

# Study of Sociodemographic factors causing ulcero-membranous lesions of oral cavity

Syed Mushtaq<sup>1</sup>, Sayyad Tajmul Sayyad Usman<sup>2\*</sup>

<sup>1</sup>Associate Professor, Department of ENT, KBN Institute of Medical Sciences Kalaburagi, Karnataka, INDIA.

<sup>2</sup>Associate Professor, Department of Community medicine, MNR Medical College, Sangareddy, Telangana, INDIA.

Email: [sayyad.tajmul2@gmail.com](mailto:sayyad.tajmul2@gmail.com)

## Abstract

**Background:** The oral cavity is often neglected as a source of diagnostic information; however, it is a very important site for the manifestation of hundreds of systemic diseases presenting as ulcerative /membranous or ulceromembranous lesions of oral cavity apart from many lesions and disorders of the oral mucosa are specific to that tissue. In this study 60 cases were examined with complete history and examination of oral cavity in particular and other systems in general, special emphasis was laid on findings of any particular systemic, dermato- logical, dental, hematological or deficiency disorders. Cases were analysed on the basis of the pro-forma of the 60 cases, site of involvement, extent of involvement was noted. Ulceromembranous lesions were more present in males than in females. Burning sensations was the commonest symptom in majority of the benign and malignant ulcerative lesions. Most common age group involved was 21-30 years. Buccal mucosa was commonest site for ulceromembranous lesions.

## \*Address for Correspondence:

Dr Sayyad Tajmul Sayyad Usman, Associate Professor, Department of Community Medicine, MNR Medical college, Sangareddy, Telangana, INDIA.

Email: [sayyad.tajmul2@gmail.com](mailto:sayyad.tajmul2@gmail.com)

Received Date: 20/08/2021 Revised Date: 10/10/2021 Accepted Date: 17/11/2021

This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/).



## Access this article online

Quick Response Code:	Website: <a href="http://www.medpulse.in">www.medpulse.in</a>
	DOI: <a href="https://doi.org/10.26611/10162113">https://doi.org/10.26611/10162113</a>

## INTRODUCTION

The oral cavity otherwise called mouth is a complex organ comprising muscles, glands, teeth and specialized sensory receptors. It has several functions, most of which are shared with the pharynx, unlike other sensory and motor parts of the body, such as limbs, the mouth and pharynx are continuously active during periods of sleep and wake fullness both as sensory source and, in sensory motor performance. Thus oral cavity being the first part of digestive tract serves the following function, like ingestion, mastication, deglutition (oral phase of deglutition) also used in breathing, speech, serves specialized sensory systems eg. Taste perception, oral sensitivity to the chemical stimuli, apart like lip sucking cheek sucking,

tongue sucking and motor grinding (bruxism) and has enormous social importance to man. Anatomically oral cavity extends anteriorly from the cutaneous vermilion junction of lips to the oropharyngeal isthmus which open into oropharynx and junction of hard and soft palate superiorly, and anterior tonsillar pillars (palato glossal arches) laterally, and line of the circumvallate papillae inferiorly. Thus, the oral cavity broadly divided into outer smaller part called vestibule also called buccal cavity and larger inner part "the oral cavity proper" .it can also be divided into the following sites, lips, buccal mucosa, upper and lower alveolar ridges, the retro molar trigone, floor of the mouth, anterior 2/3<sup>rd</sup> of the tongue. The ulcero membranous lesions of the oral cavity are known since the period of HIPPOCRATES (the greatest greek physician 460-377bc, BEHCET 1937 described a symptom complex BEHCET'S syndrome a condition consisting of RAU (recurrent aphthous ulcers) of the mouth as well as recurrent painful ulcer of the eyes and genitals. The oral cavity is often neglected as a source of diagnostic information, however it is a very important site for the manifestation of hundreds of systemic diseases presenting as ulcerative /membranous or ulceromembranous lesions of oral cavity apart many lesions and disorders of the oral mucosa are specific to that tissue. Hence oral inspection should there fore be a part of every routine clinical examination.

## MATERIAL AND METHODS

**Place of study:** The study was done at KBN Teaching and General Hospital Kalaburagi.

**Type of study:** It was a cross sectional study.

**Ethical clearance:** The study was carried out after obtaining clearance from institutional ethical committee.

**Sample size:** The study included 60 cases with ulcerative or membranous lesions of oral cavity.

**Study period:** This study was done for the period of 6 months.

**Study procedure:** During 6 months period, every case was studied with complete history and examination of oral cavity in particular and other systems in general, special emphasis was laid on findings of any particular systemic, dermatological, dental, hematological or deficiency disorders. Cases were analysed on the basis of the proforma of the 60 cases, site of involvement, extent of involvement was noted and investigations were carried out

accordingly, like routine haemogramme, urine analysis, biochemical tests like blood sugar, urea and cholesterol, microbiological studies including direct smear, culture and sensitivity and serology. The other investigations included stool examination, tests for antinuclear anti bodies, Auto immune diseases, and X rays of chest, PNS and mandible, and CT Wherever necessary was done. The cases were subjected to biopsy for confirmation of diagnosis by histopathological examination. The cases after diagnosis were, then given treatment and followed up. The treatment was either medical or surgical or, radiotherapy in malignant tumors.

**Data analysis:** The 60 cases were analysed according to age, etiological factors / predisposing factors, socio economic group, clinical signs and symptoms and compared with other studies, and concluded with discussion and summary. Data was analysed and expressed in terms of percentage.

## RESULTS AND DISCUSSION

**table 1:** Distribution of cases according to age

S.I. No	Age Group	No. of Patients	%
1.	10 months - 10 years	15	25%
2.	11 years - 20 years	6	10%
3.	21 years – 30 years	18	30%
4.	31 years – 40 years	8	13.33%
5.	41 years – 50 years	3	3.33%
6.	51 years – 60 years	6	10%
7.	61 years – 70 years	2	3.33%
8.	71 years – 80 years	2	3.33%
<b>Total</b>		<b>60</b>	<b>100%</b>

Table. No. 1 shows 60 cases of ulcerative and membranous lesions of the oral cavity. The age incidence ranged from 10 months to 75 years. The majority of the patients belonged to the age group of 21-30 years (30%) and the second largest group is between 10 months to 10 years (25%) probably because in these age group the incidence of bacterial, viral, fungal, helminthic disease, Miscellaneous infection, nutritional deficiencies and psychological disturbances are more common. Oral ulcers first appear in childhood or in adolescence 65-85% developing before the age of 30 years (oral diseases in tropics). The incidence of premalignant conditions were seen in the age group 13-75 years more in the age 38 and 45 years and one case at age 75. Two cases with younger age groups 13 and 22 is noted, this could be due to the habit of chewing mixture of tobacco, catechu, lime and spices, which is very common in this region. One male case with age 30 years was diagnosed lichen planus. In the present study, out of 9 cases with oral cancer, 7 cases were aged between 50 and 70 and two cases between 30 and 40 years.

**Table 2:** Distribution of cases according to sex

Sex	No of patients	%
<b>Males</b>	34	56.66
<b>Females</b>	26	43.34

Table No. 2. Shows that no of males (56.66%) with ulceromembranous lesions were more than females (43.34%).

**Table 3:** Distribution of cases according to showing the socio-economic status

Income Group	No. of Pts	%
Low Income	38	63.33%
Middle Income	18	30%
High Income	4	6.67%
<b>Total</b>	<b>60</b>	<b>100%</b>

Table. No. 3 shows that majority of cases were from low income group(63.33%),24% cases were from middle income group and only 6.67% cases from higher income group.

**Table 4: Showing the personal habits, possible etiological and contributing factors in different types of ulceromembranous lesions**

Habits / Etiological and Contributing Factors	Benign Group	Premalignant Group	Malignant Group	Total %
No of cases – 60	44	6	10	100%
1. Tobacco Chewing	1	7	9	28.33%
2. Betel Tobacco Quid	3	4	6	21.66%
3. Lime with To- bacco	--	2	4	10%
4. Mixture of Lime Tobacco, Catechu and Spices	--	3	--	5%
5. Betel Quid	8	--	--	13.33%
6. Betel Nut Chewing	5	5	6	26.66%
7. Snuff	--	1	2	5%
8. Smoking	6	6	7	31.66%
9. Beedies	2	3	5	16.66%
Cigarette	4	3	1	13.33%
Cigar	--	--	--	0
Clay Pipe	--	--	--	0
Reverse Smoking	--	--	1	1.66%
10. Alcoholic Beverages	2	2	5	15%
11. Dietary habits	16	2	4	36.66%
veg	12	3	3	30%
Non-Veg	5	2	3	16.66%
Mixed	1	2	--	5%
Spicy Food	3	2	4	15%
Very Hot Food Excessive Chillies	4	2	2	13.33%
12. No Habits	19	--	--	31.66%
13. 2 or more Habits	3	7	6	26.66%
14. Bad oral hygiene	7	2	8	28.33%
15. Bad Teeth	7	2	8	28.33%
16. Traumatic irritations due to ill fitting denture	--	--	1	2%
Sharp Edged tooth	2	--	--	4%
17. Irritants	--	--	2	3.33%
18. Malnutrition	12	--	4	26.66%
19. Anaemia	16	2	6	40%
20. Antibiotic Therapy	5	--	--	8.33%
21. Radio Therapy	1	--	--	1.66%
22. Chemo Therapy	--	--	1	1.66%
23. Chronic Illness	3	--	2	10%
24. Tuberculosis	1	--	1	4%
25. Syphillis	1	--	--	2%
26. Oral Sub mu- cous Fibroses	1	2	2	8.33%
27. Leucoplakia	--	--	3	5%
28. Mental Tension and Anxiety	2	1	4	11.66%
29. Stress / Strain	4	--	--	6.66%
30. Worm Infesta- tion	3	--	--	5%
31. Allergy	1	--	--	1.66%

Table no 4 shows possible etiological and contributing factors, in the present study on 60 cases. 36.66% of the pts used to take vegetative diet, 30% non-veg and 16.66% mixed diet, 5% spicy and 15% very hot food habit and smoking beedies and ciga- rettes were seen in 38% of the cases. Incidence in different categories, i.e. among benign lesions were 6 out of 34 cases, 6 out of 7 premalignant and 7 out of 9 cases with oral cancer. Maximum in the later two groups. The second commonest habit 34%, found in this study tobacco chewing, 17 cases out of 50 cases among which 1 case in benign group, 7 out of 7 from premalignant and 9 out of 9 cases from malignant group of ulcero membranous lesions. Tobacco was also chewed with other ingredient like Catechu, Betalnut and Spices, it was seen in 12% of cases from pre- malignant group. Betel, tobacco and quid chewing was the habit of the cases comprising 6%, 14% and 12% respectively. Lime and tobacco was chewed by 12%, 2 cases out of 7 premalignant and 4 cases from malignant group. Habit of snuff dipping

was seen in 1 out of 7 cases from premalignant group and 2 out of 9 malignant oral ulcers cases, comprising 6%. In the present study one case of carcinoma hard palate is noted with the habit of reverse smoking.

**Table 5:** showing the common symptoms and signs in different groups of ulceromembranous lesions

Symptoms and Signs	Benign Group	Premalignant Group	Malignant Group	Total %
No of cases – 50	44	6	10	100%
1. Pain	35	--	9	73.33%
2. Fever	21	--	4	41.66%
3. Odynophagia	28	1	3	53.33%
4. Trismus	3	--	2	8.33%
5. Profuse Salivtion	3	--	3	10%
6. Burning Sensation	24	6	10	66.66%
7. Foetide Breathing	3	--	2	8.33%
8. Referred otalgia	--	--	1	1.66%
9. Presence of Mass in the Mouth	--	--	4	6.66%
10. Ulcer	27	--	9	58.33%
Non-Healing	3	--	10	21.66%
11. Membranes / Plaques	8	6	3	28.33%
12. Swelling	3	--	25	46.66%

The most common symptoms was pain present in 73.33% cases. Fever was the feature in 21 cases out of 44 benign, 4 out of 10 malignant, maximum among benign, suggestive of its association with various infections. Odynophagia comprising 53.33% of cases was the feature in benign ulcerative lesions. Three with malignant, and one with premalignant lesion. Burning sensation was present in 66.66% of cases.

**Table 6:** The incidence of oral malignant ulcers involving different sites

Sl.No.	Site	No. of Pts	%
		10	100%
1.	Buccal Mucosa	5	50 %
	Rt Buccal Mucosa	2	
	Lt Buccal Mucosa with Leucokplakia	3	
2.	Oral Tongue (Ant 2/3 <sup>rd</sup> ) Dorsum Ventral Surface	33	30%
	Lat Margins Tip		
3.	Upper and Lower alveo- lar ridges	--	--
4.	Lips (Upper and Lower)	--	--
5.	Retromolar trigone areas	--	--
6.	Floor of the mouth	--	--
7.	Hard Palate	1	10%
8.	Multiple sites	--	--

Buccal mucosa was the commonest site involved, comprising 50%, next was lateral margin of the tongue i.e. 30%, as shown in the table. No. 6

**Table 7:** Percentage of ulcerative, membranous and ulcero-membranous lesions of oral cavity

Lesions	Ulcerative	Membranous	Ulcero-membranous
Benign	27 - 54%	7 - 14%	--
Premalignant	--	7 - 14%	--
Malignant	6 - 12%	--	3 - 6%
	33 - 66%	14 - 28%	3 - 6%

In the present study ulcerative lesions were more common i.e. 66%, membranous 28%, and ulcero-membranous were 6%, as mentioned in table. no. 7.

## DISCUSSION

In the present study of 60 cases of ulcerative and membranous lesions of the oral cavity, the age incidence ranged from 10 months to 75 Years, the majority of the patients come under the age group 21-30 years.

Comprising 30% and the second largest group is between 10 months to 10 years (25%) probably because in these age group the incidence of bacterial, viral, fungal, helminthic disease, Miscellaneous infections, nutritional deficiency and psychological disturbances are more common.

Fitzpatrick, Sarah G *et al.*<sup>1</sup> showed similar results with Ulcerated lesions of the oral cavity have many underlying etiologic factors, most commonly infection, immune related, traumatic, or neoplastic. The incidence of premalignant conditions were seen in the age group 13-75 years more in the age 38 and 45 years and one case at age 75. Two cases with younger age groups 13 and 22 is noted, this could be due to the habit of chewing mixture of tobacco, catechu, lime and spices, which is very common in this region. J. Phookan, Registrar, K. P. Saikia, Guwahati, India – found similar results with youngest patient of 35 years and oldest of 73 years.<sup>2</sup> One male case with age 30 years was diagnosed lichen planus. Similar age incidence of 30-60 years of lichen planus found in the study done by Boorghani M, Gholizadeh N, Zenouz AT *et al.* In our study majority of the cases (81.26%) were encountered in the fifth to the eighth decades of life. In the studies done by Singh MP, Kumar V, Agarwal A, *et al.*<sup>3</sup> and Sharma P, Saxena S, Aggarwal P.<sup>4</sup> Kittipong Dhanuthai, *et al.*<sup>5</sup> found similar results with age incidence during 5<sup>th</sup> to 8<sup>th</sup> decade. Males constitutes 56.66% and females 43.34% the predominance of males may be due to their habits like chewing tobacco, tobacco with betel, smoking alcoholic drinking, tension, stress / strain and anxiety. It is also possible that males come to hospital earlier than the females, the precancerous lesion like leukoplakia affects men more frequently than women's due to their common habits mentioned above. Prevalence of leukoplakia was more in males in the study done by Aida Kusiak, Adrian Maj, Dominika Cichońska<sup>15</sup>, *et al.* which is similar to our study. Aanchal Tandon, Bharadwaj Bordoloi, Rohit Jaiswal, *et al.* showed similar results with more involvement than females<sup>5</sup>. Dhanuthai K, Rojanawatsirivej S, Thosaporn W, *et al.*<sup>6</sup> showed similar results to our study. In the present study out of 7 precancerous conditions (Leukoplakia 6 and 1 cases of oral LP) 6 were males. It is also evident from the present series of study in which male suffers are 7 out of 9 oral cancer pts. The RAU lesions are predominant among females. Oral cancer also predominantly affects men in the studies done by Ram, Hari *et al.*<sup>7</sup> and Namrah Anwar, Shahid Pervez, Qurratulain Chundriger *et al.*<sup>8</sup> It is observed that an overwhelming majority of cases 68% are from the low income group or poor class. The underlying cause for this discrepancy might be: Illiteracy, Poverty, Over Crowding, Unhygienic Habits, Lack of Health Consciousness and Superstitious Belief. The Ulceromembranous lesions noticed in all communities, a few patients inspite of being good income group were found to be anaemia, overtensed with habits of chewing tobacco and alcohol drinking. Thimmappa T.D.\*, Ramesh S, Hamsa S. Shetty, Gangadhara K.S. found that ulceromembranous lesions are more common in low income group which is similar to our

study.<sup>9</sup> In our study it was found that the highest incidence of ulcers were seen involving lateral border of tongue. The study done by Tanwi Ghosal (Sen), Pallab Kr Saha, Sauris Sen<sup>11</sup> showed similar results with highest incidence on lateral border of tongue. Buccal mucosa is most common site involved in this study which is similar to study done by Prakash S H, Shankar G<sup>12</sup>

## CONCLUSION

The majority of the patients belonged to the age group of 21-30 years (30%). Males with ulceromembranous lesions were more than females. Betel, tobacco, Lime were used by the cases which are responsible for their lesions. Burning sensations was the commonest symptom in majority of the benign and malignant ulcerative lesions. In the present study ulcerative lesions were more common.

## REFERENCES

1. Fitzpatrick, Sarah G *et al.* "Ulcerated Lesions of the Oral Mucosa: Clinical and Histologic Review." *Head and neck pathology* vol. 13,1 (2019): 91-102.
2. J. Phookan, Registrar, K. P. Saikia. A Clinicopathological Study of the Pre-Malignant Conditions of Oral Cavity. Singh MP, Kumar V, Agarwal A, Kumar R, Bhatt ML, Misra S, *et al.* Clinico-epidemiological study of oral squamous cell carcinoma: A tertiary care centre study in North India. *J Oral Biol Craniofac Res* 2016;6:31-4.
3. Sharma P, Saxena S, Aggarwal P. Trends in the epidemiology of oral squamous cell carcinoma in western UP: An institutional study. *Indian J Dent Res* 2010;21:316-9.
4. Aanchal Tandon<sup>1</sup>, Bharadwaj Bordoloi<sup>1</sup>, Rohit Jaiswal<sup>1</sup>, *et al.* Demographic and clinicopathological profile of oral squamous cell carcinoma patients of North India: A retrospective institutional study. *SRM journal of research in dentals sciences* year: 2018 Volume : 9 Issue : 3 Page : 114-118
5. Dhanuthai K, Rojanawatsirivej S, Thosaporn W, *et al.* Oral cancer: A multicenter study. *Med Oral Patol Oral Cir Bucal*. 2018;23(1):e23-e29. Published 2018 Jan 1.
6. Ram H, Sarkar J, Kumar H, Konwar R, Bhatt ML, Mohammad S. Oral cancer: risk factors and molecular pathogenesis. *J Maxillofac Oral Surg*. 2011;10(2):132-137.
7. Namrah Anwar, Shahid Pervez, Qurratulain Chundriger *et al.* Oral cancer: Clinicopathological features and associated risk factors in a high risk population presenting to a major tertiary care center in Pakistan.
8. Thimmappa TD, Ramesh S, Hamsa SS, Gangadhara KS. Aetiopathology of ulcers of oral Cavity and oropharynx: a cross sectional study. *Int J Res Med Sci* 2013;1:496-500.
9. Bharath TS, Kumar NG, Nagaraja A, *et al.* Palatal changes of reverse smokers in a rural coastal Andhra population with review of literature. *J Oral Maxillofac Pathol*. 2015 May-Aug;19(2):182-7.
10. Sen T G, Saha P K, Sen S, Study of oropharyngeal ulcers with their commonest anatomical sites of presentation

- correlated with histopathological diagnosis among the north Bengal population. *Panacea J Med Sci* 2020;10(3):258-263
11. Prakash SH, Shankar G. Clinicopathological study of Ulceromembranous lesions of oral cavity and oropharynx. *Perspectives in medical research* 2016; 4(3):22-26.
  12. Boorghani M, Gholizadeh N, Taghavi Zenouz A, *et al.* Oral lichen planus: clinical features, etiology, treatment and management; a review of literature. *J Dent Res Dent Clin Dent Prospects*. 2010;4(1):3-9.
  13. Kusiak, Aida *et al.* "The Analysis of the Frequency of Leukoplakia in Reference of Tobacco Smoking among Northern Polish Population." *International journal of environmental research and public health* vol. 17,18 6919. 22 Sep. 2020.
  14. Kusiak A, Maj A, Cichońska D, Kochańska B, Cydejko A, Świetlik D. The Analysis of the Frequency of Leukoplakia in Reference of Tobacco Smoking among Northern Polish Population. *Int J Environ Res Public Health*. 2020 Sep 22;17(18):6919.

Source of Support: None Declared  
Conflict of Interest: None Declared

