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Diagnosis and Treatment of Patients with Systemic Diseases of Autoimmune Origin

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ABSTRACT

This article aims to address through the scientific literature the pathogenesis and clinical manifestations of autoimmune lesions in dentistry. It is a literature review article, developed through a bibliographic survey in the Medline, PubMed and Science Direct databases. Articles published between 2009 and 2019 were selected. It was observed that the most common autoimmune lesions that affected the peribucal and intraoral region were pemphigus, pemphigoid, lupus erythematosus, lichen planus, erythema multiforme, recurrent aphthous stomatitis, rheumatoid arthritis in the temporomandibular joint and the syndrome of Sjögren. It is concluded that it is necessary to study these conditions, due to the scarcity of publications on the subject. In addition, the integrated and continuous training of dentists at the time of graduation is essential, as well as the improvement in the period of post-graduation, so that they can contribute to the prevention, diagnosis and treatment of these patients.

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INTRODUCTION

The human body has a system that protects the body's own cells against immune cells that act to eliminate pathogens. However, this mechanism can present flaws and, therefore, induce responses to react against its own cells, causing autoimmune diseases. The dentist must be able to diagnose lesions in the oral cavity, knowing which clinical management should be performed on patients affected by an autoimmune disease, in order to contribute to the treatment and improvement of the clinical condition[1].

Among the most common autoimmune diseases in the peribucal and intraoral region, pemphigus, pemphigoid, lupus erythematosus, lichen planus, erythema multiforme, recurrent aphthous stomatitis, rheumatoid arthritis in temporomandibular joint and Sjögren's syndrome stand out[2]. Therefore, this article aims to address, through scientific literature, the pathogenesis and clinical manifestations of autoimmune lesions in dentistry.

METHODS

This is a literature review article, developed through a bibliographic survey in the Medline, PubMed and Science Direct databases. The search strategy used was “Autoimmune diseases”, “Oral lesions” and “Dentistry”. Articles published between 2009 and 2019 were selected, included based on the following inclusion criteria: availability of the full text, publication in Portuguese, English and Spanish and clarity in the methodological details used. In addition, articles cited by more than one author were sought to serve as a more accurate and complete reference for the review. The abstracts were read and evaluated by the authors and categorized as relevant or not to the topic according to the inclusion criteria previously elucidated.

RESULTS

Pemphigus is a disease that has as a sign the formation of intraepithelial bubbles in the epidermis and mucous membranes, which originate from the loss of the integrity of intracellular connections without any predilection for the site of involvement. The pathology can present itself in four clinical forms, vulgar, vegetative, foliate and erythematous. Pemphigus vulgaris is the most common and is characterized by superficial blisters that rupture, leaving erosive or crusty hemorrhagic ulcers or ulcers, which do not heal spontaneously. Vegetative pemphigus is a variant of the common and usually does not

present with vesicles or blisters, but large verrucous plaques covered with small pustules. The foliaceous form, on the other hand, has the most superficial blisters, with only erythematous areas visible. Pemphigus erythematosus is similar to pemphigus foliaceus. It presents clinically, as superficial blisters, erosions, crusting and exudation on the scalp and face[2].

Bullous pemphigoid is a chronic and autoimmune pathology with more complications in immunocompromised individuals. The specific IgG autoantibodies react to basement membrane structures and activate the complement system and inflammatory cytokines, triggering the lysis of the hemidesmosomes and, consequently, the formation of bubbles. Another variation is the scar pemphigoid which is also chronic and autoimmune, however, it is quite rare. At first, it involves the mucous membranes with the appearance of subepithelial bubbles that heal leaving scars. In the mouth region, the mucosae most affected are the alveolar, palate, cheek mucosa, floor of the mouth and tongue[3].

Lupus erythematosus has three clinical variations: systemic lupus erythematosus, subacute cutaneous lupus erythematosus and discoid lupus erythematosus. The systemic form is the most significant for the body in general, but with little oral evidence. Systemic lupus erythematosus can affect joints, skin, kidneys, blood cells, brain, heart and lungs, thus generating varied symptoms, making diagnosis difficult. The cause is still unknown, as well as its cure, but studies show that it is a multifactorial combination that can have palliative treatment[4]. Among the signs and symptoms of lupus erythematosus, the following stand out: Presence of malar erythema, discoid lesions, photosensitivity, perioral, oral and nasal ulcers, arthritis, serositis, impairment of the cardiovascular, pulmonary, renal systems. Neuropsychiatric, hematological and immunological alterations. As oral alterations, can be observed: ulcerations, erythema and keratosis, present in the cheek mucosa, gums and palate. There are cases in which the salivary glands are also affected, progressing to dry mouth[5].

Lichen planus is characterized as an idiopathic mucocutaneous inflammation, which can manifest anywhere in the body, but it is more common in the oral cavity. Oral manifestations are not specific, although in most cases they are in the form of keratotic lines or streaks, known as Wickhmem streaks. There is also the presentation in other forms, which can be atrophic, erosive and bullous[6].

Erythema multiforme is destruction of small blood vessels, which are close to the basal layer of the epithelium responding to antigenic stimuli. The findings demonstrate that there are

several clinical expressions associated with this pathology, with the absence of characteristic lesions, however, erythematous plaques were constantly observed. The disease presents itself in an acute, self-limited and low morbidity form, being frequently associated with herpes simplex, tuberculosis, histoplasmosis and mycoplasma. Erythema multiforme can also present in its most severe form, characterizing Stevens-Johnson syndrome, which occurs simultaneously in the region of the mouth, eyes, skin, genitalia and, sometimes, the esophagus and the respiratory tract, characterized as an immune hypersensitivity reaction, with a mortality rate of 3 to 15%[7].

Another common autoimmune disease is recurrent aphthous stomatitis (RAS), which have an unknown origin, but some studies show that their etiology is associated with genetic and environmental factors. There are three variations of RAS, the smallest, largest and herpentiform. The smallest are the most common, ranging from 3 to 10 millimeters, capable of progressing to healing without leaving a scar. The largest ones are rarer, with sizes around 1 to 3 centimeters, evolving towards healing even with the possibility of causing scarring. Herpentiformes, on the other hand, have 1 to 3 millimeters and are present in a large number per episode[8].

A pathology little explored in dentistry is rheumatoid arthritis in the temporomandibular joint. Rheumatoid arthritis is an autoimmune disease that causes inflammation of synovial joints and guides bone remodeling in the affected region causing, in the absence of treatment, serious injuries[8]. When it occurs in the temporomandibular joint, it can cause great morbidity, in due to the difficulty of chewing and phonation[9].

Sjögren's syndrome is characterized by a chronic inflammatory reaction of the exocrine glands. In the head and neck region, this condition affects the salivary glands and can also affect the glands causing xerostomia. The cause is majorly unknown, but it is known to be multifactorial. The syndrome may or may not be associated with other autoimmune diseases, with other manifestations such as atrophy of the tongue papillae and recurrent opportunistic infections[10].

DISCUSSION

The dentist must perform a thorough anamnesis to identify the origin of lesions that affect the oral cavity, and that can compromise the patient's health. In case of suspicion of autoimmune diseases, after discarding the other hypotheses, the patient should be referred to a specialist

doctor. If it is observed that it is a disease with only oral manifestation, as in the case of recurrent aphthous stomatitis, the patient must be guided to the correct practice of oral hygiene, as well as the administration of corticosteroids, such as Triamcinolone, Acetonide, Dexamethasone, Clobetasol Propionate and Prednisone, which can be used topically or systemically, depending on the severity of the clinical manifestation[11]. Therefore, it is important that the dentist is trained to recognize the signs and symptoms of pathologies in the head and neck region, in order to guarantee an accurate diagnosis, to avoid unnecessary treatments.

Many studies are carried out in an attempt to establish statistical data regarding the relationship between autoimmune diseases and the oral cavity. A study was carried out for a period of eleven months in 22 patients with autoimmune diseases who had oral manifestations, of which, 10 had systemic lupus erythematosus, 05 pemphigus vulgaris, 03 erythema multiforme, 01 scar pemphigoid, 01 pemphigus foliaceus and 01 lichen planus. It was observed that 13 patients had blisters or ulcers with irregular edges in the oral region, without characteristics that made them specific and could serve as a parameter to indicate the occurrence of a certain pathology. From this observation, it was possible to suggest that, in most cases, the signaling of the occurrence of autoimmune disease occurs by excluding other possible causes, with no clear symptom that determines the onset of this condition. In the same study, some factors were related to this symptom, so that they may be indications of the occurrence of autoimmune pathologies, such as a predominance of women among those affected (86.3% were female) and also the practice of smoking (60% of them were smokers before the first manifestations of the disease appeared). Data were also collected that help in the diagnosis of these diseases, according to the study, pemphigus and erythema multiforme presented oral manifestations in 80% and 100% of cases, respectively, thus evidencing their frequent predilection for the involvement of the oral mucosa[6]. Still explaining the subject, one of the articles analyzed during the literature review process showed that articles referring to dental treatment provided to patients with systemic lupus erythematosus, in the years 2010 to 2019, in the BVS and Scielo databases, point out that the greatest difficulties for this approach are the lack of knowledge about the disease and the continuous use medications of these patients, in addition to the lack of a multidisciplinary approach to improve the patient's condition.

Regarding the treatment of rheumatoid arthritis in the temporomandibular joint, the procedures for palliative treatment, especially with regard to joint stabilization, include the preservation of dental elements, the use of stabilizing plates, the correction of occlusion, the injection of anti-inflammatory intra-articular and even orthognathic surgery in more severe cases[9]. It is also important to point out that patients who make chronic use of corticosteroids for the treatment of autoimmune diseases are, as a rule, immunodepressed, and therefore require extra attention regarding more invasive dental procedures. Thus, for these patients in particular, the relationship between medical doctor and dentist must be vital, to prevent complications before, during and after the procedure. Conducts such as antibiotic prophylaxis and the pause in the treatment of corticosteroids days before the procedure should be analyzed together with the responsible physician to adapt the performance of the dentistry professional to the situation faced by the patient.

CONCLUSION

Early diagnosis associated with rapid treatment is of fundamental importance for the control of autoimmune diseases. Due to the existence of a significant amount of oral manifestations related to these dysfunctions, it is essential that dental surgeons know how to identify the clinical symptoms for the correct referral of these patients. Thus, there is the possibility of a multidisciplinary approach to maintaining and restoring quality of life. Finally, from this article, it is concluded that it is necessary to encourage the study of these conditions, due to the scarcity of publications on the subject. In addition, the integrated and continuous training of surgeons at the time of graduation is essential, as well as the improvement in the postgraduate period, since it was verified the lack of knowledge of some of the dental professionals regarding the identification and treatment of these pathologies, which compromises the good provision of health services to the population.

REFERENCES

1. Abbas A, Lichtman A, Pillai S. Imunologia Celular e Molecular. 8 edição. Rio de Janeiro: Elsevier editora LTDA, 2015.
2. Neville BW. Patologia oral e maxilofacial. 4. ed. Rio de Janeiro: Elsevier, 2016.
3. Costa JL.Pacientes de doenças sistêmicas de origem autoimune/dermatológicas. Incidência das manifestações bucais e revisão de literatura. Rev Bras Ciências da Saúde. 2009; 13(3): 49-54.
4. Lopes SMA. Assistência odontológica ao paciente com diagnóstico de lúpus eritematoso sistêmico (LES): revisão integrativa. 2019.
5. Saldanha KFD. Lúpus eritematoso sistêmico em Odontologia: relato de caso. Archives of health investigation. 2016; 4(6):1-10.

6. Umbelino-Júnior AA. Achados bucais e laboratoriais em pacientes com lúpus eritematoso sistêmico. Jornal Brasileiro de Patologia e Medicina Laboratorial. 2010; 1(1): 479-486.
7. Pereira KMA. Ulceração aftosa recorrente: revisão dos conceitos atuais. Revista de Odontologia da UNESP. 2013; 35(1): 61-67.
8. Abrão ALP. O que o reumatologista deve saber sobre as manifestações orofaciais das doenças reumáticas autoimunes. Revista Brasileira de Reumatologia. 2016; 56(5): 441-450.
9. Dos Santos AN. Acometimento da articulação temporomandibular em pacientes com artrite reumatoide.Revista de Odontologia Contemporânea. 2018; 2(2): 45-50.
10. Wanderley AEC. Síndrome de Sjögren Secundária diagnosticada por cirurgião-dentista: relato de caso. Revista Eletrônica Acervo Saúde. 2019; 20(1): e496-e496.
11. Santos PL. Assistência cirúrgico-odontológica a pacientes imunodeprimidos por uso crônico de corticoides. Revista da Faculdade de Odontologia-UPF. 2011; 16(2):1-10.