



ORIGINAL RESEARCH PAPER

Dermatology

CLINICO-EPIDEMIOLOGICAL STUDY OF ORAL MUCOSAL LESIONS IN PATIENTS ATTENDING OUT-PATIENT DEPARTMENT IN A TERTIARY CARE HOSPITAL: A CROSS-SECTIONAL STUDY

KEY WORDS: clinico-epidemiological, dermatologic, oral mucosal lesions

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ABSTRACT

Background:- Oral mucosal signs can depict any systemic disease in a patient. The pattern of the disease presentation in the mouth gets modified due to complex and changing environment. The Oral mucosal lesion may be the initial manifestation or the most florid clinical feature. It may occur with or without cutaneous involvement. **Aims & Objectives:** To determine the clinico-epidemiological pattern of oral mucosal lesions in patients with dermatological diseases and to estimate the incidence of oral mucosal lesions in patients with dermatologic diseases. **Materials & Method:** This observational cross-sectional study was conducted in the Department of Dermatology, Venereology, and Leprology at S.M.G.S Hospital. All patients having oral mucosal lesions with or without cutaneous lesions were included in this study. A predesigned proforma was used to record the patient's relevant history and clinical findings. The data were tabulated and subjected to statistical analysis. **Results:** The incidence of oral mucosal lesions in patients with dermatologic diseases was reported to be 0.05%. There were 55% females and 45% males. The most common age group involved was 21-40 years. Pemphigus vulgaris was found to be the most common oral mucosal lesion reported in 17.1% of participants, followed by lichen planus observed in 12.9% of participants. **Conclusion:** Oral cavity examination should not be overlooked as it can provide help in the early diagnosis of certain dermatological disorders/systemic diseases.

INTRODUCTION

The numerous primary skin and mucous membrane diseases constitute dermatologic diseases [1]. Most dermatological diseases affect stratified squamous epithelium and may lead to the involvement of skin and other mucosal membranes such as the oral, nasal, ocular, and genital mucosa. Some patients may present with mucosal lesions only while in others, simultaneous involvement of skin and mucous membranes may be seen [2].

Histologically and embryologically the mucous lining of the oral cavity is similar to that of the skin but the pattern of disease presentation in the mouth is modified due to a complex and changing environment [3]. The earliest signs of disease can be read in the skin and accessible mucous membranes in the majority of cases [4]. Oral mucosal manifestation may be the initial sign/symptom, the most elaborate clinical presentation, or sometimes the only presenting sign of certain diseases in dermatology [5].

This study was carried out to determine the clinicoepidemiological pattern of oral mucosal lesions in a tertiary care hospital so that the clinicians can be sensitized to the prevailing situation of oral dermatological conditions to attain an appropriate and early diagnosis.

MATERIALS & METHOD

This was an observational cross-sectional study. All patients having oral mucosal lesions with or without cutaneous lesions attending the out-patient department of dermatology, venereology and leprology at S.M.G.S Hospital were included in this study.

INCLUSION CRITERIA:-

1. All patients with specific oral lesions attending dermatology OPD of SMGS Hospital.

EXCLUSION CRITERIA:-

1. Patients with restricted mouth opening.

2. Patients who had a recent history of maxillofacial trauma or surgery.

3. Patients not giving consent to participate in the study.

A detailed history, oral and physical examination was done on all the patients. A predesigned proforma was used to record relevant history and clinical findings in the patients. The data was tabulated and subjected to statistical analysis.

Results

A total of 70 patients were observed with oral mucosal lesions out of all patients attending OPD during the study period i.e. November 2022 - January 2023. The incidence of oral mucosal lesions in patients with dermatologic diseases was reported to be 0.05%. The most common age group involved was 21-40 years, with the mean age being 32.03 ± 5.79 years (table 1). Our study population showed female predominance with 55.7% females and 44.3% males (Table 2). The distribution of participants based on oral mucosal lesions has been depicted in table 3. Pemphigus vulgaris was found to be the most common oral mucosal lesion reported in 17.1% of participants, followed by lichen planus in 12.9% of participants, cheilitis in 12.8%, hand foot, and mouth disease in 10%, oral candidiasis in 8.6%, herpes labialis in 8.6%, angioedema in 7.1%, scrotal tongue and aphthous ulcer in 5.7%, mucosal vitiligo, and mucocele in 2.9 % and SLE, Steven Johnson Syndrome, Erythema Multiforme, submucosal fibrosis in 1.4%.

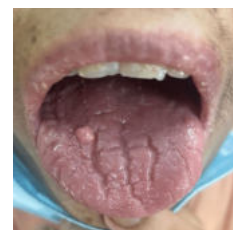


Figure 1: Scrotal tongue



Figure 2: showing drug induced (isotretinoin) cheilitis

Among the 6 patients with oral candidiasis, 4 patients had a history of diabetes mellitus in the present study. Out of 70 patients, 27 patients (38.5%) had oral as well as cutaneous manifestations. Amongst the sites involved in the oral cavity, Buccal mucosa was the most commonly involved site (68.6%), followed by labial mucosa (34.3%) and tongue (27.1%) (Table 4).

Table 1: Age Distribution of Patients

AGE GROUP	NUMBER	PERCENTAGE
<20	8	11.4%
21-40	42	60%
41-60	11	15.7%
>60	9	12.9%
TOTAL	70	100%

Table 2: Gender Distribution of Patients

GENDER	NUMBER	PERCENTAGE
Male	31	44.3%
Female	39	55.7%
Total	70	100%

Table 3: Distribution of dermatological lesions based on diagnosis

ORAL MUCOSAL LESION	NUMBER	PERCENTAGE
Pemphigus vulgaris	12	17.1%
Lichen Planus	9	12.9%
Chelitis- 1. Drug Induced	5	7.1%
1. Actinic	2	2.9%
2. Angular	1	1.4%
3. Contact	1	1.4%
Hand foot mouth Disease	7	10.0%
Oral Candidiasis	6	8.6%
Herpes Labialis	6	8.6%
Angioedema	5	7.1%
Scrotal Tongue	4	5.7%
Apthous Ulcer	4	5.7%
Mucosal vitiligo	2	2.9%
Mucocele	2	2.9%
SLE	1	1.4%
Steven Johnson Syndrome	1	1.4%
Erythema Multiforme	1	1.4%
Submucosal Fibrosis	1	1.4%
Total	70	100%

Table 4: Distribution based on site of oral lesion

SITE	NUMBER	PERCENTAGE
Buccal mucosa	48	68.6%
Labial mucosa	24	34.3%
Gingiva	13	18.6%
Palate	12	17.1%
Tongue	19	27.1%
Floor of mouth	3	4.3%

DISCUSSION

The structures within the oral cavity are lined by the mucous membrane which is known as oral mucosa. It extends from the

junction between the vermilion border of the lips and labial mucosa anteriorly to the palatopharyngeal folds posteriorly. It is continuously exposed to mechanical stress by actions like drinking, talking, and eating and therefore acts as a protective physical barrier for underlying tissue. It harbors major and minor salivary glands that secrete saliva which lubricates the tissue and consists of lysozyme, lactoferrin, salivary peroxidase, myeloperoxidase, thiocyanate concentrations, and enzyme amylase which act as a defense mechanism in the saliva and helps in chemical digestion of food. Multiple diseases may affect the oral mucosa and impair its capacity to develop these actions.

Oral mucosal signs can depict any systemic disease in a patient. Oral mucosal manifestations may be affected first or it may be the only clue to diagnosing certain dermatological diseases.

We evaluated 5460 patients within 3 months with dermatological disease for oral involvement. Only 70 cases showed oral manifestations.

The incidence of oral mucosal lesions in patients with dermatologic diseases in our study was reported to be 0.051%.

Our study showed females outnumbered males (Females: 55.7%; Males: 44.3%). This finding was similar to the studies done by Roy S et al, Arvind Babu RS et al [6,7]. On the contrary, studies done by Asia AJ et al and Shivakumar KM et al showed male preponderance with a male-to-female ratio of 1.41:1 and 1.53:1 respectively [8,9]. Female predilection might be due to their genetic susceptibility to the development of certain diseases.

In our study majority number of patients fell into the age group of 21-40 years (60%), with the mean age being 32.03 ± 5.79 years. According to Mandadi et al, Roy et al and Babu et al most patients in their study belonged to the age group 31-40 and the percentages were 25%, 24.67%, and 31.3%, with the mean age being 38.44±17.30 years respectively almost similar to our study [10,6,7]. The predominant involvement of adults could be attributed to the fact that the most common diseases in these studies are seen in adult life.

In our study among 70 patients, 27 (38.5%) had cutaneous as well as oral manifestations and 43 (61.4%) had just oral manifestations. This is in contrast to the study done by Mandadi, L et al. in which among the 100 patients with oral lesions, 82 (82%) of patients had skin manifestations whereas 18 (18%) patients presented with only oral diseases [10].

Pemphigus vulgaris was observed to be the most common oral mucosal lesion in our study. This is similar to the findings of Roy S et al [6]. This could be due to the reason that oral mucosal involvement is considered to be an initial manifestation in the majority of pemphigus vulgaris patients. In our study, buccal mucosa was predominantly involved (80%), followed by labial and palatal mucosa. Scully C, et al. [11] also found in their study, that buccal mucosa was the commonly affected site (71%) followed by palatal (44%), lingual (42%), and labial mucosa (35%).



Figure 3: showing a patient with multiple erosions over oral mucosa depicting pemphigus vulgaris

In the present study, OLP was the second most common oral mucosal lesion reported in 12.9% of participants which is similar to a study done by Roy et al with 12.7% of patients having OLP. However, in the study by Thete SG, et al. lichen planus was the most common dermatologic disease with manifestations in the oral cavity [12]. This could be attributed to the fact that mucosal involvement affects over half of all LP patients and frequently is the sole presenting sign.

In a study by Mandadi L, et al. out of 19 oral candidiasis patients 15 (79%) patients had diabetes mellitus (DM) and rest 4 (21%) patients had human immune deficiency virus (HIV) as pre disposing factors for the development of candidal infections [10]. We observed that out of 6 patients with oral candidiasis, 4 patients (66.7%) patients had diabetes mellitus. Diabetic patients are more susceptible to oral candidiasis due to high levels of salivary glucose, low secretion of saliva, impaired chemotaxis, and defect of phagocytosis due to polymorphonuclear leukocyte deficiency.



Figure 4 : showing angular cheilitis

In the present study 5.7% patients showed aphthous ulcers. Mandadi L et al. , Mathew et al. and Ramirez-Amador VA et al. observed aphthous ulcers in 7.7%, 2.1% and 6.7% patients respectively [10,13,5] .

Mucosal vitiligo was observed in only 2.9% patients in the present study, which was comparatively low as compared to studies done by Mandadi L et al. [10] and Shah H et al. [14], who found frequency of mucosal vitiligo to be 15.4% and 14.8% respectively.



Figure 5: showing mucosal vitiligo

Oral submucosal fibrosis and mucocele was reported in 1.4% and 2.9% patients only. OSMF and mucocele was seen in 2.19%, 1.09% and 2.01% , 0.16% of patients in study by Mandadi L et al. [10] and Mathew et al. [13]. Such low percentage of people affected by these diseases could be due to the reason that patients affected by such disorders consult an ENT specialist frequently than a dermatologist.

Our study showed SLE in 1.4% cases only which was low as compared to Mandadi L et al. [10] and Arvind Babu RS et al. [7] who diagnosed SLE in 3.29% and 3% of their patients respectively.

Conclusions

The present study highlights the distribution of oral mucosal lesions, with pemphigus vulgaris constituting the major bulk in our region. Out of 70 patients, the majority of them presented with only mucosal manifestations. Oral mucosal manifestation may be the initial sign/symptom, the most elaborate clinical presentation, or the only presenting sign of

certain dermatological diseases but sometimes oral mucosal manifestations may accompany cutaneous lesions simultaneously. Of particular importance, some of these lesions have the potential for malignant transformation. Therefore oral mucosal examination should never be overlooked by a clinician for early and appropriate interventions for the benefit of the patients.

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