



Clinical and Histopathological Studies of Oral Mucosal Lesions (Non-Neoplastic) in Patients of Lucknow Region

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Abstract

Oral cavity is more prone for changes with advancing age as well as a result of the environmental and life style related factors. Oral mucosal lesions may be due to infection (bacterial, viral, fungal), local trauma and or irritation (traumatic keratosis, irritational fibroma, burns), systemic disease (metabolic or immunological), or related to lifestyle habits such as the usage of tobacco, areca nut, betel quid, or alcohol

Smoking, drinking and tobacco chewing have been positively associated with oral lesions such as Leukoplakia, oral sub mucosal fibrosis and oral lichen planus which have the potential risk for malignant transformation. Out of 239 patients, 123 (51.5%) were male and 116 (48.5%) patients were female, and M: F ratio is 1.09:1. The distribution of lesion varied with age and maximum cases (25.9%) were reported in age group of 21 -30 followed by (21.8%) cases in 31 -40, (17.6%) in age group of 41-50. Least cases (2.1%) were reported in age group of 70-80 years. In concern with clinical features 137 patients could not open their mouth completely, 99 made complain of burning sensation and 95 patients had complained of pain. Other complains were altered taste.

Aphthous ulcers were the most common diagnosis (48.9%) followed by Leukoplakia (22.2%) and Oral lichen planus (8.8%). Oral sub mucosal fibrosis were reported in 3.8%. In 0.8% cases Pemphigus vulgaris were diagnosed. Lesion distribution by location was known for 230 cases. The most common site was the buccal mucosa (25.7%) followed by gingiva (16.5%). An Aphthous ulcer is more common in our study. The present study was therefore designed to evaluate relative prevalence of biopsied Non-Neoplastic oral mucosal lesion in relation to demographic and localisation of lesion based on a retrospective review of 239 patients of Lucknow region visited in OPD of ENT department of TSM hospital.

Keyword: OML: Oral Mucosal Lesion, OSFL: - Oral Sub Mucosal fibrosis Lesion, Aphthous ulcer, Leukoplakia.

Introduction

Oral cavity is more prone for changes with advancing age as well as a result of the environmental and life style related factors. Oral mucosal lesions may be due to infection (bacterial,

viral, fungal), local trauma and or irritation (traumatic keratosis, irritational fibroma, burns), systemic disease (metabolic or immunological), or related to lifestyle habits such as the usage of tobacco, areca nut, betel quid, or alcohol⁽¹⁾. The

prevalence and incidence rates of oral mucosal lesions are available from various countries, but the information obtained may not be applicable to Indian population due to the existence of cultural, ethnic and demographic diversity. Despite the efforts made by the different groups, establishment of prevalence data related to oral mucosal lesions is not complete and informative in Indian literature.

Smoking, drinking and tobacco chewing have been positively associated with oral lesions such as Leukoplakia, oral sub mucosal fibrosis and oral lichen planus which have potential risk for malignant transformation. The tobacco induced mucosal lesions which are less likely to cause cancer are betel chewer's mucosa, smoker's palate, lichenoid reaction, smoker's melanosis, tobacco pouch keratosis and palatal erythema⁽²⁾.

Leukoplakia is a white lesion or plaque affecting the oral mucosa that cannot be characterized clinically or histopathologically as any other disease and is not associated with any other physical or chemical agents except tobacco⁽³⁾. A definitive diagnosis is made when any etiological cause other than tobacco/areca nut use has been excluded and histopathology has not confirmed any other specific disorder.

Leukoplakia is considered as a potentially malignant disorder with a malignancy conversion rate ranging from 0.1% to 17.5%.

Erythroplakia is an uncommon but severe form of pre-cancerous lesion defined by WHO as "any lesion of the oral mucosa that presents as bright red velvety plaques which cannot be characterized clinically or histopathologically as any other recognizable condition. There are few documents reported the prevalence of Erythroplakia because of its rarity and also the similarities with speckled Leukoplakia. Only 9 cases (0.02%) of Erythroplakia among 51000 villagers were reported in a study from five states of India.

Palatal changes secondary to reverse chutta smoking can be differentiated as palatal keratosis, excrescences, patches, red areas, and ulcerations and pigmentation changes⁽⁴⁾.

Oral sub mucosal fibrosis as a potentially malignant disease affects people of Asian descent and it is a chronic disorder characterized by fibrosis of the lining mucosa of the upper digestive tract involving the oral cavity, oropharynx and hypo-pharynx and the upper third of oesophagus. The fibrosis involves the lamina propria and the submucosa and may extend into the underlying musculature resulting in the deposition of dense fibrous bands leads to limited mouth opening⁽⁵⁾. Areca nut has been proved to be the single most important etiological factor responsible for oral sub mucosal fibrosis. The incidence is progressively increasing owing to the excessive usage of areca nut among various groups of population⁽⁶⁾.

Lichen planus is a mucocutaneous disorder affecting both skin and mucous membrane with increased potential for malignant transformation. The condition most commonly affects individuals in the 5th to 6th decade although younger individuals are also affected and is twice more common in women than in men⁽⁷⁾. The malignant potential of lichen planus has been a subject of intense research with studies showing malignant transformation in the range of 0.1 to 12.5 %.⁽⁸⁾

The present study was therefore designed to evaluate relative prevalence of biopsied Non-Neoplastic oral mucosal lesion in relation to demographic and localisation of lesion based on a retrospective review of 239 patients of Lucknow region visited in OPD of ENT department of TSM hospital.

Methods

This study was a retrospective study of two years duration (15 July 2016 to 15 July 2018) conducted at TSM medical College and consisted of 239 patients, 123(51.5%) male and 116(48.5%) female with age range covered from 10 years to 80 years. Before recording the clinical parameters, a general medical history of the patients were collected along with demographic data (Age & sex) from the case sheets of patients from Medical record department of institution. Some of the mucosal

changes were diagnosed at the time of clinical examination and final diagnosis was made on the basis of Histopathological reports collected from pathology department of TSM Hospital. Data of Clinical examinations were collected in accordance with the WHO guideline.

The clinical diagnosis was established according to the correlation in the etiological factor associated to the lesion by systematic examination of oral mucosa and classifying those alterations according to the epidemiology guide for the diagnosis of oral mucosal diseases⁽⁹⁾. In the parameter of clinical examination the following elements were analyzed: features of the lesion, anatomical location, extension, etiological factors and related factors, All Non-pathological and Non-Neoplastic conditions or developmental such as, lingual varices, fordyce granules, benign migratory glossitis, and fissured tongue were excluded from the present study.

Result

During two years period, 239 patients of oral mucosal lesion (Non- Neoplastic) were selected and data were collected in accordance with epidemiological, clinical and histopathological parameters, Out of 239 patients, 123 (51.5%) were male and 116 (48.5%) patients were female, and M: F ratio is 1.09:1.

The distribution of lesion varied with age and maximum cases (25.9%) were reported in age group of 21 -30 followed by (21.8%) cases in 31 - 40, (17.6%) in age group of 41-50. Least cases (2.1%) were reported in age group of 70-80 years. In concern with clinical features 137 patients could not open their mouth completely, 99 had made complaint of burning sensation and 95 patients had complained of pain. Other complains were altered salivation and taste.

Aphthous ulcers were the most common diagnosis (48.9%) followed by Leukoplakia (22.2%) and Oral lichen planus (8.8%). Oral sub mucosal fibrosis were reported in 3.8% .In 0.8% cases Pemphigus vulgaris were diagnosed.

Lesion distribution by location was known for 230 cases .The most common site was the buccal mucosa (25.7%) followed by gingiva (16.5%) and tongue (14.3%). Least cases were reported in soft palate (3.9%). The buccal mucosa was the most frequent site of dermatoses and lichen planus as compared to other location. In biopsy hyperplastic lesion and reactive lesion were found and fibroepithelial hyperplasia was the most common hyperplastic lesion whereas peripheral giant cell granuloma was the most common reactive lesion.

Table: 1: Sex Wise Distribution

Sex	Number	Percentage
Male	123	51.5%
Female	116	48.5%
Total	239	100%

Table: 2: Age Wise Distribution

	Number	Percentage
10-20	17	7.1 %
21-30	62	25.9%
31-40	52	21.8 %
41-50	42	17.6%
51-60	38	15.9%
61-70	23	9.6%
70-80	05	2.1%

Table: 3: Distribution of Patient According to Their Complain

Pain:-	
Severe	39
Moderate	56
Nil	144
Inability of Opening Mouth:-	
Yes	137
No	102
Salivation :-	
Increase	49
Decrease	92
Normal	98
Taste:-	
Altered	47
Normal	192
Burning Sensation:-	
Severe	43
Moderate	56
Nil	140

Table: 4 Frequency of Various Oral Mucosal lesion in Patient

Oral Lesion	Frequency (n=239)	Percentage
Apthous ulcer	117	48.9%
Leukoplakia	53	22.2%
Oral Lichen Planus	21	8.8%
Oral candidiasis	15	6.3%
Mucocele	11	4.6%
Oral sub mucosal fibrosis	9	3.8%
Traumatic Ulcer	5	2.1%
Nicotinic Stomatitis	3	1.3%
Drug induced gingival enlargement	3	1.3%
Pemphigus vulgaris	2	0.8%

Table: 5: Site of Lesion of Oral Mucosal lesion

Site	No. of Cases	Frequency
Buccal Mucosa	59	25.7%
Gingiva	38	16.5%
Tongue	33	14.3%
Hard palate	30	13.0%
Lip Mucosa	24	10.4%
Floor of Mouth	14	6.1%
Vestibule	12	5.2%
Commisures	11	4.8%
Soft Palate	09	3.9%
Total	239	100%

Chart 1: Sex Wise Distribution

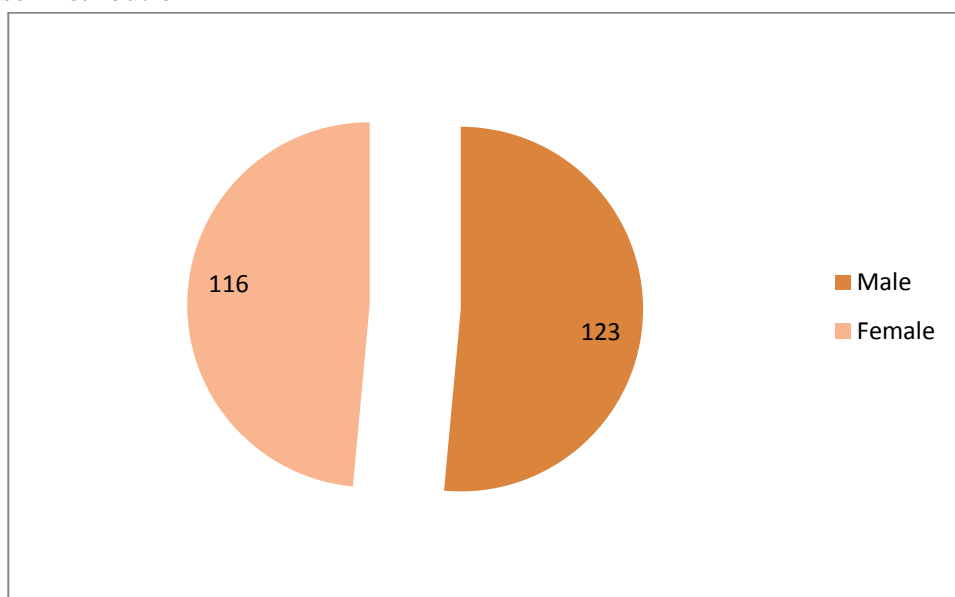


Chart 2: Age Wise Distribution

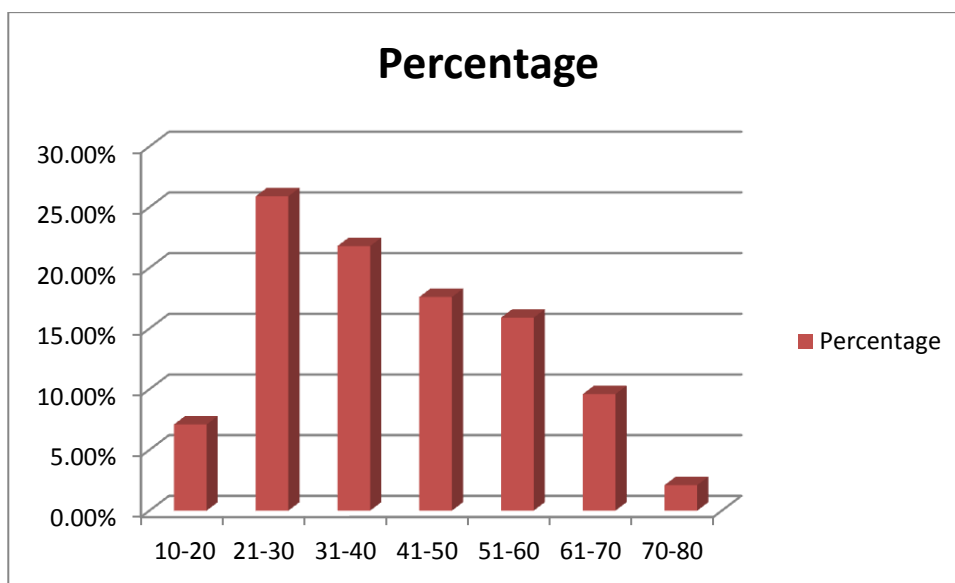


Chart: 3:-Frequency of Various Oral Mucosal lesion in Patient

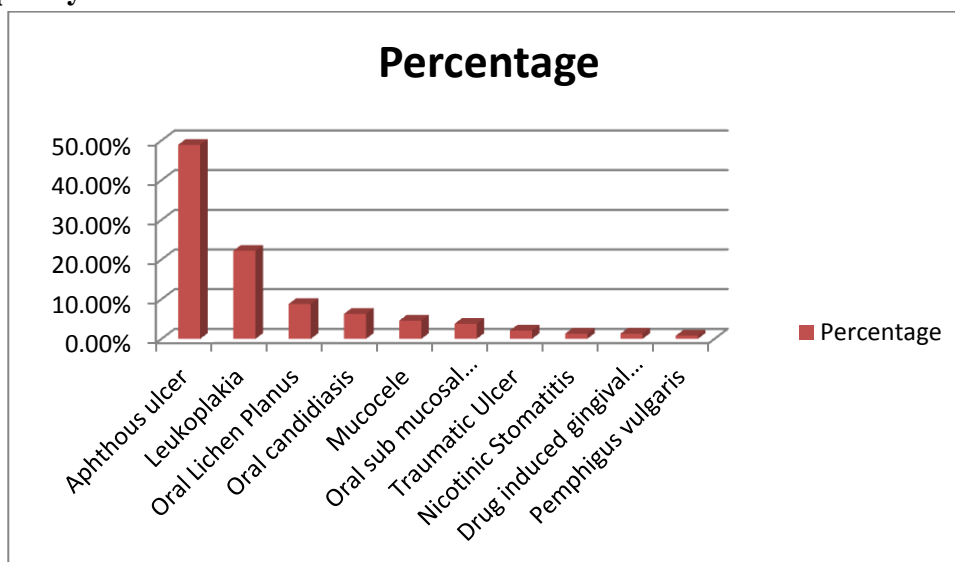
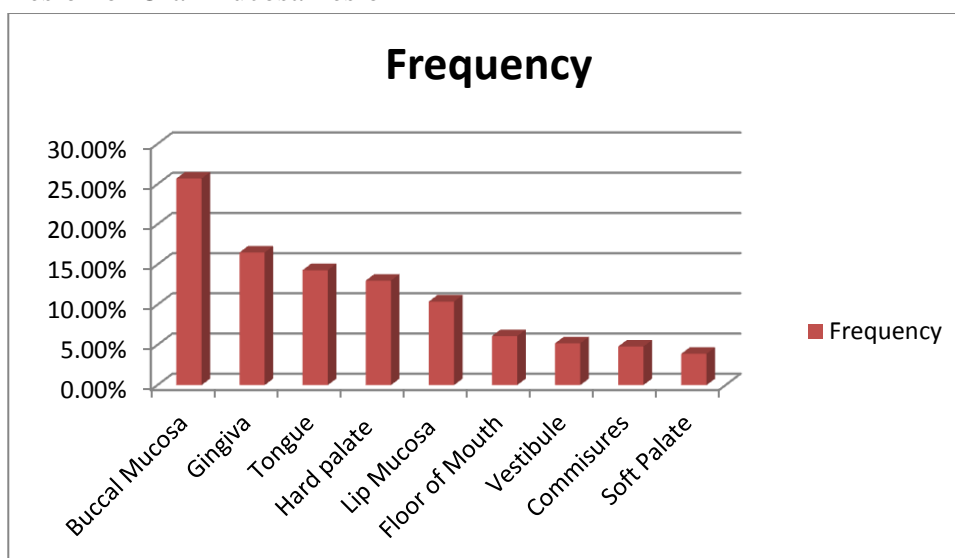


Chart: 4: Site of Lesion of Oral Mucosal lesion



Discussion

The present study was based on data collected from Medical Record Department of TSM Medical college & Hospital. These data were based on clinical features and biopsy records of histopathologically diagnosed oral mucosal lesions obtained from the department of pathology of institution over two years period. In North India several studies have assessed the prevalence of different types of oral mucosal lesion but few studies have documented the range of histopathologically diagnosed lesions affecting the oral mucosa⁽¹⁰⁾. This study is more reliable because it is based on histo-pathological examination. And therefore the results presented

here reflect the profile of diagnosed oral mucosal lesion and included several categories of oral mucosal lesions.

There is a wide variation in the range of age reported by various authors. In this study reported by us of 239 patients with Non – Neoplastic oral mucosal lesion more common in male (51.5%) as compared to female (48.5%) and M:F ratio was 1.09:1, our study corroborates with the finding of Siner et al because gutkha chewing is more common in male population, it may be due to easy accessibility of gutkha and its products within male population. The youngest patient was of 11 years old while the oldest patient was 79 years old⁽¹¹⁾.

It seems that the various sites of the oral cavity involved depends on many factors such as the types of material chewed, duration of habit, age of initiation of habit and other systemic diseases and malnutrition⁽¹²⁾.

The involvement of buccal mucosa is most commonly observed in most studies including ours; it is because of poor oral hygiene and chewing gutkha and its products⁽¹³⁾. The most common complaint which brings patients to clinician for treatment is pain and inability to open mouth completely. Burning sensation and altered salivation were also reported in some cases⁽¹⁴⁾.

An Aphthous ulcer is more common in our study and it seems to be due to trauma, nutritional deficiency particularly Vitamin B complex and iron. Viral infection also triggers its formation⁽¹⁵⁾.

Lichen planus is a well known mucocutaneous chronic inflammatory condition, its primary etiology remains unknown. A recent study of Greece reported that the incidence of oral lichen planus in general population was 1.27% and in our biopsies patients it was 8.8 %⁽¹⁶⁾.

Conclusion

The incidence and prevalence of oral mucosal lesions in North India is high owing to the increased production and consumption of tobacco as well as poor oral hygiene. Tobacco smoking and chewing is one of the factors responsible for oral pre-cancer lesion. In order to determine the overall incidence and prevalence rates, attempts should be made to accumulate epidemiological data over a wide geographical area that may help in formulating appropriate prevention and control measures. Preventive measures should begin at grass root levels aimed at individuals who are at high risk for tobacco usage along with self awareness of oral hygiene and policy level interventions by the concerned policy makers. Health professionals including ENT surgeon, dentist and pathologist should also play an active role in diagnosis of disease in patients who are at increased risk.

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