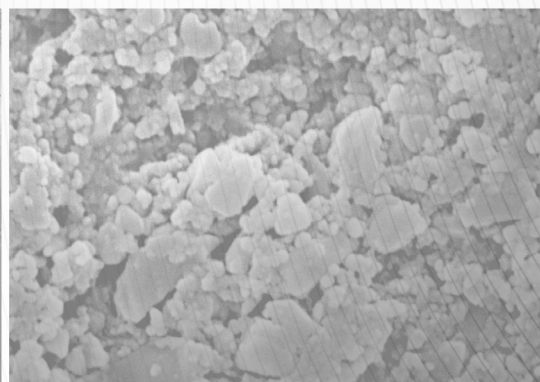
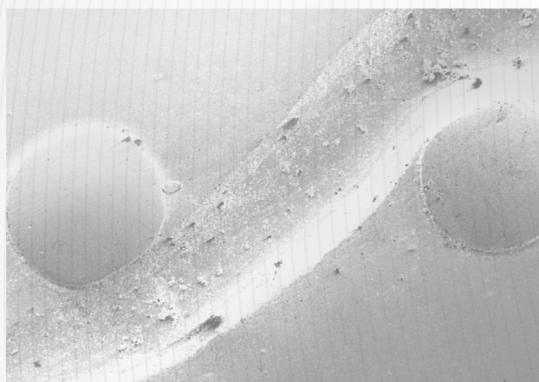


Scientific articles





Clinical evaluation of oral lesions associated with dermatologic diseases

Avaliação clínica de lesões bucais associadas a doenças dermatológicas

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Abstract

Introduction: Dermatologic diseases are not only represented by lesions affecting the skin but also by manifestations that may involve the mucous membranes, including oral mucosa. **Objectives:** To assess the frequency of oral manifestations associated with dermatologic diseases considering the location and clinical characteristics of the lesions found and also gender and age of the patients. **Materials and Methods:** It was an observational, cross-sectional study of patients who sought for treatment in the Dermatology Department of M. M. College of Medical Sciences & Research, Haryana (n=88). **Results:** The age of the patients varied from 5 to 88 and there was predominance of female patients. Of the cases studied, 35% were diagnosed as lichen planus, 11% as lupus erythematosus, 13% as erythema multiforme, 30% as pemphigus vulgaris and 11% as of pemphigoid group. Oral manifestations were more common among patients suffering from lichen planus (51%) and pemphigus vulgaris (23%). The most common clinical presentation found was reticular lichen planus located most predominantly in the buccal mucosa. **Conclusions:** It is essential for the dentists to know these pathologies so that they should be able to diagnose them at an early stage of the disease and direct the patients to get adequate treatment. Furthermore, intra-oral examination should be included as a routine practice in dermatological services.

Keywords: Dermatology. Diagnosis. Oral manifestations.

Resumo

Introdução: As doenças dermatológicas não estão representadas apenas pelas lesões que afetam a pele, mas também por manifestações que podem envolver as mucosas, incluindo a mucosa oral. **Objetivos:** avaliar a frequência de manifestações orais associadas a doenças dermatológicas, considerando localização e características clínicas das lesões encontradas, além do sexo e da idade dos pacientes. **Materiais e Métodos:** Estudo observacional transversal de pacientes que procuraram atendimento no serviço de dermatologia da Faculdade de Ciências Médicas e Pesquisa de Maharishi Markandeshwar, Haryana (n=88). **Resultados:** A idade dos pacientes variou de 5 a 88 e houve predominância de pacientes do sexo feminino. Dos casos estudados, 35% foram diagnosticados como líquen plano, 11% como lúpus eritematoso, 13% como eritema multiforme, 30% como pênfigo vulgar e 11% como grupo penfigoide. Manifestações orais foram mais comuns entre os pacientes que sofrem de líquen plano (51%) e pênfigo vulgar (23%). A apresentação clínica mais comum encontrada foi o líquen plano reticular localizado predominantemente na mucosa bucal. **Conclusões:** É essencial para os dentistas conhecer estas patologias de modo a diagnosticá-las em uma fase precoce e encaminhar os pacientes para um tratamento adequado. Além disso, o exame intraoral deve ser incluído como uma prática rotineira nos serviços dermatológicos.

Palavras-chave: Dermatologia. Diagnóstico. Manifestações bucais.

Introduction

Dermatologic diseases are represented not only by numerous primary diseases that affect the skin but may also involve various mucosas of the body, including the oral mucosa. Currently, dermatoses constitute an area of great scientific and odontological interest, considering that oral lesions can precede cutaneous being, which sometimes is the only initial sign of the disease (1,2). In this context, the most expressive pathologies are lichen planus, lupus erythematosus, erythema multiforme, pemphigus vulgaris and the group of the pemphigoid lesions (1-3).

Lichen planus (LP) is a chronic inflammatory disease of the skin and mucosas that manifests itself in the oral cavity with high frequency (1,2,4-6) before or after epidermic appearances (7). These lesions are characterized by Wickham streaks (3,4,7-9) and may present themselves under various clinical forms, mainly reticular and erosive ones.

Lupus erythematosus (LE) is an autoimmune disease that, classically, can be subdivided into systemic lupus erythematosus (SLE) and cutaneous lupus erythematosus (CLE) (10,11). The involvement of the oral mucosa may occur in both forms (12) and the possibility of manifesting itself

in a more aggressive way requires more attention and early diagnosis (3,12,13).

Erythema multiforme is an ulcerative and bullous disorder of uncertain etiopathogenesis, characterized by cutaneous eruption followed or not by oral involvement, which occasionally may involve the mouth in an isolated manner (3,14-17).

Pemphigus vulgaris is an autoimmune pathology characterized by the formation of intraepithelial bullae on the skin and mucosas that are easy to tear with a minor trauma, developing into painful ulcerations (3). In the majority of cases, the first signs develop in the buccal mucosa and these lesions may precede the cutaneous ones for long periods of time (18-22).

The term pemphigoid refers to an autoimmune bullous disease that may involve the skin and mucosas, especially oral and ocular ones (3). Among them are the mucous membrane pemphigoid lesions, with more frequent oral lesions, and the bullous pemphigoid that affects mainly the skin (2,3,18).

The objective of this article is to assess the prevalence of oral manifestations in patients who suffer from dermatologic diseases, emphasizing the aspects referring to their location and clinical characteristics, sex, ethnic group and age of the

patients. By doing that, we aim to call the attention of dentists and dermatologists to the need of making an early diagnosis to improve the quality of life of patients who suffer from these diseases, reinforcing the importance of a multidisciplinary approach.

Materials and methods

To satisfy the fundamental ethical and scientific requirements, the present project was submitted to the Committee of Ethics in Research of M. M. University, Haryana and approval was obtained.

Before proceedings, either the patient or his/her guardian was asked to sign a formal written term of consent. It was carried out as an observational, cross-sectional study, which had at its target population patients that sought for medical treatment in the Dermatologic Department of M. M. Medical College, Haryana. Criteria for the inclusion were patients diagnosed with one of the following diseases: lichen planus, lupus erythematosus, erythema multiforme, pemphigus vulgaris and of pemphigoid lesions. Considering the great variety of diseases, we decided to focus on the ones that most frequently present oral lesions, according to the current medical publications (1-3).

health conditions, family diseases and current and previous diseases.

The statistic software used was SPSS v.13.0, 2004, and the variables analyzed were age, sex, the occurrence of oral lesions, their location and characteristics of the oral lesions observed.

Results

A total of 88 patients were examined, being 57 females and 31 males, aged between 15 and 88. Out of the total number of 88 cases examined (n=88), 35% were lichen planus, 11% were lupus erythematosus, 13% were erythema multiforme, 30% were pemphigus vulgaris and 11% were from the pemphigoid group (Table 1).

All patients presented one or more cutaneous alterations peculiar to each of the diseases investigated. As for the total amount of oral lesions found (n=35), lesions were more frequently found among patients who suffered from lichen planus (51%), followed by pemphigus vulgaris (23%), lupus erythematosus (9%), erythema multiforme (6%) and pemphigoid group (11%) (Table 2). The flexural strength test is able to compare the load-bearing capacity of different materials under flexure. According to Pereira et al. (15), the flexural

Table 1 - Mean and standard deviation (sd) of flexural strength (mpa) for composite, glass fiber and polyethylene fiber group

Distribution of the dermatologic diseases diagnosed in patients included in the research (n=88)					
LP	LE	EM	PV	Pemphigoid group	Total
31	10	11	26	10	88
35%	11%	13%	30%	11%	100%

Patients that were not voluntarily willing to participate and did not have a confirmed histopathological diagnosis of the above-mentioned diseases were excluded from the study. For data gathering, only patients included in the research were clinically examined aiming to identify oral and cutaneous alterations. Information was recorded in individual clinical cards, as well as personal information,

strength test deserves particular attention, because it measures tension and compression acting together, simulating oral clinical conditions. Thus flexural strength was the mechanical property chosen for comparison.

Patients suffering from lichen planus (n=31) were mainly women (60%) aged between 30 and 50 (48%). The predominant clinical form was the

Table 2 - Mean and standard deviation (sd) of flexural strength (mpa) for composite, glass fiber and polyethylene fiber group

DiDermatologic diseases / No of patients involved					
	Oral lesions				
	LP	LE	EM	PV	Pemphigoid group
Present (n=35)	51%	9%	6%	23%	11%
	18	3	2	8	4
Absent (n=53)	49%	91%	94%	77%	89%

reticular one (83%), followed by erosive (12%) and atrophic (5%) forms. The sites mostly common affected were the buccal mucosa, tongue, gingivae, palate and lips (Figure 1 and Figure 2).

Among patients from the SLE group, erythematous lesions in the buccal mucosa, dorsal surface of tongue and mucosal surfaces of the lower lip were observed (Figure 3). Erythema multiforme (n=2)

**Figure 1** - Reticular lichen planus on buccal mucosa

Patients suffering from lupus erythematosus (n=3) were women without predominance of any age group. Out of these patients, two were diagnosed with systemic lupus erythematosus (SLE) and one with cutaneous lupus erythematosus (CLE).

**Figure 2** - Lichen planus on lateral border of tongue

was found mainly among women aged between 30 and 50. Both of them reported relation between the disease and viral infections, especially herpes simplex and through drug use. Both of them were under medication for thyroid disorder. An extensive hemorrhagic lesion on the lips was evident in both patients (Figure 4).

Oral lesions in pemphigus vulgaris (n=8) occurred mainly in patients aged between 30 and 50, without predominance regarding sex. The characteristic oral ulcers having non-inflammatory halo were present mostly on the buccal mucosa, lateral border of tongue and palate (Figure 5). Nikolsky's sign was positive. The pemphigoid group, in this



Figure 3 - Erythematous plaque on lower lip in a case of systemic lupus erythematosus



Figure 4 - Extensive hemorrhagic lesion on the lower lip in a case of erythema multiforme

sample, presented only 11 patients with a diagnosis of mucous membrane pemphigoid (7) and bullous pemphigoid (4). Thick walled bullae, which usually do not rupture easily in oral cavity, were present on the posterior part of alveolar ridge of buccal mucosa.

Discussion

Lichen planus (LP) is the most common dermatologic disease with manifestations in the oral cavity, as has been confirmed in other studies (1,2,4-7,9).



Figure 5 - Ulcer on the buccal mucosa in pemphigus vulgaris

In this study, it was found that more than 50% of the cases presented the involvement of the buccal mucosa, confirming the findings of Mollaoglu (4), which show that these lesions are frequent and represent the most persistent and resistant to treatment. In the examined sample, LP most frequently prevailed in women (2:1) aged between 30 and 50, in the same way it was reported by other authors (6-8,23,24).

Sousa and Rosa (6) analyzed 79 cases of LP with oral involvement and concluded that females are affected approximately four times more than males. The authors suggest that the prevalence in female sex may be related to a greater susceptibility of women to emotional stress. Publications have already proved that there is a strong relation between the periods in which the disease exacerbates and the levels of anxiety (6,25). A few studies analyze the prevalence of LP associated with genetic factors and histocompatibility (26).

The positive association between LP and systemic diseases is also being analyzed, mainly in the case of Hepatitis C (27,28), fact that was not observed in the collected sample. Nagao and Sata (28) found out that the relation between LP and Hepatitis C is not consistent and that the prevalence of this virus in association with the disease varies between 0 and 60% in scientific publications, depending on in which country the research was carried out, which

may be attributed to different prevalences of the virus within the general population.

Clinically, LP has specific characteristics (8) and generally is present in two main forms: the reticular and erosive forms (3), although other forms such as papular, plaque shape, bullous and atrophic (4) are not rare (7). In this study, the most common clinical appearance was the reticular one, as it was demonstrated in other researches (2,4,6,24), characterized by white streaks with a lace look and described as asymptomatic (3,4,7,8). Only two patients presented the erosive form and one patient presented the atrophic form. The main affected site was the buccal mucosa, followed by the tongue, gingivae, palate and mucosal surfaces of lips, in accordance with the profiles presented by other authors (2,3,6,8). In two cases, there was a simultaneous appearance in more than one site, being these areas the buccal mucosa and tongue, and buccal mucosa and palate, similarly to the findings of Galvão et al. (2) and Eisen (8), and opposed to the ones of Xue et al. (24), which reported, in a study with 674 patients, multiple oral sites in 90.9% of the cases. The preference for the buccal mucosa is due to the thickness of the epithelium and its level of keratinization that allows histopathological alterations to reflect themselves clinically with greater facility than in other mucosas (6).

Lupus erythematosus (LE) can develop in both sexes (3) and at any age, although it is more common among women (10,11). The oral mucosa can be affected in its systemic form (SLE) and in its cutaneous form (CLE)(10,11), as confirmed in the sample presented here, although publications about the frequency of these lesions are conflicting, depending on the stage of them and on the type of treatment received (10,13).

Some authors suggest that the oral mucosa is involved in 9-45% of the cases of patients suffering from SLE and in 3-20% of cases of patients suffering from CLE (10,13). However, in this study, lesions were most common in SLE, unlike the studies of Lourenco et al. (11). The small incidence of oral manifestations in LE may be linked to the moment in which patients were examined, since the majority of them were already under treatment with immunosuppressive drugs. Therefore, this fact probably keeps patients free from oral alterations.

Erythema multiforme (EM) can be represented either by a light cutaneous variant, EM minor (14), presented in 65% of the patients of this study,

as well as for a more severe variant, the EM major (15), presented in 35% of the sample. Neville et al. (3) asserts that, in general, patients are adults aged between 20 and 40, being men more affected than women are, unlike the results of this study, which revealed female predominance (62%). It is a recurrent disease being preceded, in the majority of the cases, by herpes simplex infections. Our results showed that both patients with EM presented herpes simplex lesions. EM can manifest itself only in the mouth or it can precede cutaneous involvement affecting the oral mucosa in 85-92% of the cases (17).

In this research, only 6% of the cases presented oral manifestations. This low percentage might be related to the fact that the majority of the examined patients were already under medication, which represents a limitation of this study. The main clinical forms and areas affected were ulcerated lesions in the buccal mucosa, crust lips that bleed easily and ulcerations on the back of the tongue, compatible with data found by Farthing et al. (15).

Pemphigus vulgaris (PV) occurred with higher frequency in patients aged between 30 and 50, findings in accordance with other publications (18-21). As for sex, there was an equal distribution among men and women, as described by Neville et al. (3). However, contradictorily, Budimir et al. (18), Iamaroom et al. (20) and Shamim et al. (21) state that females are more affected than males in a proportion of 2:1. The discrepancy between results may be due to the ethnic and geographic differences in the background of the studied patients (22). The majority of the examined patients reported that the first sign of the disease was oral onset (60%), followed by simultaneous appearance of lesions on the skin and oral mucosa (30%) and isolated cutaneous lesions (10%), findings supported by other scientific publications (18-21). For Scully et al. (29), the oral mucosa is usually affected in patients with PV, and in 50-70% of the cases, it is the first site to be involved.

Concerning clinical characteristics and distribution of intra oral PV, lesions had an ulcer form, and the most common site was the buccal mucosa, followed by the palate and tongue. Shamim et al. (22) explain that the predominance of ulcerative forms is due to minor traumas that are frequent in the oral cavity and to the thin covering of the bullae that are formed on the mucosa, which causes the rupture of

them. In this research, the pemphigoid group presented only four patients with a diagnosis of bullous pemphigoid and seven with mucous membrane pemphigoid. Oral manifestations included thick walled bullae on the buccal mucosa and palate, which usually are not ruptured easily in the oral cavity.

Conclusions

According to the results found, it can be concluded that:

- Many of the dermatological diseases have oral manifestations. The oral manifestations may appear earlier than the cutaneous ones;
- Among them, lichen planus was the disease that presented a higher frequency of oral manifestations;
- Awareness of these pathologies by dentists is crucial since they are responsible for providing an early diagnosis and adequate treatment;
- The intraoral examination should be incorporated to the routine of dermatologic assistance since oral manifestations can represent preliminary signs or coexist with the diseases.

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