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RESEARCH ARTICLE
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PREVALENCE OF ORAL MUCOSAL LESIONS IN PUNJAB, INDIA

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Abstract

Background: Oral mucosal lesions are seen quite commonly in the Indian population. Their aetiology has been linked to a variety of factors such as diet, smoking, alcohol, tobacco chewing etc. Few studies have been conducted in Punjab regarding the prevalence of oral mucosal lesions.

Aims and objectives: The aim of the study is to evaluate the prevalence of oral mucosal lesions on patients reporting to the ENT OPD at Ram Lal Eye/ENT hospital or referred from Department of Dermatology in Govt. medical college, and Department of Oral surgery Govt. Dental College, Amritsar.

Methods: An observational study was conducted in Ram Lal Eye and ENT hospital associated with Government Medical college, Amritsar. 100 patients that attended the outpatient department during the period of 18 months from March 2021 to September 2023, were included in the study. These patients underwent oral examination and interview- based questionnaire.

Results: Benign oral mucosal lesions were found in 72% patients. Prevalence of malignant and premalignant lesions was found to be 16% and 12% respectively. These lesions showed significant association with smoking, alcohol abuse and tobacco chewing. Aphthous ulcer was found to be most prevalent lesion (31%).

Discussion: Oral mucosal lesions were found to be fairly common in our region of the state. While benign lesions make up the majority, a significant number of pre malignant and malignant lesions were also seen. Aphthous ulcers (31%), squamous cell carcinoma (16%), leukoplakia (8%) and smooth tongue (7%) were the most commonly seen lesions in our study.

Keywords: squamous cell carcinoma, pre malignant, aphthous ulcers

Introduction

The inner lining of the oral cavity is made up by the mucous membrane which consists of oral epithelium and an underlying connective tissue which is collectively known as the oral mucosa. Oral mucosa has certain essential functions such as protection of deeper tissues and organs from the

potentially harmful environment of the oral cavity like mechanical forces (biting, chewing etc.), surface abrasives and toxins released by the micro organisms.[1]

Oral mucosal lesion is known as any abnormal alternation in colour, surface, aspect, swelling or loss of integrity of oral mucosal surface. A large proportion of oral mucosal lesions are benign and require no active treatment, while others may present as significant pathology. Oral pre malignant disorders are of special importance as they may progress to malignancy. Hence a timely diagnosis and intervention can be highly beneficial. Moreover oral mucosal lesions can adversely affect the daily quality of life by impacting basic functions like mastication, swallowing and speech. These can lead to production of symptoms such as burning sensation, irritation and pain. Oral mucosal lesions can be caused by a variety of factors such as bacterial, viral or fungal infections, local trauma (biting, dentures etc.), systemic diseases, and excessive consumption of tobacco, betel quid and alcohol.[2,3,4]

Oral mucosa responds with similar responses to a diverse set of diseases. Thus, oral mucosal lesions usually present broadly as following:[5]

1. White lesions (thickening of the oral epithelium and/or the keratinized layer).
2. Red lesions (desquamation or atrophy of the oral epithelium)
3. Ulcerations (discrete areas of loss of the entire thickness of oral epithelium).
4. Pigmented lesions varying from brown to bluish black
5. Surface irregularities (papillary or nodular areas)[4]

Epidemiologic studies provide important information for understanding the prevalence, incidence and severity of oral diseases in a specific population. It is important to understand the distribution, etiology, risk factors and pathogenesis of oral mucosal lesions. This presents an opportunity for a timely primary prevention, early diagnosis and prompt treatment.[6]

The data on the prevalence of oral mucosal lesions is limited, especially regarding the entire range of oral mucosal lesions in a population group. The majority of investigations of this kind have been limited to mostly oral cancer and pre malignant conditions. But epidemiological studies about oral mucosal lesions are pretty scarce.[7,8]

The present study was done to evaluate the prevalence of oral mucosal lesions in the population presenting to the hospital and their possible associations with respect to age, gender, socio economic status and habits.

Materials and Methods

The present study was based on the analysis of patients visiting the Department of ENT, Ram Lal Eye and ENT Hospital attached to Governmental Medical College, Amritsar from March 2021 till September 2022 after taking approval from the Institutional ethics committee and written informed consent from the patients. The patients presenting to OPD with oral mucosal lesions were assigned groups according to age, gender and habit of tobacco use.

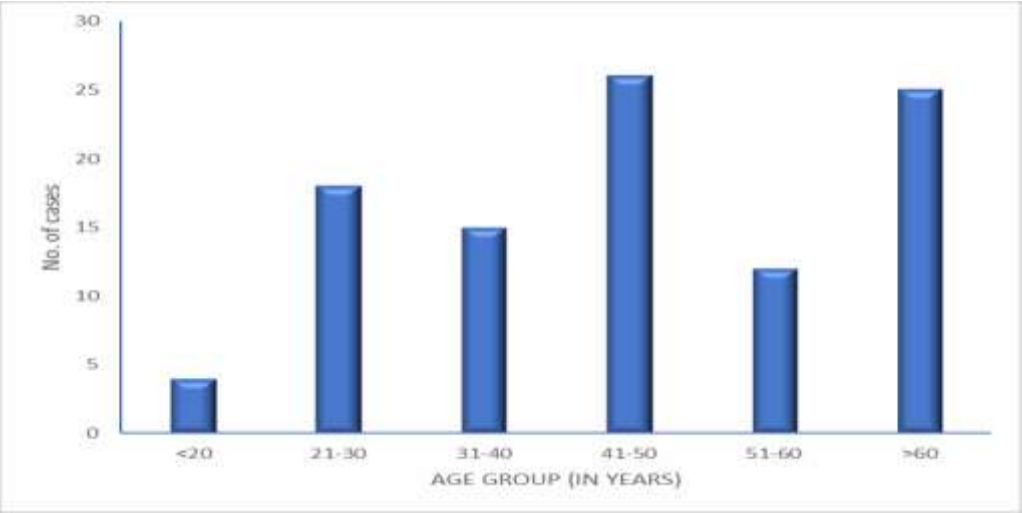
All the patients presenting to the ENT OPD with oral mucosal lesions or referred from Department of Dermatology, Govt. Medical College and Department of Oral surgery , Govt. Dental College, Amritsar were included in this study.

Patients who could not open their mouth adequately for intraoral examination or were in unconscious or sedated state, or had a recent history of maxillofacial trauma and postsurgical cases were excluded from the study.

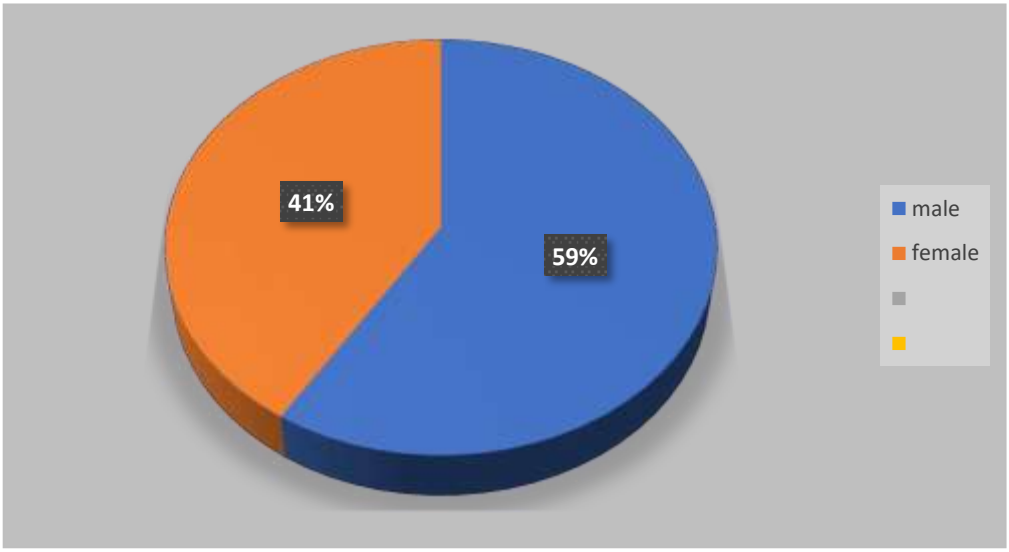
Statistical analysis was done using statistics software SPSS 26, IBM, USA. Pearson's chi-squared test was used to determine whether there was a statistically significant difference between the expected frequencies and the observed frequencies in one or more categories.

Results

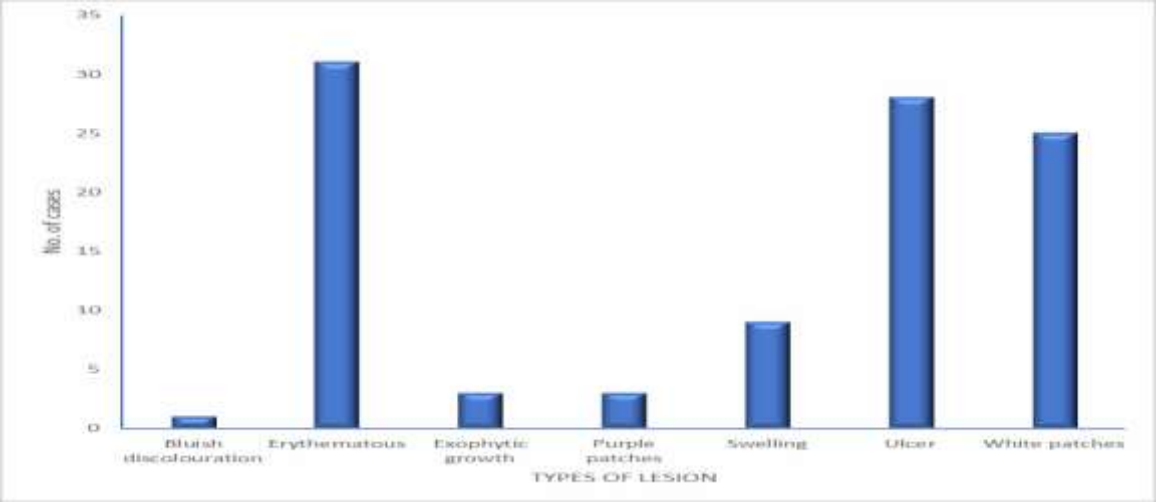
The cases were studied for age, sex distribution and clinical presentation. Correlation of oral mucosal lesions was done with various factors and each of them was analysed statistically as described below:



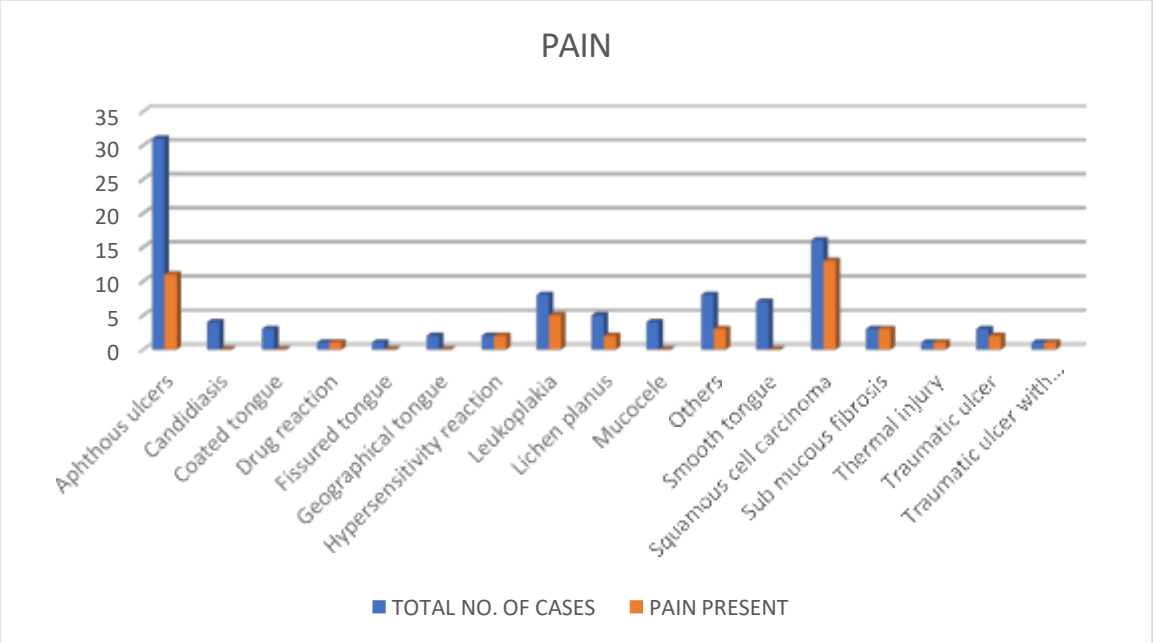
Oral mucosal lesions were found to be highest in two age groups that are: 41-50 years and more than 60 years. Lowest frequency of OMLs was found in the younger age group that was less than 20 years



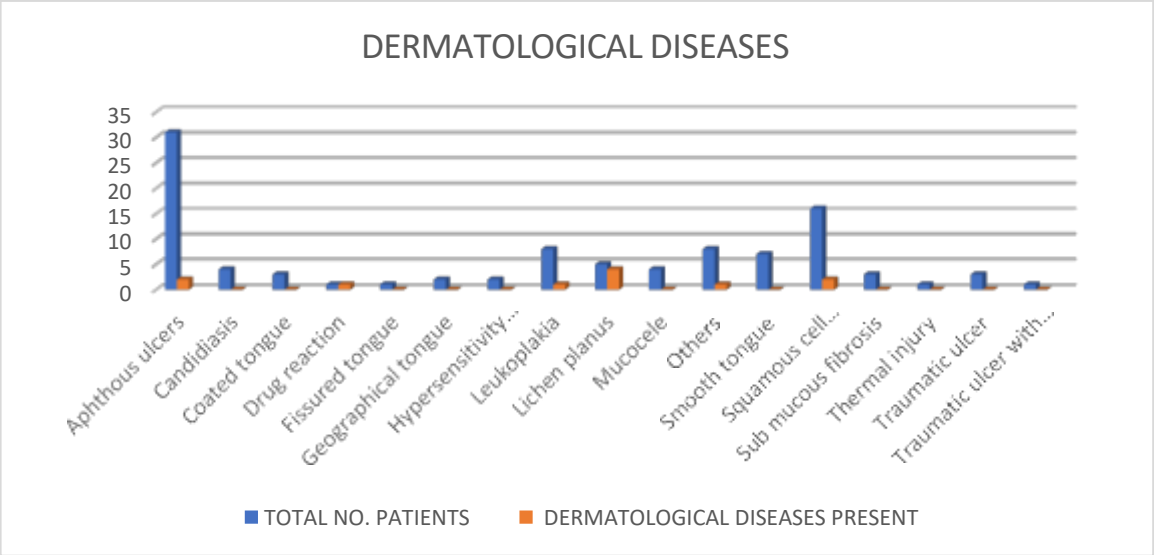
Oral mucosal lesions were found to be pre dominant in males (59%) as compared to females (41%). The male to female ratio was found to be 1.4:1.0



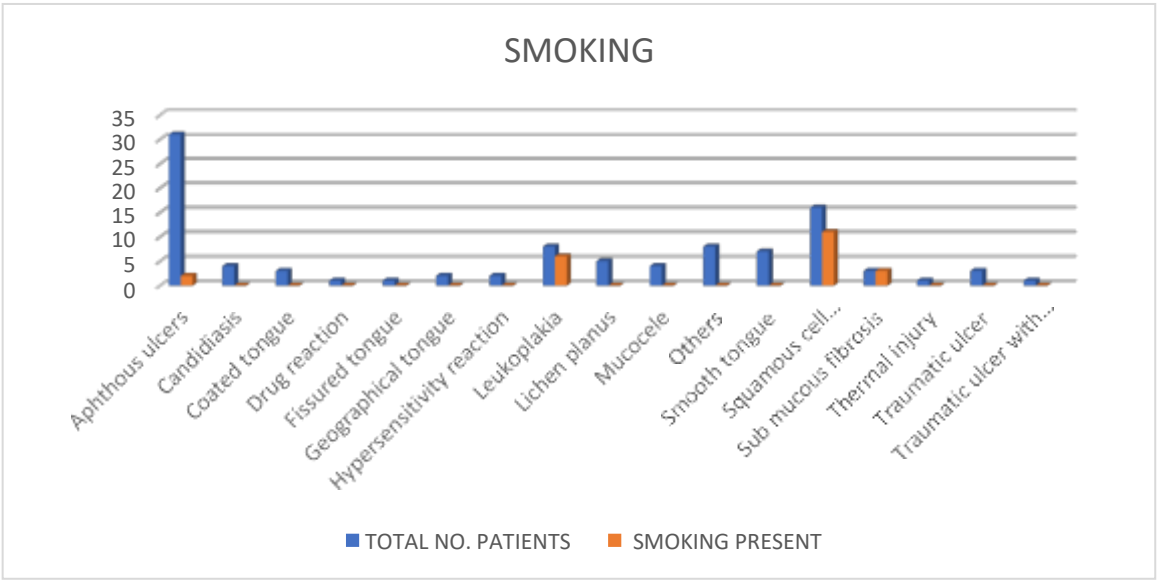
Thirty-one (31%) oral mucosal lesions were found to be erythematous in appearance followed by ulcerative lesions (28) and white patches (25). Other lesions were rare in presentation.



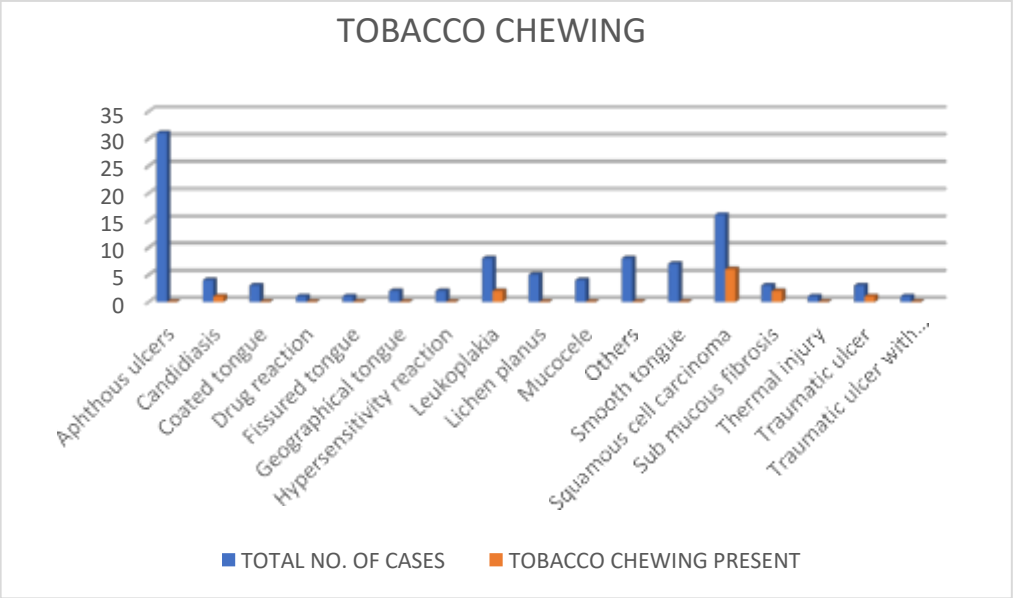
Pain was found to be the presenting symptom in the majority of the patients diagnosed with squamous cell carcinoma and pre malignant conditions. Thirteen out of sixteen (29.66%) patients with squamous cell carcinoma presented with pain as a symptom. Eight out of eleven patients (18.18%) with pre malignant lesions presented with pain as well. It was found to be significantly associated with oral mucosal lesions (p value=0.001).\



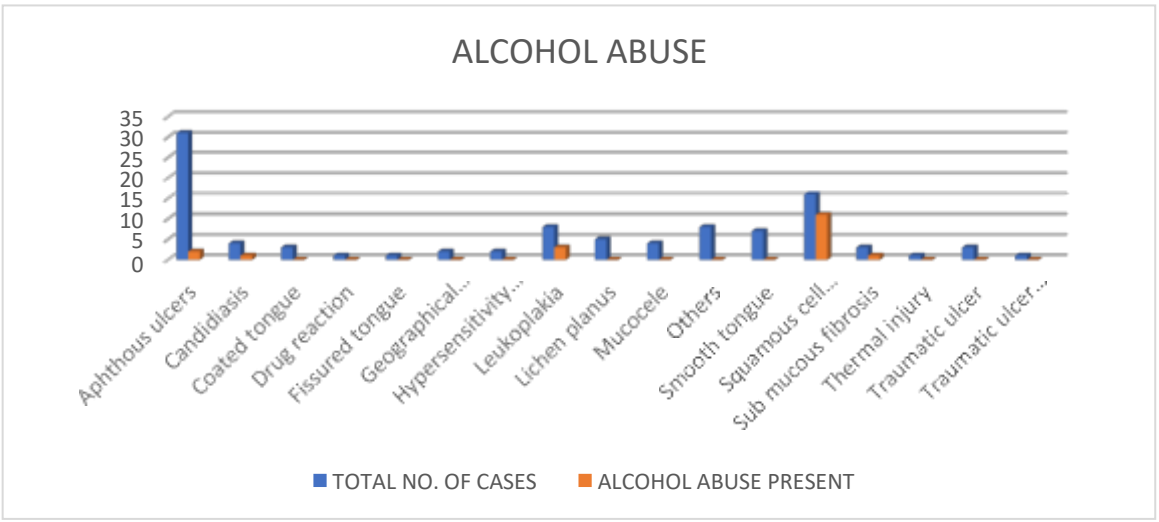
Eleven patients with dermatological diseases were found to have oral mucosal lesions. Four out of five (36.36%) patients with lichen planus also showed oral lesions. A significant association was seen between dermatological diseases (lichen planus and pemphigus) and oral mucosal lesions (p value=0.001).



Smoking was found to have significant association with oral mucosal lesions especially with malignant and pre malignant lesions (p value=0.001). Twenty out of twenty-seven (74.07%) patients with malignant and pre malignant lesions gave history of smoking.



Tobacco chewing was found to be significantly associated with oral mucosal lesions in our study (p value=0.015). Six out of sixteen (37.5%) patients with squamous cell carcinoma gave history of tobacco chewing.



Alcohol abuse was also found to be associated with oral mucosal lesions (p value=0.001). Eleven out of sixteen (68.75%) patients diagnosed with squamous cell carcinoma gave history of alcohol abuse.

Discussion

In our study, mean age was found to be 69.04±33.18 years with ages ranging from 5 to 75 years. The majority of subjects belonged to the older age group with the maximum patients being between 41-50 years.

A male predominance was observed in our study where 59% patients were males and 41% were females.

Most commonly presenting lesion was ulcer, seen in 28 patients. Aphthous ulcers were the most common type of ulcers seen.

Pain was present in 44% patients. Severity of the pain was dependent on the type of lesion. Benign lesions usually presented with mild pain whereas malignant lesions presented with moderate to severe pain.

Eleven patients with oral mucosal lesions presented with associated dermatological diseases. Lichen planus was observed to be the most common disease associated with oral lesions.

Significant association was observed between leukoplakia and smoking. A male predominance was also observed. Leukoplakia was found to have a stronger association with smoking than tobacco chewing.

Sub mucous fibrosis was found to be associated with smoking as well as tobacco chewing. Again, male predominance was observed.

Among malignant lesions, squamous cell carcinoma was seen to have positive association with smoking, tobacco chewing and alcohol abuse.

Conclusion

In conclusion, oral mucosal lesions are fairly common in our region of the state. While benign lesions make up the majority, a significant number of pre malignant and malignant lesions were also seen.

A thorough history and proper clinical examination can help in differentiating between benign and malignant lesions. It is also noted that a good history taking can aid an ENT specialist to recognize the dermatological diseases that present in the oral mucosa and hence help in making correct diagnosis and prescribing the proper treatment.

Counselling regarding cessation of smoking, tobacco chewing and alcohol abuse can also help in decreasing the burden of oral cancer especially in premalignant lesions.

Timely investigations such as biopsy can help in detecting malignant diseases in their early phase. This can greatly help in reducing the morbidity and mortality in the longer run. Therefore, special care and timely intervention should be undertaken in case of any suspicious lesion in the oral mucosa.

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