PREVALENCE OF VARIOUS ORAL MUCOSAL LESIONS IN SOUTH KERALA

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ABSTRACT

BACKGROUND

In recent years, health professionals and public are becoming more aware of the importance of oral health. We conducted this study to delineate the different types of oral mucosal lesions and their prevalence among people of Southern Kerala, India.

MATERIALS AND METHODS

Ours is a descriptive study where 4000 patients who attended two major tertiary care centres of South Kerala were examined for any oral mucosal lesions.

RESULTS

Prevalence of oral mucosal lesions in our study was 12.9%. Oral aphthae were the most common mucosal lesion observed while Fordyce spots accounted for maximum number of mucosal variants.

CONCLUSION

Better community awareness about various oral diseases and methods of prevention helps to improve the quality of life.

KEYWORDS

Oral Mucosal Lesions, Mucosal Variants, Prevalence, Fordyce Spots, Aphthae.

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BACKGROUND

The oral mucosa serves as a protective barrier against trauma, pathogens and carcinogenic agents.[1] Oral and labial lesions are usually the result of local disease, but maybe the early signs of systemic diseases and in some instances can cause the main symptoms.[2] Oral cancer is a significant world health problem being overall the sixth most common malignant neoplasm.[2] Oral mucosal lesions could be due to infections, trauma, systemic diseases or related to lifestyle.[3] Main modifiable risk factors in oral cancers are use of tobacco, alcohol and betel. Exposure to sunlight is a major cause of lip carcinoma.[2]

Basic knowledge about the prevalence of various types of oral mucosal lesions and various deleterious habits among people of an area is essential for planning various oral healthcare programs. It helps in primary prevention, early diagnosis and prompt treatment of oral diseases.

AIM

Aim of our study was to evaluate the prevalence of various oral mucosal lesions in South Kerala.

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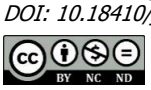

MATERIALS AND METHODS

A total of 4000 patients who attended two major tertiary care hospitals of South Kerala from May 2016 to August 2016 were included in this study. Patients were divided into 4 groups- ≤20 years, 21-40 years, 41-60 years and >60 years.

Detailed history was taken in all patients. It included the duration of disease, onset and progress of disease process, habits of smoking, pan chewing and alcohol intake, history of drug intake, history of any medical illness and past history of oral lesions. Help of bystander was obtained to get proper clinical history in children and old aged. With proper artificial light, oral cavity was examined. Lips were inspected first. The labial mucosa, buccal (cheek) mucosae, floor of mouth, tongue, hard and soft palate and gingivae were examined and lesions noted. Investigations to confirm diagnosis were done in selected cases. Based on history, clinical findings and relevant investigations, diagnosis was made in these patients according to WHO guidelines and colour atlas. Patients who could not open their mouth adequately for intraoral examination and uncooperative children were excluded from the study.

RESULTS

Study population- Out of the 4000 patients included in the study, 2048 (51.2%) were females and 1952 (48.8%) males. Majority of subjects belonged to 21-40 year age group, being 31.6%. Least percentage of study population was in the >60 year age group, which was 13.2%.

Table 1 shows the age and sex distribution of study population.

Age Group (Years)	Total Number of Patients (%)	Males	Females
≤20	1252 (31.3)	600	652
21-40	1262 (31.6)	622	640
41-60	960 (24)	470	490
>60	526 (13.2)	260	266

Table 1. Age and Sex Distribution of Study Population

Habits

Prevalence of habits of smoking, alcoholism and tobacco chewing in our patients were 7%, 10% and 5%, respectively. Smoking and alcoholism were seen exclusively in males.

Oral Mucosal Lesions

In our study, 516 subjects presented with various oral mucosal pathologies, the prevalence being 12.9% and majority (n=180, 34.9%) belonged to the 41-60 years age group. Oral mucosal lesions were least above 60 years (n=48, 9%). Females outnumbered males in all age groups, F:M ratio being 1.2:1.

Table 2 shows the age and sex pattern of subjects with oral mucosal lesions.

Age Group (Years)	Total Number of Patients (%)	Males	Females
≤20	120 (23.3)	56	64
21-40	168 (32.6)	80	88
41-60	180 (34.9)	80	100
>60	48 (9)	22	26

Table 2. Age and Sex Distribution of Patients with Oral Mucosal Lesions

Normal mucosal variants were seen in 1544 (38.6%) of patients.

Most common normal mucosal variant observed in our population was Fordyce spots diagnosed in 600 (15%) patients. Lingual varices were noticed in 400 (10%) patients followed by generalised racial hyperpigmentation of oral mucosa in 220 (5.5%), leukoedema in 168 (4.2%) and fissured tongue in 156 (3.9%) patients.

Among the oral mucosal lesions, oral aphthae accounted for maximum number of cases (n=48, 1.2%). Leukoplakia and squamous cell carcinoma was detected in only 4 (0.1%) patients each.

Table 3A and 3B shows the lists of the various oral mucosal variants and lesions in the present study.

	Aetiology	Number of Patients	%
Normal variants	Fordyce spots	600	15
	Lingual varices	400	10
	Hyperpigmentation	220	5.5
	Leukoedema	168	4.2
	Fissured tongue	156	3.9
Oral mucosal lesions	Oral aphthae	48	1.2
	Geographic tongue	48	1.2
	Smoker's palate	40	1
	Candidiasis	40	1
	Vitiligo	36	0.9
	Glossitis	24	0.6
	Oral submucous fibrosis	24	0.6
	Lichen planus	16	0.4
	Herpes simplex	12	0.3
	Angioedema	12	0.3
	Hand-foot-and-mouth disease	8	0.2
	Molluscum contagiosum	8	0.2
	Mucous cyst	8	0.2
	Discoid lupus erythematosus	8	0.2
	Viral enanthem	8	0.2
	Melanotic macule	8	0.2
	Squamous cell carcinoma	4	0.1
	Fixed drug eruption	4	0.1
	Traumatic ulcer	4	0.1
	Cheilitis	4	0.1
	Leukoplakia	4	0.1

Table 3A

	Aetiology	Number of Patients	%
White lesions	Fordyce spots	600	15
	Leukoedema	168	4.2
	Candidiasis	40	1
	Lichen planus	16	0.4
	Vitiligo	36	0.9
	Leukoplakia	4	0.1
	Oral submucous fibrosis	24	0.6
Red lesions	Geographic tongue	48	1.2
	Glossitis	24	0.6
	Cheilitis	4	0.1
	Viral enanthem	8	0.2
Pigmented lesions	Generalised pigmentation	220	5.5
	Melanotic macule	8	0.2

Ulcerative lesions	Aphthae	48	1.2
	Herpes simplex	12	0.3
	Hand-foot-and-mouth disease	8	0.2
	Traumatic ulcer	4	0.1
Exophytic lesions	Mucous cyst	8	0.2
	Molluscum contagiosum	8	0.2
	Squamous cell carcinoma	4	0.1
Miscellaneous	Fissured tongue	156	3.9
	Angioedema	12	0.3
	Discoid lupus erythematosus	8	0.2
	Fixed drug eruption	4	0.1
	Lingual varices	400	10
	Smoker's palate	40	1

Table 3B

DISCUSSION

Present study of 4000 patients revealed oral mucosal lesions in 516 (12.9%) patients and normal variants in 1544 (38.6%) patients. Prevalence of oral mucosal lesions in South Kerala was found to be 12.9%. Most of studies from other parts of India show a similar prevalence rate.[3,4,5,6,7]

Fordyce spots, aberrant sebaceous glands seen on buccal or labial mucosa[8] were noticed in 15% of our patients. Labial mucosa was the most common site observed. Ali et al observed similar findings from Kuwait while Mathew et al noted a slightly lower prevalence in their patients from Manipal.[1,9]

We observed lingual varices in 400 (10%) patients, which is slightly higher than other studies.[1,9]

Generalised racial oral mucosal hyperpigmentation was diagnosed in 220 (5.5%) patients after excluding other causes like betel chewing, tobacco smoking, drug intake and Addison's disease. Pigmentation was commonly noted on tongue and lip mucosa. Ali et al observed generalised oral mucosal pigmentation in 11.2% patients.[1]

Leukoedema, seen as faint whitish lines on buccal mucosae and disappearing on stretching[2] was seen in 168 (4.2%) subjects. Similar findings are reported in other studies also.[1,9]

3.9% of our patients had fissured tongue with fissures on dorsum of tongue, which is in accordance with other studies.[1,9]

Among the various oral mucosal lesions, oral aphthae accounted for maximum number of cases. 1.2% patients had oral minor aphthae, the common sites being buccal and lip mucosae. Most of the previous literature showed similar results[1,6,9] while a study from Bhopal observed a higher prevalence of oral aphthae.[10]

Geographic tongue, characterised by frequently changing map like red areas on the tongue[8] was observed in 48 (1.2%) patients. Mathew et al observed the same in 0.84% patients.[9]

Smoker's palate was noted in only 1% patients, all of whom were males. Studies from Kuwait and Jaipur observed a similar prevalence[1,4] while another study from North India reported a higher prevalence of smoker's palate.[6]

We observed candidiasis in 1% patients, which is comparable with other studies.[1,6,9]

Depigmentation of lips suggestive of vitiligo was seen in 36 (0.9%) patients.

Viral infections diagnosed in our project included hand-foot-and-mouth disease in 8 (0.2%) patients and herpetic gingivostomatitis in 12 (0.3%) patients. Oral enanthem was observed in 8 (0.2%) patients who had exanthematous viral fever. Hand-foot-and-mouth disease caused by Coxsackievirus[8] was observed in children below 10 years. Herpes simplex infection was reported in 1.1% and 0.58% patients by Ali et al and Mathew et al, respectively.[1,9]

Twenty four (0.6%) of our patients had glossitis of which 12 had iron-deficiency anaemia. Six cases had history of viral fever while in six no obvious cause was detected.

Oral submucous fibrosis commonly seen in people chewing areca nut with tobacco and betel leaf[2] was observed in 24 (0.6%) patients. Twenty patients were females and all had habit of pan chewing. A slightly higher prevalence of oral submucous fibrosis was seen in studies by Mathew et al and Bhatnagar et al.[6,9]

Lichen planus was noted in 0.4% subjects, which is comparable with most of previous reports.[1,6,9] A study from Kashmir observed a higher prevalence (13.55%) of lichen planus.[7] We observed papular type of lichen planus to be the predominant type, the common sites being tongue and lips. In a study from Manipal, reticular type was found to be the common type, predominantly on buccal mucosae.[9] Two of our patient developed similar lesions on buccal mucosae following dental filling.

Angioedema of oral mucosa was the presenting symptom in 12 (0.3%) patients. Site of involvement was cheek mucosa, tongue and lips in four cases each. Four patients attributed it to food intake while in others it was idiopathic.

Eight patients (0.2%) had discoid lupus erythematosus on lower lip while 4 (0.1%) had a chronic cheilitis on lower lip. Sun exposure played a definite role in these patients as all of them were fishermen.

Melanotic macules, acquired solitary asymptomatic brown macules[8] were observed in 8 (0.2%) subjects. Ali et al in their study observed similar lesions in 0.9% cases.[1]

We observed 8 patients with molluscum contagiosum on lips.

Fixed drug eruption due to paracetamol was noted on lower lip in four patients.

Eight patients had mucous cyst on lower lip. Mathew et al observed prevalence of mucocele in their patients to be 0.16%.[9]

Four of our patients who had dental prosthesis came with traumatic ulcer on lip mucosa. Ali et al observed a prevalence of 2.1% in their area.[1]

Prevalence of leukoplakia and oral squamous cell carcinoma were low in our study (0.1% each) when compared with other reports.[4,6,9,10] Better health awareness among people of our state leading to decreased usage of tobacco and betel could have accounted for the decreased prevalence of oral cancers in our study. Less number of elderly patients in our study could also be a factor.

Table 4 shows the prevalence of various oral mucosal lesions in different studies.

Study	Sample Size	Common Oral Lesions (%)
Ali et al,[1] Kuwait	530	Fordyce spots (20.4) Pigmentation (11.2) Leukoedema (5.4) Frictional keratosis (5.3)
Pratik et al,[4] Jaipur	10,000	Leukoplakia (2.04) Smoker's palate (1.96) Smoker's melanosis (1.85)
Hegde et al,[5] Mangalore	2,000	Leukoplakia (2.1) Oral submucous fibrosis (2) Aphthae (1.6)
Bhatnagar et al,[6] North India	8,866	Smoker's palate (10.44) Leukoplakia (2.83) Oral submucous fibrosis (1.97) Candidiasis (1.61)
Ain et al,[7] Kashmir	7,000	Smoker's palate (33.89) Lichen planus (13.55) Leukoplakia (13.55)
Mathew et al,[9] Manipal	1,190	Fordyce spots (6.55) Frictional keratosis (5.79) Fissured tongue (5.71)

Table 4. Comparison of Oral Mucosal Lesions in Different Studies

CONCLUSION

Present study gives an idea about the different oral mucosal lesions in South Kerala. Programs to improve oral health should be conducted at regular intervals in the community. People should be continuously motivated to avoid deleterious habits like smoking and chewing, which will further help to reduce the incidence of oral cancers. Future studies with more study population will help to have an even better picture of oral lesions in our area.

REFERENCES

[1] Ali M, Joseph B, Sundaram D. Prevalence of oral mucosal lesions in patients of the Kuwait university dental center. Saudi Dent J 2013;25(3):111-118.
[2] Scully C. Dermatosis of the oral cavity and lips. In: Griffiths CEM, Barker J, Bleiker T, et al. eds. Rook's textbook of dermatology. 9th edn. UK: Blackwell publishing 2016:1-94,110.
[3] Mehrotra R, Thomas S, Nair P, et al. Prevalence of oral soft tissue lesions in Vidisha. BMC Research Notes 2010;3:23.
[4] Pratik P, Desai VD. Prevalence of habits and oral mucosal lesions in Jaipur, Rajasthan. Indian J Dent Res 2015;26(2):196-199.
[5] Hegde MN, Jain R, Punja A. Prevalence of oral mucosal lesions and their correlation to habits in patients visiting a dental school of south Karnataka: a cross sectional survey- 2012. NUJHS 2014;4:69-72.
[6] Bhatnagar P, Rai S, Bhatnagar G, et al. Prevalence study of oral mucosal lesions, mucosal variants, and treatment required for patients reporting to a dental school in north India: in accordance with WHO guidelines. J Family Community Med 2013;20(1):41-48.
[7] Ain TS, Gowhar O, Sultan S, et al. Prevalence of oral mucosal lesions and associated habits in Kashmir, India. Int J Res Med Sci 2016;4(8):3525-3530.
[8] Scully C, Bagan JVS. Benign oral and dental disease. In: Gleeson M, ed. Scott-Brown's otorhinolaryngology, head and neck surgery. 7th edn. Great Britain: Edward Arnold Ltd 2008:1816-1839.
[9] Mathew AL, Pai KM, Sholapurkar AA, et al. The prevalence of oral mucosal lesions in patients visiting a dental school in southern India. Indian J Dent Res 2008;19(2):99-103.
[10] Goyal R, Jadia S, Jain L, et al. A clinical study of oral mucosal lesions in patients visiting a tertiary care centre in central India. Indian J Otolaryngol Head Neck Surg 2016;68(4):413-416.