

Clinical evaluation of oral lesions associated with dermatologic diseases*

Avaliação clínica das lesões orais associadas a doenças dermatológicas

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Abstract: BACKGROUND: 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 evaluate the frequency of oral manifestations associated with dermatologic diseases considering location and clinical characteristics of the lesions found and also gender, age and race of patients.

METHOD: It was an observational, cross-sectional study of patients who sought for treatment at the Dermatology Service of the University Hospital (Hospital Presidente Dutra-HUPD); UFMA, between October 2007 and October 2008 (n=88).

RESULTS: Age varied from 5 to 88 and there was predominance of female patients. 35% of the cases studied were diagnosed as lichen planus; 33% as lupus erythematosus; 24% as erythema multiforme; 7% as pemphigus vulgaris and 1% as pemphigoid group. Oral manifestations were more common among patients suffering from lichen planus (51%) and lupus erythematosus (20%). The most common clinical presentation found was reticular lichen planus located most predominantly in the buccal mucosa.

CONCLUSIONS: It is essential that dentists know these pathologies to be able to diagnose them in an early stage of the disease and to direct patients to adequate treatment. Furthermore, intraoral examination should be included as a routine practice in dermatological services.

Keywords: Dermatology; Diagnosis, oral; Oral manifestations

Resumo: FUNDAMENTOS: As doenças dermatológicas não estão representadas apenas pelas lesões que afetam a pele, mas, também, por manifestações que podem envolver as mucosas, inclusive a mucosa oral.

OBJETIVOS: Avaliar a frequência das manifestações orais em pacientes com doenças dermatológicas, considerando-se a localização e as características clínicas das lesões encontradas, o sexo, a idade e a raça dos acometidos.

MÉTODOS: Estudo observacional, do tipo transversal, com pacientes que procuraram atendimento no Serviço de Dermatologia do Hospital Universitário Presidente Dutra (HUPD) da Universidade Federal do Maranhão (UFMA) entre outubro de 2007 e outubro de 2008 (n=88).

RESULTADOS: A idade variou entre cinco e 88 anos, e o sexo feminino foi o mais atingido (2:1). Dos casos examinados, 35% eram de líquen plano, 33% de lúpus eritematoso, 24% de eritema multiforme, 7% de pênfigo vulgar e 1% do grupo penfigoide. As lesões orais foram mais frequentes nos portadores de líquen plano (51%) e lúpus eritematoso (20%). O líquen plano reticular foi a forma clínica mais comum e a mucosa jugal, o sítio mais acometido.

CONCLUSÕES: O conhecimento dessas patologias pelo cirurgião-dentista é de fundamental importância, cabendo-lhe uma parcela de responsabilidade pelo diagnóstico precoce e orientação para o tratamento adequado. Além disso, o exame intraoral deve ser incorporado como prática de rotina durante o atendimento dermatológico.

Palavras-chave: Dermatologia; Diagnóstico bucal; Manifestações bucais

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INTRODUCTION

Dermatologic diseases are represented not only by numerous primary diseases that affect the skin but also by the common cutaneous manifestations of more profound diseases, either visceral or systemic, that may involve the mucosae 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 marks for long periods of time, being, sometimes, the only signs 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^{1,2,3}.

Lichen planus (LP) is a chronic inflammatory disease of the skin and mucosae, that manifests itself in the oral cavity with high frequency^{1,2,4,5,6}, before or after epidermic appearances⁷. These lesions are characterized by Wickham streaks^{3,4,7,8,9} and may present themselves under various clinical forms, mainly the reticular and erosive one.

Lupus erythematosus (LE) is an autoimmune disease that, classically, can be subdivided into systemic lupus erythematosus (LES) and cutaneous lupus erythematosus (LEC)^{10,11}. The involvement of the oral mucosa may occur in both forms¹² 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, that may, occasionally involve the mouth in an isolated manner^{3,14,15,16,17}.

Pemphigus vulgaris is an autoimmune pathology characterized by the formation of intraepithelial bullae, on the skin and mucosae that are easy to tear with a minor trauma, developing into painful ulcerations easily inflamed³. In the majority of the cases, the first signs develop in the genital mucosa and these lesions may precede the cutaneous ones for long periods of time^{18,19,20,21,22}.

The term pemphigoid refers to an autoimmune bullous disease that may affect the skin and mucosae, especially the oral and the ocular ones³. Among them the cicatricial pemphigoid lesions, with more frequent oral lesions, and the bullous pemphigoid that affects mainly the skin^{2,3,18}.

The objective of this present article is to assess the frequency of the oral manifestations in patients who suffer from dermatologic diseases, emphasizing the aspects referring to their location and clinical characteristics, sex, race and age of the patients. By doing that, we aim at calling the attention of dental surgeons, as well as of 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 assistance.

MATERIAL AND METHODS

To satisfy the fundamental ethical and scientific requirements of Resolution 196/96 (Norms for Research Involving Human Beings) from the National Health Council, the present project was submitted to the Committee of Ethics in Research of President Dutra Hospital from UFMA and it was approved according to opinion 488/2007. Before proceedings either the patient or his/her responsible was asked to sign a formal written term of consent.

It was carried out an observational study, of tranverse type, which had at its target population patients that sought for medical treatment in the Dermatologic service of President Dutra University Hospital (HUPD) from UFMA between October 2007 and October 2008.

The criteria for choosing the studied sample was convenience and it was a random selection of participants among patients that were waiting for medical assistance in the waiting room. The criteria for the inclusion of patients was having had a diagnosis of one of the following diseases made: lichen planus, lupus erythematosus, erythema multiforme, pemphigus vulgaris and the group of pemphigoid lesions. Considering the great variety of diseases it was decided to focus on the diseases that most frequently present oral lesions, according to the current medical publications^{1,2,3}. Patients who were not voluntarily willing to participate and that did not have a confirmed clinical or histopathological diagnosis of the above mentioned diseases were excluded from the present study.

For data gathering only patients included in the research were clinically examined aiming at identifying oral and cutaneous alterations. Information was recorded in individual clinical cards, as well as personal information, health conditions, family diseases and current and previous diseases.

The statistic software used was SPSS 13.0, 2004; and the variables analysed were age, sex, the occurrence or not of oral lesions, their location and characteristics of the oral lesions observed.

RESULTS

After a year of research, 88 patients were examined, being 57 female and 31 male (approximate proportion of 2:1) and age group varied from 5 to 88 years of age. Out of the total number of 88 cases examined (n=88), 35% were lichen planus, 33% were lupus erythematosus, 24% were erythema multiforme,

7% were pemphigus vulgaris and 1% 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), these lesions were more frequently found among patients who suffered from lichen planus (51%), followed by lupus erythematosus (20%), erythema multiforme(20%) and pemphigus vulgaris (9%). Oral alterations were not observed in the pemphigoid group (Table 2).

Patients suffering from lichen planus (n=31) were mainly women (60%) who were in their thirties and forties (48%). Among them, 18 presented repercussion in the oral cavity. As for clinical forms the predominant was the reticular one (83%) followed by erosive forms (12%) and the atrophic ones (5%) (Picture 1). The sites mostly common affected were the jugal mucosa (Picture 2), tongue(Picture 3), gingiva, palatum, turned edge and lips (Table 3).In two occasions, two sites were affected simultaneously: jugal mucosa and tongue and palatum and border edge.

Patients suffering from lupus erythematosus (n=29) were mainly women (1:4), without preponderance of any age group. Out of the total number of patients, 62% were diagnosed as suffering from systemic lupus erythematosus (SLE) and 48% as suffering from cutaneous lupus erythematosus (CLE). Among patients from the SLE group (n=18) it was registered 22% of oral involvement being the clinical

characteristics and sites mostly affected: erythematous plaques in the jugal mucosa (50%) (Picture 4), redish maculae in the palatum (25%) and ulcerations on the tongue(25%). As for the CLE group of patients (n= 11) oral lesions occurred in 27% of them, all with ulcerations in the jugal mucosa(100%).

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 jugal mucosa, followed by crust lips (43%) and ulcerations in the tongue (24%).

Pemphigus vulgaris (n=6) occurred mainly in patients who were over 50 (50%) without prevalence of sex. The involvement of the oral cavity occurred in 3 patients , with clinical characteristics of ulcerations (100%). The sites where these ulcerations mainly occurred were the jugal mucosa (75%) and the palatum (25%).

The pemphigoid group, in this sample, presented only 1 patient with a diagnosis of bullous pemphigoid without oral lesion.

DISCUSSION

Lichen planus (LP) is the commonest dermatologic disease with manifestations in the oral

TABLE 1: Distribution of the dermatologic diseases diagnosed in patients included in the research(n=88)

Dermatologic Diseases/ no of patients involved						
Lichen planus	Lupus erythematosus	Erythema multiforme	Pemphigusvulgaris	Pemphigoid group	Total	
31	29	21	6	1	88	
35%	33%	24%	7%	1%	100%	

TABLE 2: Distribution of the dermatologic diseases concerning the presence or absence of manifestations in the oral cavity (n=88)

Dermatologic diseases / no of patients involved						
Oral lesions	Lichen planus	Lupus erythematosus	Erythema multiforme	Pemphigus vulgaris	Pemphigoid group	
Presença n=35	51% 18	20% 7	20% 7	9% 3	-	-
Ausência n=53	49% 13	80% 22	80% 14	91% 3	100%	1
Total n=88	100% 31	100% 29	100% 21	100% 6	100%	1



FIGURE 1: Desquamative gingivitis in patients with atrophic lichen planus



FIGURA 2: Reticular Lichen planus with Wickam streaks located in the jugal mucosa

cavity^{1,2,4,5,6,7,9} as the collected results of this research confirmed, with a general prevalence in the population of 1% to 2%⁵. It was found out, in this study, that more than 50% of the cases presented the involvement of the genal mucosa, confirming the findings of Mollaoglu¹ that affirm that these lesions are frequent and that they represent the most persistent and resistant to treatment.

In the examined sample, LP prevailed in women (2:1), who were around 30 and 40 years of age, in the same way it was reported by other authors^{6,7,8,23,24}. Sousa and Rosa⁶ analyzed 79 cases of LP with oral involvement and concluded that the female sex is affected approximately 4 times more than the male sex and that white individuals are 5 times more predisposed to develop this pathology. The authors suggest that the high prevalence in the 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 the disease exacerbates and the levels of anxiety^{6,25}.

As for prevalence in white individuals there are a few studies that analyze this subject, however, it is believed that it is associated to genetic factors and also to histocompatibility²⁶. In this research results showed that there was a discreet preference for white individuals (60%).

The positive association between LP and systemic diseases is being also analyzed, mainly Hepatitis C^{27,28}, fact that was not observed in the collected sample. Nagao and Sata²⁸ 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 from 0-60% in scientific publications, depending on in which country the

research was carried out, what may be attributed to different prevalences of the virus within the general population.

Clinically, LP has specific characteristics⁸, it is generally presented in 2 main forms: the reticular form and the erosive³ one, although other forms such as the papular, the plaque shape, bullous and atrophic⁴ are not rare⁷. In this study the commonest 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 2 patients presented the erosive form and 1 patient presented the atrophic form. The erosive form although not as common as the reticular form, is more significant for the patient because although these lesions are asymptomatic,



FIGURE 3: Reticular lichen planus located on the back of the tongue

TABLE 3: Distribution of the main oral sites where lichen planus occurs (n=18)

Sites	Absolute Value	Percentage
Jugal Mucosa	10	50
Tongue	3	15
Palatum	2	10
Turned Edge	2	10
Lips	1	5
Gingiva	2	10
Total	20*	100

* The total number of patients was 18, however, 2 patients presented simultaneous occurrence of 2 sites (jugal mucosa and tongue and tongue/palatum and turned edge).

varying from simple distress to episodes of severe pain they can interfere with mastication, as described by the examined patients⁵.

The main affected site was the jugal mucosa, followed by the tongue, gingiva, palatum, turned edge and 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 jugal mucosa and tongue; palatum and turned edge, similar to the findings of Galvão et al.² and Eisen³, and opposed to the studies of Xue et al.²⁴ that reported, in a study of 674 patients, 90,9% of findings in multiple oral sites. Preference for the jugal mucosa is due to the thickness of the epithelium as well as to its level of keratinization that allows histopathological alterations to reflect themselves clinically with greater facility than in other mucosas⁶.

Lupus erythematosus (LE) can develop in both sexes³ and at any age although there is a greater



FIGURE 4: Erythematous plaques in the jugal mucosa of patient with a diagnosis of systemic lupus erythematosus

predominance among women^{10,11}. In this research there was a proportion of 1:4.

The oral mucosa can be affected in its systemic form (SLE) as well as 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 kind of treatment received^{10,13}.

Some authors suggest that the genal 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 present study, lesions were most common in CLE, as the studies of Lourenço et al.¹¹ show. The small incidence of oral manifestations in SLE may be linked to the moment patients were examined as its majority was already in a stage of nosocomial treatment. López-Labady observed that such manifestations were more frequent in individuals with a less than 2-year-diagnosis, fact that allowed them to conclude that treatment with immunosuppressive drugs probably keep patients free from oral alterations.

In general, considering the morphological aspects, the main forms clinically recorded were erythematous plaques, ulcerations and redish maculae in the palatum. The main sites affected were the jugal mucosa, lips, palatum and tongue, similar to the findings of a previous study¹⁰.

Erythema multiforme (EM) can be represented either by a light cutaneous variant, EM minor¹⁴, represented by 65% of the examined patients in this study; as well as for a more severe variant, the EM major¹⁵, represented by 35% of the sample, including a patient with a diagnosis of toxic epidermal necrolysis (TEN), considered a severe EM major¹⁶ infection.

Neville et al.³ affirm that, in general, patients are adults who are between 20-40 years of age, being men more affected than women, fact incompatible with the results of this study that revealed female

predominance (62%). It is a recurrent disease being preceded, in the majority of the cases, by herpes simplex¹⁵ infections. In the collected results, 57% of the patients related the appearance of lesions with viral infections, mainly herpes simplex, 29% related relation with drugs and 14% did not mention any relation.

The EM can manifest itself only in the mouth or it can precede cutaneous involvement affecting the oral mucosa in 85-92% of the cases¹⁷. In this research only 20% of the cases occurred in the mouth. This low percentage might be related to the fact that the majority of the examined patients were already under medication, constituting this a limitation of this study. The main clinical forms and areas affected were ulcerated lesions in the jugal mucosa, crust lips that bled 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 who were over 50, findings consistent with other publications^{18,19,20,21}. 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 affirm that the female sex is more affected than the male one in a proportion of approximately 2:1. The discrepancy of results may be due to the ethnic and geographic differences in the background of the studied patients²².

The majority of the examined patients reported that the first sign of the disease was oral onset (60%), followed by simultaneous appearance on the skin and oral mucosa (30%) and isolated cutaneous lesions (10%), findings supported by other scientific publications^{18,19,20,21}. To Scully et al.²⁹ the oral mucosa is

almost always affected in patients with PV, and in 50-70% of the cases it is the first site to be involved. The authors add that such manifestations are the most resistant to the applied therapeutics, anticipating cutaneous lesions in months or even years.

Concerning the clinical characteristics and distribution of intraoral PV, lesions had an ulcer form, and the most common site was the jugal mucosa, followed by the palatum. Shamim et al.²² explain that the predominance of ulcerative forms is due to minor traumas that are frequent in the oral cavity and also 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 1 patient with a diagnosis of bullous pemphigoid without oral lesion, which did not allow us to draw conclusions about the prevalence as far as sex, age and clinical forms are concerned.

CONCLUSIONS

According to the results found it can be concluded that:

- The dermatologic diseases studied frequently occur in the oral cavity;
- Among them, lichen planus was the disease that presented a higher frequency of oral manifestations;
- The knowledge of these pathologies by the dental surgeon is of fundamental importance as he/she is responsible for an early diagnosis and for providing adequate treatment;
- The intraoral exam should be incorporated to the routine of dermatologic assistance as the oral manifestations can represent preliminary signs or can coexist with the diseases.

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