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Conglomeration of Dermal and Oral Diseases - Disorders Pertaining to Paediatric and Adult Population - An Original Research

Dr. Karthik Shunmugavelu[*1], Dr. Shivangi Verma[2], Dr. Gowri T Ragavendran[3]

[*1]BDS, MDS OMFP, MSC London, MFDSRCS England, MFDSRCPS Glasgow, Faculty Affiliate RCS Ireland, Affiliate RCS Edinburgh, MCIP, FIBMS USA, MASID Australia

Assistant Professor / Consultant Dental Surgeon / Consultant Oral and Maxillofacial Pathologist, Department of Dentistry PSP medical college hospital and research institute Tambaram Kanchipuram main road, Oragadam Panruti Kanchipuram district Tamilnadu 631604

https://orcid.org/0000-0001-7562-8802

Email ID: drkarthiks1981@gmail.com

[2]BDS, MDS, Senior lecturer, Department of Paediatric Dentistry RKDF dental college,Bhopal ,Madhya Pradesh,India

[3]Assistant professor, Department of of Periodontology, Sree Balaji dental college &Hospital, Chennai,Tamilnadu, India

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ABSTRACT

Background: Oral cavity can be affected by a variety of disorders and many systemic disorders have wide range of manifestations in the oral cavity or mucosa. The oral mucosal lesions can be the early aspects of the disease manifestation or the only symptom of the dermatological diseases and any symptom or sign in the oral cavity should not be neglected.

Materials and methods: A total of 1131 patients who came to the institute for various dermatological treatment were included in this study. The demographic details were obtained from the patient and a thorough and extensive dermatological examination was done. On examining the oral cavity, the size, site of the lesion was noted. The results of the study were entered in SPSS version 21 and descriptive statistics calculated ($P < 0.05$ were considered as statistically significant). The participants were informed about their oral conditions, and health education was provided

Result: The patients in the age group of 25-50 years (76%) were affected most commonly that the other age group. No Gender predilection was seen, both male (49.7%) and female (50.3%) patients were equally affected. Out of 1131 patients, 237 patients along with dermatological lesions had oral mucosal lesions. One-twenty-one cases of different dermatological cases were diagnosed from 1131 patients in that 12 dermatological lesions had oral manifestations. The most common site of involvement in the oral cavity was the palate (38.3%). Psoriasis (44.3%) was the most common lesion with oral mucosal lesion which was followed by Pemphigus (31.2%) and bullous pemphigoid (10.1%).

Conclusion: The significance of diagnosing the oral lesions in dermatology practice and mucocutaneous lesions in dental practice plays a pivotal role in patient management. Thus, widespread and panoramic vision of knowledge needs to be employed in diagnosing these cases in dental and dermatology practice.

Keywords: *Oral mucosal lesions, Dermatological disease, Prevalence, pathology, medicine*

1. INTRODUCTION

It has been said that oral health reflects overall health. This statement is indeed true in many cases of dermatological disorders where oral lesions occur along with or precede skin lesions. Dermatological diseases are systemic pathoses that apart from the skin, they manifest in other regions such as oral cavity, eyes, nails and hair. This enables the dental physician to observe the case well before systemic manifestations have occurred[1]. Though the oral lesions are usually benign, the progress of the dermatological component might take a toll on the patient's quality of life. Early diagnosis and treatment benefit the patient. Most of the oral lesion that occur concurrently with dermatological disorders have been referred to as the Oral Mucosal

Lesions (OML) that manifests in various forms as patches, plaques, bullae, blister or as an ulcer. Some of the dermatological lesions are strongly associated with oral lesions and could be overlooked by dentists due to lack of awareness[2].This study was done to find the prevalence of OML among the patients who attended a tertiary dermatology clinic and to correlate with their cutaneous counterparts.

2. MATERIALS AND METHODS

The study included (N=1131) patients who were treated for dermatological diseases in the institute. The demographic details were obtained from the patient and a thorough and extensive dermatological examination was done. On examining the oral cavity, the size, site of the lesion was noted. The histopathological examination was done for the lesions and the diagnosis was made. The results of the study were entered in SPSS version 21 and descriptive statistics calculated ($P < 0.05$ were considered as statistically significant). The patients were explained in detail about the study procedure and an informed consent was obtained. Confidentiality of the patients was maintained. The participants were informed about their oral conditions, and health education was provided. Institutional Ethical Board, Institutional Review Board (IRB) approval, patients consent as per the IRB guidelines were obtained for each part of this study.

3. RESULTS

The study was done throughout which 1131 patients with dermatological diseases were examined. The age among the study group were divided into three categories 0-25 years, 26-50 years and 51-60 years of age. Oral mucosal lesion's age distribution is mentioned.

Gender distribution:

Among the various dermatological diseases diagnosed, there was 562 (49.7%) cases of males and 569 (50.3%) were females who presented with dermatological lesions. Oral mucosal lesion is an abnormal change such as swelling, plaque, fissure or a patch that is seen manifesting on the oral mucosa. Of the 1131 patients that were screened, 121s cases of different dermatological lesions were diagnosed and confirmed histopathologically. Among which, 237 cases had OML.

Site distribution:

On analyzing the site distribution of the OML, we found that 51 cases had involved the buccal mucosa, 28 cases were found in the gingiva, 91 cases in the palate, 43 cases involved the lips and 24 cases were found involving the tongue.

Oral mucosal lesions:

In our study, we had OML lesions in patients with pemphigus vulgaris, lichen planus, psoriasis, bullous pemphigoid, xeroderma pigmentosum, discoid lupus erythematosus, rhinophyma, vitiligo, erythema multiforme, lichenoid reaction, candidiasis, acanthosis nigricans and psoriasiform dermatitis associated with respective cutaneous counterpart. The lesions were asymptomatic and was observed upon intraoral examination.

4. DISCUSSION

In our study, we have highlighted the dermatological lesions that were associated with OML. A total 121 dermatological lesions were listed from 1131 patients who came for the treatment. Among them, only 12 dermatological lesions had oral manifestations and the remaining 108 lesions were devoid of it.

Psoriasis:

A total of 105 patients had Psoriasis out of 1131 patients. In those 52 cases were males (21.9%) and 53 (22.3%) were females. The majority of the patients belonged to the age group of 30-40 years. The major cutaneous manifestation was silvery keratotic scales. According to Hernández-Pérez *et al*., the prevalence of oral lesions in psoriasis were found in 67.5% of the patients with psoriasis[2] which was similar to our finding where 52 cases out of 105 cases of psoriasis had a strong positive correlation. Tomb *et al*. suggested that there was a strong correlation between psoriasis and fissured, geographic tongue. However, these features are not pathognomonic for this disease and in our study. These two types of signs involving the tongue can occur in psoriasis, but the patients are generally unaware of this sign and rarely complain about it. The authors suggest that these patients develop more oral manifestations than the patients with a chronic course of the disease. They also found a high incidence of HLA-DR7 in patients with psoriasis and EM, a finding that has not been explored in our population yet.

Pemphigus vulgaris:

Out of the 74 patients who had pemphigus vulgaris, 38 cases were males (6.8%) and 36 (6.3%) were females. The majority of the patients were in the age group of 30-40 years. The most common clinical type was reticular type and buccal mucosa was mostly involved with a female predilection. The skin lesions showed hypertophic plaque form and dystrophic nails were observed. Clinically oral lesions precede skin lesions in many cases and appear as blisters which rupture rapidly resulting in painful erosions. This was similar to findings of Dagistan et al who stated that oral lesions were the first to manifest[12]. Buccal

mucosa, lips, and soft palate are most commonly involved. As the oral cavity is subject to trauma during mastication, the thin roof of the blister ruptures easily and forms an erosion or ulcer in the area. As reported in literature our patient too presented with the two most common symptoms related to PV, that is, pain and burning sensation. Many cases of PV have been reported to begin as generalized lesions involving multiple intraoral sites as in our case where the patient developed lesions on the buccal mucosa and the tongue. Though buccal mucosa has been reported to be one of the most commonly affected sites, tongue, which was also affected in our case, is a rare site for PV. [13]

Bullous pemphigoid:

In this study there were 24 patients with bullous pemphigoid, among which 9 cases were males (1.6%) and 15 were females (2.6%). All the cases showed oral manifestations which was similar to Budimir J et al who had also reported oral lesions in all the cases of systemic cases of bullous pemphigoid that he had observed[14]. The majority of the patients belonged to the age group of 30-40 years. The oral manifestations initially started as vesicle, which ruptured, leaving a raw eroded ulcerative area. It involved buccal mucosa, tongue and lips. Oral lesions comprise of bullae/vesicle that rupture to form erosions and ultimately leave out ulcerations.[7] Her history revealed onset of bullae followed by rupture and leaving out painful ulcerations.

Discoid lupus erythematosus:

One case of discoid lupus erythematosus was observed in a 72-year-old male patient. An ulcerative oral lesion was observed over the lips. The extra-oral manifestation was butterfly- shaped malar rash and discoid rash and no other systemic manifestations were seen. Histopathologically the lesion was characterized by hyperparakeratosis, focal areas of liquefaction degeneration of the basal layer. Oral lesions may be present in each of these two types of lupus erythematosus. Oral manifestations of discoid lupus erythematosus are referred as "Oral discoid lesions" and they occur in about 20% of patients. These may occur without involvement of skin lesions or before the skin lesions develop. Oral discoid lesions most commonly occur on the labial mucosa, vermillion border and buccal mucosa. Typical cases of oral discoid lesions are characterized clinically by the presence of white papules, central erythema, a border zone of irradiating white striae and peripheral telangiectasia[15]. This was similar to the findings of the study done by Schimdt M et al who also reported initial oral manifestation of this disorder[16].

Lichen planus:

In case of lichen planus, we observed 18 cases of which 12 cases of males (2.1%) and 6 cases of females (1.1%) were present. Oral manifestation was that of white striae / streak or patch pattern in buccal mucosa. This finding was similar to the observations recorded by Thete *et al* saw 19 cases of lichen planus of which 7 lesions of plaque, 9 lesions of papule and 3 lesions of ulcerated appearance and site involvement of 17 buccal mucosa cases and 2 labial mucosa cases were recorded[8]. This finding was in line with Eisen D *et al* who stated that the disease manifests in the oral cavity several weeks before the skin lesions. About 15% of oral lichen planus patients have concurrent skin lesions [17]

Erythema multiforme:

One case of erythema multiforme was observed in a male patient whereas Goncalves *et al* reported that erythema multiforme (n=21) was found mainly among women (62%) within the age group from 20 to 40 years of age (48%). Only 7 patients presented oral lesions, and out of this number, 57% reported relation between the disease and viral infections especially herpes simplex, 29% reported relation with drugs and 14% did not mention any kind of relation. As for forms, 43% presented ulcerated lesions in the buccal mucosa, followed by lips (43%) and ulcerations in the tongue (24%)[9]

Xeroderma pigmentosum:

In our study, xeroderma pigmentosum accounted for 1 case in female whereas Wayli *et al* reported an equal incidence in males and females with a history of consanguinity[10].Clinical symptoms usually manifest on regions exposed to sunlight. Individuals with XP develop cancer of the skin caused by exposure to mutational effects of radiant energy. Therefore, the disease is considered both hereditary and environmental Oral signs and symptoms of this disease are rare. Malignancies like squamous cell carcinoma can develop on various parts of the oral mucosa but in our case, patient did not have any signs of malignancy[18]

Psoriasiform dermatitis:

Suliman *et al* stated that psoriasiform reaction pattern accounted for 56.7%, whereas in our study 9 cases were observed, 3 in males and 6 in females[11]. All cases showed oral manifestations.

Oral cavity can be affected by a variety of disorders and many systemic disorders have wide range of manifestations in the oral cavity or mucosa. Any symptom or sign in the oral cavity should not be neglected because that can be an early predictor of any underlying disease. Even though, the number of patients with oral mucosal lesions in dermatological diseases was relatively low in this series. The striking observation in the study was the association of psoriasis and its oral manifestation were high followed by pemphigus and lichen planus. A focus on the prevalence of such lesions in dental and dermatology

practice may underline the burden of diagnosis of such conditions.

5. CONCLUSION

The significance of diagnosing these oral lesions in dermatology practice and mucocutaneous lesions in dental practice plays a pivotal role in patient management. Thus, widespread and panoramic vision of knowledge needs to be employed in diagnosing these cases in dental and dermatology practice. Hence, multidisciplinary therapeutic approach will welcome the patient's good prognosis. This study also depicts that diagnosis and management of these oral lesions should also be carried out by oral clinician so as to improve the oral health functioning during the course of the disease. The intraoral examination should be incorporated to the routine of dermatologic assistance as the oral manifestations can represent preliminary signs or can coexist with the diseases. Oral mucous membrane alone may be involved but very often missed by Dermatologist, Dental, ENT surgeons, and physicians. This can be taken care of by the primary health care providers without going through much sophisticated investigations and further delay and for early appropriate interventions for the benefit of the patients. Future studies need to focus on sample size on individual disease, which may be useful to identify the statistical correlation between oral manifestations in dermatological diseases among the individual diseases.

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