalence of oral mucosal lesions in patients with type 2 diabetes attending hospital universiti sains malaysia. *Malays J Med Sci*. 2013;20(4):39-46.
4. Indurkar MS, Maurya AS, Indurkar S. Oral Manifestations of Diabetes. *Clin Diabetes*. 2016;34(1):54-7.
5. Trentin MS, Verardi G, De C Ferreira M, et al. Most Frequent Oral Lesions in Patients with Type 2 Diabetes Mellitus. *J Contemp Dent Pract*. 2017;18(2):107-111
6. Verhulst MJL, Loos BG, Gerdes VEA, Teeuw WJ. Evaluating All Potential Oral Complications of Diabetes Mellitus. *Front Endocrinol (Lausanne)*. 2019;10:56.
7. Bajaj S, Prasad S, Gupta A, Singh VB. Oral manifestations in type-2 diabetes and related complications. *Indian J Endocrinol Metab*. 2012;16:777-79.
8. Mohsin SF, Ahmed SA, Fawwad A, Basit A. Prevalence of oral mucosal alterations in type 2 diabetes mellitus patients attending a diabetic center. *Pak J Med Sci*. 2014;30(4):716-19.
9. Nazir MA, AlGhamdi L, AlKadi M, AlBejan N, AlRashoudi L, AlHussan M. The burden of Diabetes, Its Oral Complications and Their Prevention and Management. *Open Access Maced J Med Sci*. 2018;6(8):1545-53.
10. Kathiresan TS, Masthan KMK, Sarangarajan R, Babu NA, Kumar P. A Study of Diabetes Associated Oral Manifestations. *J Pharm Bioallied Sci*. 2017;9(Suppl 1):S211-16.