PREVALENCE OF ORAL MUCOSAL ABNORMALITIES IN THE PATIENTS VISITING GOVERNMENT TERTIARY CARE CENTER IN SOUTH INDIA IN RELATION TO AGE AND SEX – A RETROSPECTIVE STUDY.

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Abstract:

Background & objectives: Epidemiological data of oral mucosal abnormalities (OMAs) are required to develop practical oral care policies. However, limited data are available for rural / urban areas in Tamilnadu. We aimed to estimate the Prevalence of OMAs and to identify their association between age and sex.

Materials and methods: This retrospective study was conducted in the Department of Dental Surgery, Chengalpattu Government Medical College & Hospital. Information on diagnosed oral lesion, age and gender were evaluated.

Results: The prevalence of Oral Mucosal lesions were 27.9%. The most prevalent oral mucosal abnormalities were frictional keratosis, followed by Fissured tongue, Leukoedema, Smoker's palate, Aphthous ulcers, traumatic ulcers etc.

Conclusion: The high prevalence of OMAs necessitates adequate awareness and management of these lesions in the general population. Dental clinicians should be knowledgeable and familiar with the etiopathogenesis, clinical presentation, diagnosis, and management of these lesions. We conclude that there was a highly significant association between these oral lesions, age and gender.

Keywords: Oral mucosal lesions, Oral health, Oral Abnormalities, Oral Disorder

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Introduction:

The prevalence of oral mucosal abnormalities (OMAs) ranges between 10.8 and 61.6% in various study populations.[1-5] Identification of OMAs is an integral part of health care. OMAs is due to local & systemic causes.[6,7,8] So the knowledge of all the pathological conditions of the oral cavity is mandatory for their preventive and curative services.The epidemiologic literature on OMAs is scanty in our country.[9]

Hence, the present study was undertaken to assess the prevalence, their possible associations with respect to age, gender and types of OMAs in patients visiting Dental Surgery department in Chengalpattu Medical College & Hospital.

Materials and methods:

A population of 8281 patients of all age groups and either gender who had attended the out-patient Department of Dental Surgery, in Chengalpattu Medical College and Hospital (CMCH), Chengalpattu district, Tamilnadu, were retrospectively assessed to know the prevalence of oral mucosal abnormalities during the 12 months period between May 2021 and April 2022 after obtaining **Institutional ethical committee clearance-Chengalpattu Medical College & Hospital with No IEC-CMC/Approval /19/202 /2021,dated 15/11/2021** and in accordance with the Helsinki Declaration of 2000. Only prevalence of various OMAs (A total of 26 OMAs) was assessed and documented. The patients were categorized according to their age into nine groups. The number of OMAs present in males and females were documented respectively as well. Percentage analysis was done to find the prevalence of oral mucosal abnormalities.

Results:

As per the record a total of 8281 patients between the ages of day one to 87 years were analyzed of which,3773 male and 4508 female patients in the ratio of 0.84:1 made up the study population. Out of 8281 patients 2314 patients (27.9%) showed evidence of OMAs as shown in ***Table 1***. The prevalence of OMAs in Males and Female were 1645(57.7%) and 1205(42.3%) respectively as shown in the ***Graph 1.***

The total number of oral mucosal abnormalities was 1.7% in the age group of 0to 10 years. The total number of oral mucosal abnormalities was 10.9% in the age group of 11 to 20 years.The total number of oral mucosal abnormalities was 18.3% in the age group of 21 to 30 years. The total number of oral mucosal abnormalities was 22.7% in the age group of 31 to 40 years The total number of oral mucosal abnormalities was 21.3% in the age group of 41to 50 years.Whereras the total number of oral mucosal abnormalities was 16.7% in the age group of 51to 60 years and the total number of oral mucosal abnormalities were 8% and 0.4% for age groups 61-70 & 71-80 respectively.

The prevalence of oral mucosalabnormalities was more common in males compared to females in the present study. The prevalence of Oral Mucosal Lesions in Males and Female were 1645(57.7%) and 1205(42.3%).

Frictional keratosis & Fissured Tongue were the common oral mucosal abnormalities found, which accounted for 5.79 % and 5.65% respectively.The other Significant oral mucosal abnormalities found were Leukoedema (3.74%), oral submucous fibrosis(0.95%), candidiasis (1.25%), traumatic ulcers (1.09%), chewer's mucosa (0.77%), lichen planus(0.47%), oral carcinoma (0.25%), leukoplakia (0.26%), fibroma (0.12%), epulis fissuratum (0.07%), mucocele (0.53%), pyogenic granuloma (0.20%), and papilloma (0.13%) ***(Table1).***

Habit-related oral mucosal abnormalities encountered in the present study constituted smoker's palate, oral submucous fibrosis, oral carcinoma, chewer's mucosa, leukoplakia, and lichenoid reaction. Non habit-related oral mucosal abnormalities constituted frictional keratosis, aphthous ulcers, traumatic ulcers, candidiasis, lichen planus, fibroma, epulis fissuratum, mucocele, pyogenic granuloma, and squamous papilloma.

Discussion

Globally, the prevalence of OMAs differs depending upon the genetic makeup, social habits, Socio economic status of the country and the quality of health care provided at the lowest level.Differences in the reported prevalence can be explained by study difference participant individual selection, genetics, age, and sex, as well as local and general environmental risk factors in the study population and study protocol. [1, 2]

Word count for OMAs may be caused by local causes (bacterial or viral), systemic diseases (metabolic or immunologic), drug related reactions, or lifestyle factors such as consumption of tobacco, betel quid or alcohol.[7] OMAs can cause discomfort or pain that interferes with mastication, swallowing, and speech, and they can produce symptoms such as halitosis, xerostomia, or oral dysesthesia, which interfere with daily social activities.[8]

The Chengalpattu Government Medical College Hospital is the only governmental tertiary health

care centre in this district and serves as the referral unit for several secondary care centres and Primary Health Centres (PHC's) in the area.

The present study assessed only the prevalence of oral mucosal abnormalities and was found to be 27.7 %. Mathew et al[10] conducted a study in Karnataka, Indiaon 1190 subjects and the results showed the presence of one or more mucosal lesions in 41.2% of the population. The oral mucosal abnormalities in the present studyin males and females were 57.7% and 42.3% respectively, which showed a greater prevalence in males compared to females. This was, in accordance with the study, conducted by Ghanaei et al.[11]

Cebezi[5] conducted a study to find the overall incidence of oral mucosal lesionsand found it to be 15.5 %. The prevalence of oral mucosal abnormalities increased with age in the present study which was similar with the findings of Ali et al.[12]Frictional keratosis is the commonly found oral mucosal abnormalities which were in accordance with the study conducted by Mathewet al.[4]

Aphthous ulcers were prevalent in 2.22% of the studied population, which was nearly similar to the studyconducted by Axéll and Henricsson[13] where the prevalence was estimated to be 2%. The prevalence of traumatic ulcer in the present study was 1.09%, which was in accordance with the study conducted by Cebeci et al[14] where the prevalence of traumatic ulcers was assessed to be 0.9%.

Oral submucous fibrosis was prevalent in 0.95% of the population, whereas a cross-sectional study conducted by Saraswathi et al[15] found the prevalence of oral submucous fibrosis to be 0.55% and Mathew et al [10]estimated theprevalence to be 2.01%.

The prevalence of candidiasis in the present study was found to be 1.25%.Ikeda[16]et al conducted a study to investigate the prevalence oforal mucosal lesions in a Cambodian population and the prevalence of oral candidiasis was found to be 1.4%,which was almost similar to the findings of our study.

Oral carcinomas were prevalent in 0.25% of the total oral mucosal abnormalities found. The prevalence in our study was more than that assessed by Cebeci et a[14] (0.08%).

Prevalence of oral lichen planus was 0.47% in the present study, whereas Pentenero et al[17]estimated the prevalence of oral lichen planus to be 1.46%, which was greater than the prevalence observed in our study.

The other oral mucosal abnormalities encountered in the present study included fibroma, lichenoid reaction, mucocele, pyogenic granuloma, and squamous papilloma. The estimated individual prevalence of these lesions was around 0.2% or lesser.

Conclusion

On the basis of the findings, it was concluded that a high proportion of oral health problem found in the patients visited Department of Dental surgery. This study highlights the state of OMAs in the population of Chengalpattu district. The impact that poor oral conditions have on individuals and communities as a result of the pain, suffering as well as the impairment of function and reduced quality of life they cause is considerable. It must be remembered that regular Oral check-ups, effective management of OMAs and following good oral hygiene methods can lead to strong teeth, which eventually can improve the overall wellbeing of an individual. This calls for an immediate need to increase awareness about Oral health problems. Education programs could be conducted at community base level to emphasize and inculcate a positive attitude toward oral health.

Larger community-based studies should be conducted to estimate more representative percentages of OMAs. Also, future studies on the prevalence OMAs are recommended to focus on specific lesions and also on specific age groups and non-selected populations in order to accurately measure the true prevalence of these OMAs.

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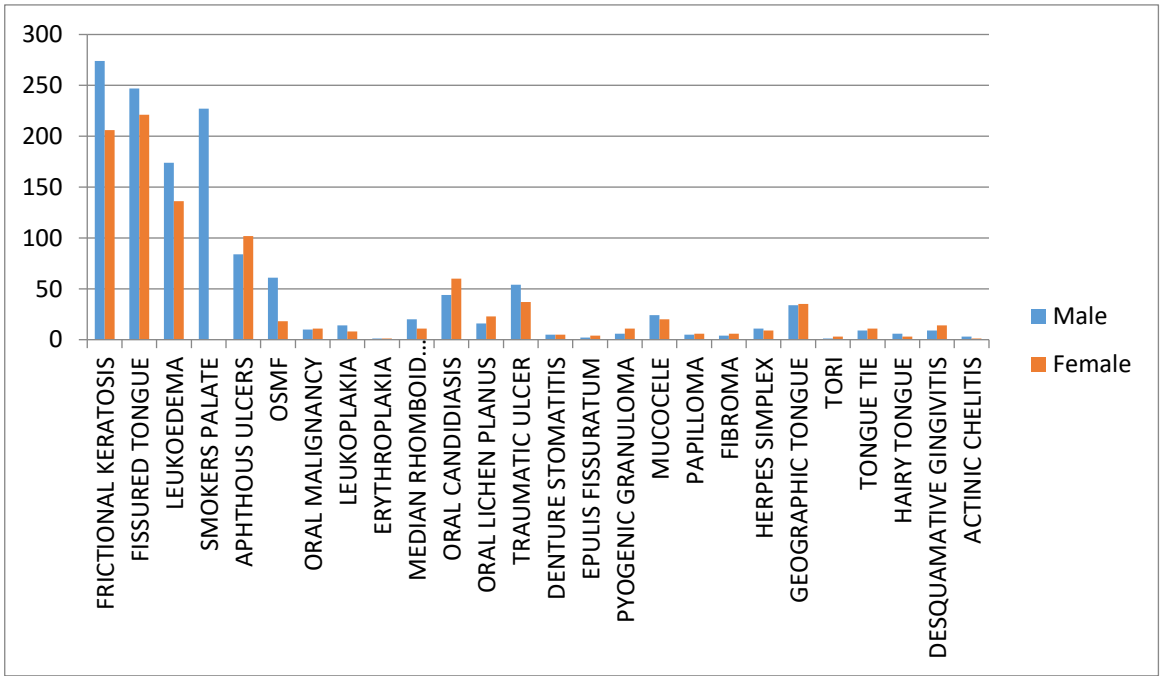
OMAs	Gender	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	Total 8281	M-3773 F- 4508
FRICTIONAL KERATOSIS	M	0	5	39	79	80	56	15	0	0	480 (5.79%)	274(7.26%)
	F	0	3	33	58	63	31	18	0	0		206(4.56%)
FISSURED TONGUE	M	2	35	52	58	53	35	12	0	0	468 (5.65%)	247(6.54%)
	F	5	24	48	67	42	27	8	0	0		221(4.90%)
LEUKOEDEMA	M	0	3	19	34	45	56	17	0	0	310 (3.74%)	174(4.61%)
	F	0	2	28	18	36	38	14	0	0		136(3.01%)
SMOKERS PALATE	M	0	2	28	53	46	59	39	0	0	227 (2.74%)	227(6.01%)
	F	0	0	0	0	0	0	0	0	0		0
APHTHOUS ULCERS	M	0	12	16	13	23	11	9	0	0	186 (2.22%)	84(2.22%)
	F	1	13	21	19	18	19	11	0	0		102(2.26%)
OSMF	M	0	0	12	21	23	5	0	0	0	79 (0.95%)	61(1.61%)
	F	0	0	1	8	6	2	1	0	0		18(0.39%)
ORAL MALIGNANCY	M	0	0	0	1	2	3	2	2	0	21 (0.253%)	10(0.26%)
	F	0	0	1	0	5	1	2	2	0		11(0.24%)
LEUKOPLAKIA	M	0	0	0	0	4	4	4	2	0	22 (0.26%)	14(0.37%)
	F	0	0	0	0	2	1	4	1	0		8(0.17%)
ERYTHROPLAKIA	M	0	0	0	0	1	0	0	0	0	2 (0.024%)	1(0.02%)
	F	0	0	0	0	0	1	0	0	0		1(0.02%)
MEDIAN RHOMBOID GLOSITIS	M	0	0	2	4	8	6	0	0	0	31 (0.37%)	20(0.53%)
	F	0	0	4	2	3	2	0	0	0		11(0.24%)
ORAL CANDIDIASIS	M	1	0	0	5	11	13	14	0	0	104 (1.25%)	44(1.16%)
	F	2	0	0	6	15	18	18	1	0		60(1.33%)
ORAL LICHEN PLANUS	M	0	0	0	5	4	5	2	0	0	39 (0.47%)	16(0.42%)
	F	0	0	0	6	5	7	4	1	0		23(0.51%)
TRAUMATIC ULCER	M	5	14	18	2	5	3	7	0	0	91 (1.09%)	54(1.43%)
	F	2	9	11	4	3	5	3	0	0		37(0.82%)
DENTURE STOMATITIS	M	0	0	0	0	0	1	3	1	0	10 (0.12%)	5(0.13%)
	F	0	0	0	0	0	1	4	0	0		5(0.11%)
EPULIS FISSURATUM	M	0	0	0	0	1	1	0	0	0	6 (0.07%)	2(0.05%)
	F	0	0	0	0	2	1	1	0	0		4(0.08%)
PYOGENIC GRANULOMA	M	0	3	2	1	0	0	0	0	0	17 (0.20%)	6(0.13%)
	F	0	5	3	3	0	0	0	0	0		11(0.24%)
MUCOCELE	M	2	18	3	1	0	0	0	0	0	44	24(0.63%)

	F	2	14	2	1	0	1	0	0	0	(0.53%)	20(0.44%)
PAPILLOMA	M	0	0	1	1	3	0	0	0	0	11	5(0.13%)
	F	0	2	2	0	2	0	0	0	0	(0.13%)	6(0.13%)
FIBROMA	M	0	1	1	1	1	0	0	0	0	10	4(0.10%)
	F	0	1	2	1	0	2	0	0	0	(0.12%)	6(0.13%)
HERPES SIMPLEX	M	5	6	0	0	0	0	0	0	0	20	11(0.29%)
	F	7	2	0	0	0	0	0	0	0	(0.24%)	9(0.19%)
GEOGRAPHIC TONGUE	M	0	7	10	7	9	1	0	0	0	69	34(0.90%)
	F	1	3	5	7	14	5	0	0	0	(0.83%)	35(0.77%)
TORI	M	0	0	0	0	1	0	0	0	0	4	1(0.02%)
	F	0	1	0	1	0	0	1	0	0	(0.04%)	3(0.06%)
TONGUE TIE	M	2	7	0	0	0	0	0	0	0	20	9(0.23%)
	F	5	5	1	0	0	0	0	0	0	(0.24%)	11(0.24%)
HAIRY TONGUE	M	0	0	0	2	1	1	2	0	0	9	6(0.13%)
	F	0	0	0	1	2	0	0	0	0	(0.10%)	3(0.06%)
DESQUAMATIVE GINGIVITIS	M	0	3	1	3	2	0	0	0	0	13	9(0.23%)
	F	0	4	3	7	0	0	0	0	0	(0.15%)	14(0.31%)
ACTINIC CHELITIS	M	0	0	0	0	0	2	1	0	0	4	3(0.07%)
	F	0	0	0	0	0	1	0	0	0	(0.04%)	1(0.02%)

Table 1: Age- and gender-wise distribution of oral mucosal abnormalities



Graph 1: Gender Wise Distribution of Oral Mucosal Lesions