International Journal of Otorhinolaryngology and Head and Neck Surgery
Tripathy SM et al. Int J Otorhinolaryngol Head Neck Surg. 2020 Sep;6(9):1704-1708
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937

DOI: http://dx.doi.org/10.18203/issn.2454-5929.ijohns20203577

Original Research Article

Prevalence of oral mucosal lesions in a tertiary care centre: one-year prospective study

Smruti Milan Tripathy, Poonji Gupta*, Akshay Jain, Probal Chatterji

Department of ENT, Teerthanker Mahavir Medical College and Research Centre, Moradabad, Uttar Pradesh, India

Received: 04 August 2020
Accepted: 19 August 2020

***Correspondence:**
Dr. Poonji Gupta,
E-mail: poonjigupta@yahoo.co.in

ABSTRACT

Background: Lesions of the oral cavity are very common among the general population and account for a significant number of patients in the outpatient department of otorhinolaryngology. The lesions of oral cavity can cause varied symptoms like pain, dysphagia, and difficulty in speaking. The lesions can range from simple benign conditions to life threatening malignancies.
Methods: This study was conducted in the department of otorhinolaryngology, Teerthanker Mahaveer Medical College and Research Centre from January 2019 till December 2019. All the 256 patients who presented to the outpatient department with lesions in the oral cavity during the given time period were included in the study after getting informed and written consent.
Results: Aphthous ulcers were the most common lesion (18.7%) found in this study. Buccal mucosa (50%) and anterior 2/3rd of tongue (34.3%) were the most common sites involved. Total of 204/256 (79.6%) patient had some form of addiction which included both smoked and smokeless form of tobacco as the most common type of addiction. Among the tobacco smokers, 24/80 (30%) had pre malignant and malignant lesions while among tobacco chewers 37/76 (48.6%) had pre malignant and malignant lesions.
Conclusions: Lesions of the oral cavity are common among Indian population due to high prevalence of tobacco addiction. A thorough history taking and examination can detect premalignant and malignant lesions at an early stage, so that timely treatment can reduce the mortality rates in such patients.

Keywords: Aphthous ulcers, Oral cancer, Oral mucosal lesions, Tobacco addiction

INTRODUCTION

Oral mucosal lesions can be defined as any abnormality or change in the surface, colour, swelling or loss of integrity of the mucosal surface of the oral cavity.[1] Etiological factors behind the occurrence of these oral mucosal diseases can vary from infections (bacterial, fungal, viral), to systemic causes (immunological, metabolic) and can be related to drug intake and various environmental/life style factors (smoking, alcohol, tobacco chewing).[1,2] The addiction to tobacco (both chewing and smoking) and betel nut can lead to a variety of premalignant and malignant lesions inside the oral cavity.[2] The premalignant and malignant lesions unless diagnosed early and treated aggressively can lead to a high rate of mortality among these patients.[2] India is found to have the highest rate of oral cancer in the world which can be attributed to the high prevalence of tobacco chewing and smoking among the Indian population.

The World Health Organization predicts that tobacco deaths in India may exceed 1.5 million annually by 2020.[3] Due to the high disease burden in the society a thorough understanding of the various pathological lesions of oral cavity becomes necessary. The present study was done to estimate the prevalence of different

types of oral mucosal lesions and to study the patient profile with regard to age, sex and addiction habits.

Aims and objectives

Aims and objectives of the study were to estimate the prevalence and types of oral mucosal lesions in patients visiting a tertiary care hospital; to identify patients with oral mucosal lesions; to clinically/pathologically identify the types of oral mucosal lesion; to study the patient profile with respect to age, sex and addiction habits.

METHODS

All the patients with oral mucosal lesions who presented to department of otorhinolaryngology, Teerthanker Mahaveer Medical College were selected for the study after obtaining informed and written consent from them.

A descriptive cross-sectional study conducted 12 months from January 2019 to December 2019. A total 256 patients of oral mucosal lesions who presented to the otorhinolaryngology outpatient department during the given time period were included in the study after getting consent from them.

Inclusion criteria

Inclusion criteria of this study was all the patients who presented with oral mucosal lesions.

Exclusion criteria

Patients of oral mucosal lesions who did not give consent for the study. Patients with inadequate mouth opening. Patients with recent maxillofacial trauma. Patients undergoing orofacial radiotherapy were excludes from this study.

A thorough history taking and clinical examination was done in all the patients along with relevant investigations wherever needed. Final diagnosis was made on the basis of clinical criteria, scrapings, cytology and histopathological examination of cases as per the need.

RESULTS

This study included 256 patients of oral mucosal lesions of which 61.7% were males and 38.2% were females.

Table 1: Age distribution of patients with oral mucosal lesions.

Age distribution	Number of patients (%)
1-20 years	36 (14.0%) (M: 21 F: 15)
21-40 years	114 (44.5%) (M: 72 F: 42)
41-60 years	72 (28.1%) (M: 53 F: 19)
61-80 years	34 (13.2%) (M: 12 F: 22)

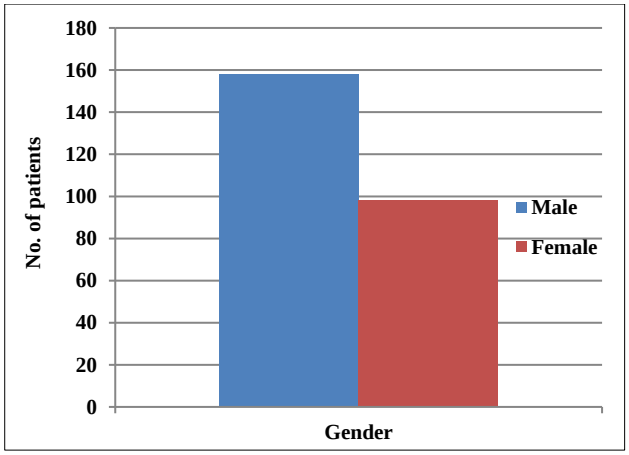

Figure 1: Gender distribution of patients with oral mucosal lesions.

The maximum number of patients who presented fell into the age range of 21-40 years (114/256; 44.5%) followed by the age range of 41-60 years (72/256; 28.1%).

The most common oral mucosal lesions found among the patients of this study were aphthous ulcers (18.7%). Other common oral mucosal lesions diagnosed in this study in decreasing order of frequency were oral melanocytic macules (11.7%), leucoplakia (9.7%), squamous cell carcinoma (8.9%), fissured tongue (7.8%), geographical tongue (6.2%), oral submucous fibrosis (4.2%) and lichen planus (3.9%) etc.

Table 2: Various oral mucosal lesions in patients of the study.

Type of lesion	Number of patients (%)
Coated tongue	8 (3.1)
Fissured tongue	20 (7.8)
Geographic tongue	16 (6.2)
Glossitis	10 (3.9)
Fordyce granules	18 (7.0)
Frictional keratosis	4 (1.5)
Apthous ulcers	48 (18.7)
Oral melanocytic macules	30 (11.7)
Herpes infection	2 (0.7)
Oral candidiasis	7 (2.7)
Mucoeles	8(3.1)
Lichen planus	10 (3.9)
OSMF	11 (4.2)
Leukoplakia	25 (9.7)
Erythro-leukoplakia	5 (1.9)
Erythroplakia	1 (0.3)
Pleomorphic adenoma	1 (0.3)
Papilloma	4 (1.5)
Hemangioma	2 (0.7)
Condyloma	2 (0.7)
Sq cell carcinoma	23 (8.9)
Verrucous carcinoma	1 (0.3)

Among the total of 256 patients, maximum presented with non-malignant lesions such as aphthous ulcers, oral melanocytic macules and fissured tongue. (180/256; 70.3%) and maximum patients were in the age range of 21-40 years (76/256; 29.6%). Premalignant lesions were present in 20.3% (52/256) patients, while malignant lesions were seen in 9.3% (24/256) patients. Pre malignant lesions were seen mostly in age groups of 21-40 years (38/256; 14.8%) and malignant lesions in the age group of 41-60 years (29/256; 11.3%).

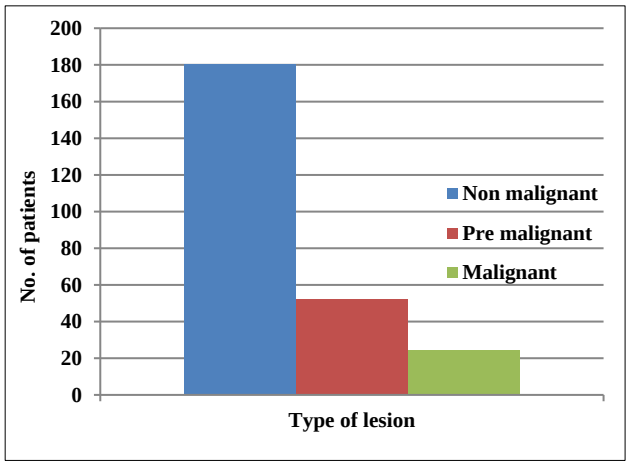

Figure 2: Distribution of patients in non-malignant, pre-malignant and malignant type of lesions.

The most common site of oral cavity affected was found to be the buccal mucosa (128/256; 50%), followed by anterior 2/3 rd of the tongue (88/256; 34.3%). Aphthous ulcers involved both buccal mucosa and tongue as the most common sites while lesions like oral melanocytic macule, lichen planus and leucoplakia favored the buccal mucosa.

Table 3: Distribution of patients according to the site of lesion.

Site of lesion	Number of patients (%)
Lips	2 (0.7)
Tongue (anterior 2/3rd)	88 (34.3)
Floor of mouth	4 (1.5)
Buccal mucosa	128 (50)
Hard palate	18 (7.0)
Retromolar trigone	10 (3.9)
Alveolus	6 (2.3)

Tobacco addiction was found common with 31.2% (80/256) patients habitual to tobacco smoking and 28.9% (74/256) patients habitual to tobacco chewing. Total of 204/256 (79.6%) patients had some form of addiction.

Among the tobacco smokers, 24/80 (30%) had pre malignant and malignant lesions while 56/80 (70%) had non-malignant lesions (statistically significant, p value <0.00001). Among tobacco chewers, 37/74 (50%) had pre malignant and malignant lesions and the result was statistically significant (p value <0.00001). Among the patients with no addictions maximum number of patients had non-malignant lesions 50/52(96.1%) and the results were significant (p value=0.00022).

Table 4: Distribution of patients according to the type of addiction.

Primary addiction	Male	Female	Total
Tobacco smoking	61	19	80
Tobacco chewing	51	23	74
Alcohol consumption	22	10	32
More than 1 addiction	11	7	18
None	13	39	52
Total	158	98	256

Table 5: Association of type of lesion with type of addiction in patients with oral mucosal lesions.

Type of addiction	Non-malignant (n=180)	Pre-malignant and malignant (n=76)
Tobacco smoking	56	24
Tobacco chewing	37	37
Alcohol	23	9
More than one	14	4
None	50	2

DISCUSSION

Oral mucosal lesions are common problems in Indian population and account for a significant proportion of patients presenting to the otorhinolaryngology department. The oral mucosal lesions can be briefly described as any abnormal change in the colour, swelling, breach or loss of integrity of the mucosa of the oral cavity. Due to high prevalence of use of tobacco in the form of chewing or smoking, along with use of areca nut and paan, a large number of patients end up with mucosal lesions within the oral cavity. The various oral mucosal lesions can be divided as per the below given in (Figures 3,4 and 5).

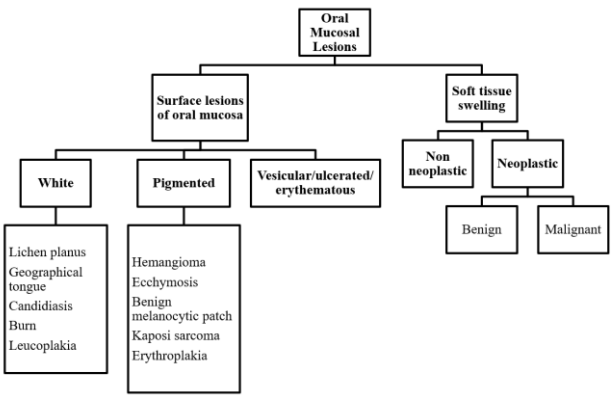

Figure 3: Types of oral mucosal lesions.

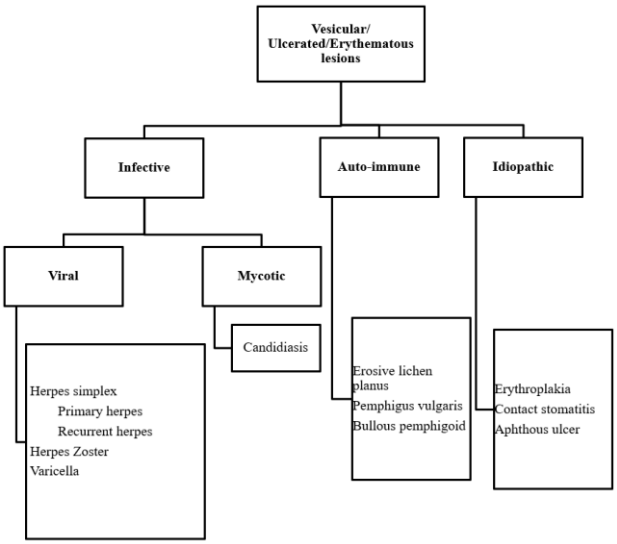

Figure 4: Types of vesicular/ulcerated/ erythematous lesions.

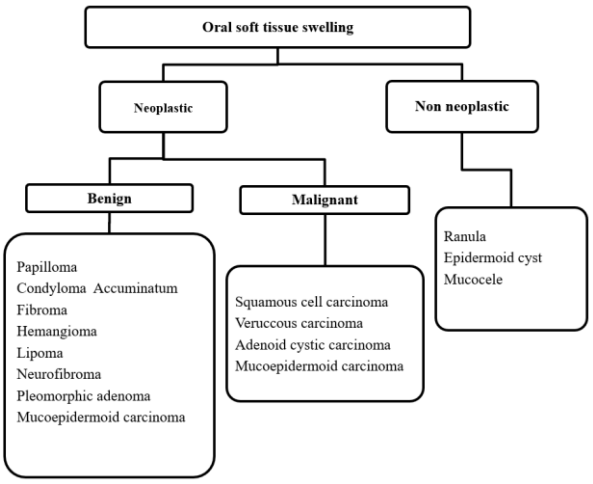

Figure 5: Types of oral soft tissue swellings.

In this study more number of male patients (61.7%) were found as compared to female patients (38.2%) which was similar to other studies done on oral mucosal lesions by Byakodi et al, Patil et al and Bhatnagar et al.[4-6]

Non-malignant lesions such as aphthous ulcers were more prevalent in younger age group (29.6% in 21-40 years) in this study. A similar finding of 11.7% aphthous ulcers in age group of 15-29 years was noted by Davatchi et al.[7] Goyal et al also found aphthous ulcer commonly in younger age group.[8] Malignant lesions were commonly seen in older group of 41-60 years which was similar to what Al-Mobeeriek et al found in their study.[9]

The most common oral mucosal lesions found among the patients of this study were aphthous ulcers (18.7%). Other common oral lesions diagnosed in this study were oral melanocytic macules (11.7%), leucoplakia (9.7%), squamous cell carcinoma (8.9%), fissured tongue (7.8%), geographical tongue (6.2%), oral submucous fibrosis (4.2%) and lichen planus (3.9%). A similar distribution pattern of the type of lesion was found by Patil et al and Davatchi et al.[5,7]

A higher number of patients presented with non-malignant lesions (70.3%) whereas pre malignant were seen in 20.3% and malignant in 9.3% patients. These results were similar as in the study done by Goyal et al who found that 66.46% patients had non-malignant lesions, 21.2% were pre malignant lesions and 11.9% were malignant lesions.[8]

The buccal mucosa was the most common site (50%) involved followed by tongue (34.3%). Bokor-Bratić found involvement of buccal mucosa in 28.3% patients of oral mucosal lesions.[10] Goyal et al found 29% involvement of buccal mucosa and 24% involvement of tongue.[8] Buccal mucosa (32.2%) was the most commonly affected site followed by oral vestibule (25.6%) and tongue (19.3%) in the study done by Kamble et al.[2]

Tobacco consumers were found to have a higher number of pre malignant and malignant lesions in this study while patients with no addictions had benign lesions predominantly. Similar findings were concluded by Byakodi et al, Saraswati et al and Mehrotra et al in their respective studies.[4,11,12] However Ghanaei et al did not find any statistically significant difference in tobacco consumption between patients with and without oral lesions.[13]

An estimated incidence of oral cancer is 12.6 cases per 100,000 population in India.[14] Medical attention is not sought by the rural population until the lesion causes significant morbidity and hampers day to day lifestyle significantly. Lack of awareness and low literacy rate are responsible for high prevalence of addiction as well as for the delay in seeking medical attention for any morbidity. Therefore, as physicians authors have a major role to play in spreading awareness in the local population regarding ill effects of addictions, accurately diagnose and promptly treat oral mucosal lesions especially the pre malignant and malignant lesions.

CONCLUSION

Oral mucosal lesions are common finding in patients presenting to the otorhinolaryngology OPD. Oral lesions are very common in Indian population due to tobacco addictions, low socio-economic state, various systemic diseases. A patient with such lesions therefore, should be examined thoroughly as early diagnosis of the precancerous and cancerous conditions is the key factor for their effective and timely management. Simultaneous counseling to quit addiction also plays a major role in management of such patients.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Toum SE, Cassia A, Bouchi N, Kassab I. Prevalence and distribution of oral mucosal lesions by sex and age categories: a retrospective study of patients attending Lebanese school of dentistry. Int J Dentist. 2018;2018:1-6.
2. Kamble K, Guddad S, Nayak A, Suragimath A, Sanade A. Prevalence of oral mucosal lesions in western maharashtra: a prospective study. J Indian Academy Oral Med Radiol. 2017;29(4):282.
3. Grills NJ, Singh R, Singh R, Martin BC. Tobacco usage in Uttarakhand: a dangerous combination of high prevalence, widespread ignorance, and resistance to quitting. BioMed Res Int. 2015;2015:1-10.
4. Byakodi R, Shipurkar A, Byakodi S, Marathe K. Prevalence of oral soft tissue lesions in Sangli, India. J Community Health. 2011;36(5):756-9.
5. Patil S, Santosh B, Wadhawan R, Doni B, Khandelwal S, Maheshwari S. Prevalence of benign oral ulcerations in the Indian population. J Cranio-Maxillary Dis. 2014;3(1):26.
6. Bhatnagar P, Rai S, Bhatnagar G, Kaur M, Goel S, Prabhat M. 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.
7. Davatchi F, Tehrani BA, Jamshidi AR, Shams DS, Gholami Z, Moradi M, et al. The prevalence of oral aphthosis in a normal population in Iran: a WHO-ILAR COPCORD study. Arch Iran Med. 2008;11(2):207-9.
8. Goyal R, Jadia S, Jain L, Agarawal C. A clinical study of oral mucosal lesions in patients visiting a tertiary care centre in central India. Indian J Otolaryngol Head Neck Surg. 2015;68(4):413-6.
9. Al-Mobeeriek A, Aldosari AM. Prevalence of oral lesions among Saudi dental patients. Ann Saudi Med. 2009;29(5):365-8.
10. Bokor-Bratić M. The prevalence of precancerous oral lesions: oral leukoplakia. Arch Oncol. 2000;8(4):169-70.
11. Saraswathi T, Ranganathan K, Shanmugam S, Sowmya R, Narasimhan P, Gunaseelan R. Prevalence of oral lesions in relation to habits: cross-sectional study in South India. Indian J Dent Res. 2006;17(3):121.
12. Mehrotra R, Pandya S, Chaudhary AK, Kumar M, Singh M. Prevalence of oral pre-malignant and malignant lesions at a tertiary level hospital in Allahabad, India. Asian Pacific J Cancer Prevent. 2008;9(2):263-5.
13. Ghanaei FM, Joukar F, Rabiei M, Dadashzadeh A, Valeshabad AK. Prevalence of oral mucosal lesions in an adult iranian population. Iranian Red Crescent Med J. 2013;15(7):600-4.
14. Munksgaard B. Strengthening the prevention of oral cancer: the WHO perspective. Community Dentist Oral Epidemiol. 2005;33:397-9.

Cite this article as: Tripathy SM, Gupta P, Jain A, Chatterji P. Prevalence of oral mucosal lesions in a tertiary care centre: one-year prospective study. Int J Otorhinolaryngol Head Neck Surg 2020;6:1704-8.