CASE REPORT

Spontaneous resolution of pemphigus vulgaris-induced desquamative gingivitis. A case report and brief review of the literature

Dante Migliari *

Department of Stomatology, Division of Stomatology Clinic, School of Dentistry, University of São Paulo, São Paulo, Brazil.

*Correspondence: Dante Migliari, Departamento de Estomatologia, Faculdade de Odontologia, Universidade de São Paulo, Av. Prof. Lineu Prestes, 2227, Cidade Universitária São Paulo, SP – Brazil 05508-000, Phone and Fax: (+55 11 94383-7972), Email: damiglia@usp.br

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ABSTRACT

Desquamative gingivitis (DG) is important in oral medicine because it is not a pathologic entity itself; rather, it is a clinical manifestation of dermatological disease most frequently associated with chronic inflammatory (e.g., oral lichen planus) and autoimmune diseases, mainly pemphigus vulgaris and mucous membrane pemphigoid, and several cases have been reported till date. Herein, we describe a case of pemphigus vulgaris-associated DG with unusual clinical behavior, in which the gingival lesions spontaneously resolved after consistently showing no response to various treatments. Additionally, a brief review of the literature focusing on the management of DG is provided.

KEYWORDS: desquamative gingivitis; pemphigus vulgar; spontaneous resolution

INTRODUCTION

Desquamative gingivitis (DG) was initially considered a disease resulting from a hormonal disturbance, as it primarily affects women in their seventh decade of life. However, this hormonal explanation is no longer believed to be true. DG has been recognized as a clinical manifestation most frequently associated with chronic inflammatory (e.g., oral lichen planus [OLP]) and autoimmune diseases, mainly pemphigus vulgaris (PV) and mucous membrane pemphigoid (MMP). DG is clinically diagnosed when the gingival mucosa exhibits diffuse erythematous erosive areas that are usually accompanied by epithelial desquamation. Epithelial sloughing is often observed in patients with PV and MMP, but it is virtually absent in OLP cases. Both the attached and marginal gingivae are commonly affected [1-5].

The diagnosis of the underlying disease associated with DG usually requires histopathological examinations, as well as the use of direct immunofluorescence, which is mainly applied to distinguish MMP from PV or some other autoimmune disease—specifically, linear IgA disease [4-7].

The most challenging aspect of DG, however, is its management. Overall, the gingival mucosa affected by DG seems to be more resistant to consistent improvements when subjected to topical or systemic treatment, as compared to outcomes with similar treatments on other oral mucosal surfaces affected by the erosive and/or ulcerative manifestations of OLP, PV, and MMP. The reasons for the inadequate response of DG to the available therapies are not known. Some authors have argued that plaque accumulation on the tooth surface, resulting from the difficulties in maintaining proper oral hygiene caused by DG, could limit the response to specific treatments. Therefore, efforts to improve oral hygiene should be constantly monitored while patients are being treated [8-10]. In this respect, the role of dental hygienists are very instrumental, as they are able to monitor closely the ability of patients to promote an effective dental cleaning without causing gingival trauma. Moreover, motivating patients during follow-up is crucial to keep their plaque control as effective as possible.

Clinicians dealing with DG are very often faced with some difficulties as relapse usually occurs following treatment. This article describes a case of pemphigus vulgar-associated DG that spontaneously entered a remission phase after showing no consistent response to any treatment attempt.

CASE REPORT

A 37-year-old female came to our clinic for an evaluation of erythematous areas on her upper gingival mucosa that had been present for 7 months. Her chief complaint was gingival bleeding during tooth brushing and on eating. Oral examination showed diffuse, reddish areas involving the attached and marginal gingival mucosae (Figure 1). No signs of desquamation were observed; however, the gingiva bled easily upon touching. The patient's oral hygiene was satisfactory, and other areas of the oral mucosa were lesion-free. Her medical history was unremarkable. The differential diagnosis included OLP, PV, and MMP. With the consent of

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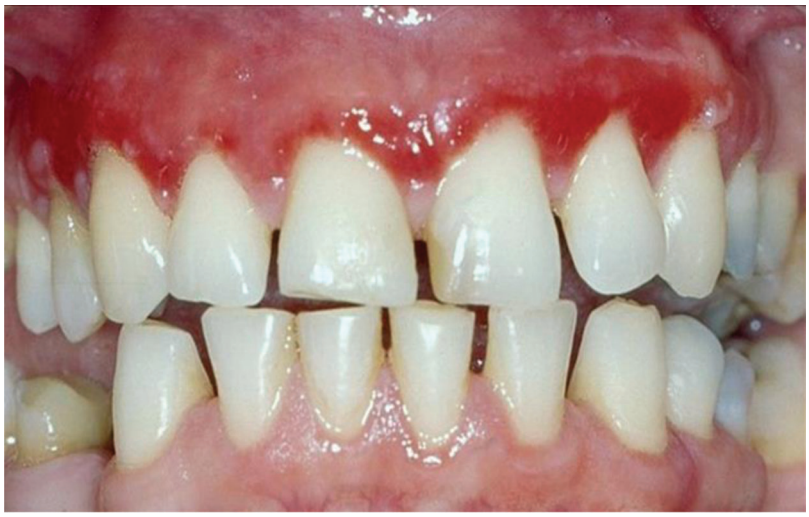

Fig. 1. Extensive involvement of the upper gingival mucosa showing signs of an erythematous-erosive lesion. In some areas, the epithelium is absent.

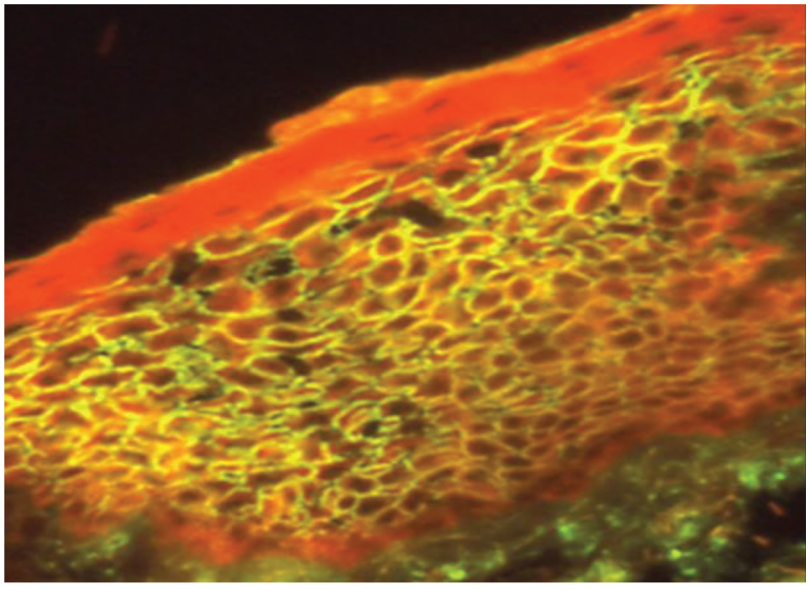

Fig. 2. DIF examination. The sample sent for DIF showed positive anti-C3 and anti-IgG in the intercellular spaces, leading to a diagnosis consistent with PV (DIF; x200).

the patient, a biopsy was taken from two perilesional areas—one for a histopathological examination and the other for direct immunofluorescence (DIF). Unfortunately, the specimen sent for histopathological examination was deemed inappropriate for analysis owing to epithelial sloughing during laboratory procedures. The sample sent for DIF was washed thrice in phosphate-buffered saline, snap frozen at the optimum cutting temperature and processed with the following antibodies: anti-C3 complement fluorescein isothiocyanate (FITC), anti-human immunoglobulin (Ig)A (α-chain specific) FITC conjugate, anti-human IgG (whole molecule) FITC conjugate, and anti-human IgM (μ-chain specific) FITC conjugate (Sigma, St. Louis, MO, USA). Antibodies were used at the following dilutions: anti-C3, 1:40; anti-IgG, 1:130; anti-IgA, 1:20; and anti-IgM, 1:20, and subsequently analyzed under a fluorescent microscope. DIF showed positive results only for anti-C3 and anti-IgG in the intercellular spaces (Figure 2), leading to a diagnosis of PV.

MANAGEMENT

The patient was initially treated with medium-potency topical corticosteroids (betamethasone dipropionate, 1.0 mg/g), applied twice per day with the aid of a custom-made silicone tray (occlusive dressing), but her condition showed little or no improvement. Therefore, a short course of systemic corticosteroids (40 mg prednisone for 2 weeks) was administered; however, no benefit was observed. Hence, the patient was switched to a regimen comprising a topical immunosuppressive agent (0.1% tacrolimus) in an occlusive dressing twice daily. After 2 weeks, she experienced a major improvement; the medication was tapered for 2 weeks and then withdrawn.

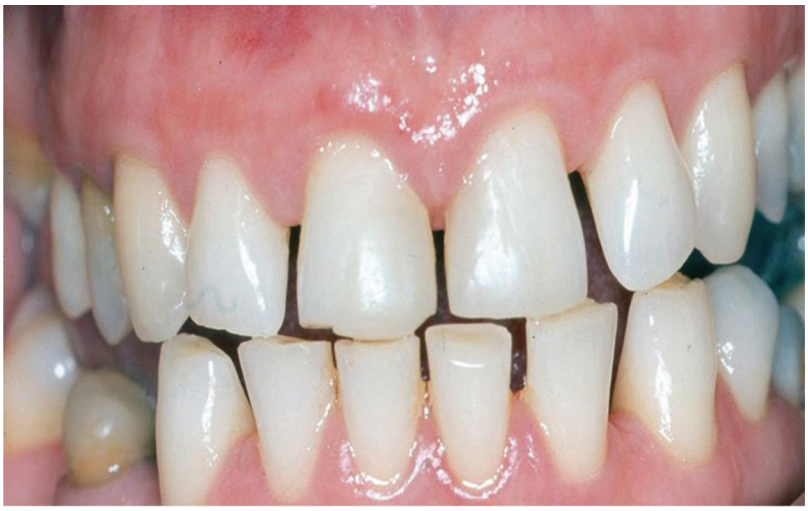

Fig. 3. Gingival mucosa exhibiting normal clinical characteristics.

Unfortunately, relapse occurred 6 weeks later. The patient refused the option of reintroducing topical tacrolimus and reasoned that she could manage the gingival lesions without any medication simply by maintaining good oral hygiene. She returned to our clinic 18 months later, reporting that she had been free of her gingival lesions for approximately 6 months (Figure 3) and that her lesions had disappeared spontaneously. Since the last evaluation, the patient's condition has remained stable without any signs of relapse.

DISCUSSION AND REVIEW OF THE LITERATURE ON DG MANAGEMENT

The management of DG usually requires long-term follow-up, as most cases relapse after discontinuation of the medication, and many cases show a weak or no response. Few therapeutic options exists for treating DG. The first-line therapy consists of topical corticosteroids based on a moderate-to-high-potency formulation, and the effectiveness of this treatment is enhanced when used with custom dental trays [3,4-11]. Systemic corticosteroids are usually not recommended due to their lack effectiveness in providing good and lasting improvements, and, more importantly, their side effects often far outweigh their benefits. Systemic corticosteroids can be used briefly for 1 or 2 weeks in extensive cases, mainly if such cases are associated with PV or MMP, in addition to topical therapy, which is continued after the withdrawal of the systemic medication. Topical immunosuppressants (tacrolimus) or high-potency corticosteroids should also be used only in the short-term, as both preparations are associated with an increased risk of malignant transformation at the site of application [12-13].

To illustrate the response to topical or systemic corticosteroids, or a combination of both, a crossover, double-blind, placebo-controlled study [2] testing the efficacy of a high-potency topical corticosteroid (clobetasol propionate) for DG associated with OLP, PV, or PMM was performed. It was found that clobetasol did not significantly outperform the placebo in terms of reducing the signs and symptoms of DG. Additionally, no significant improvements in the gingival lesions were observed in all patients with PV receiving systemic corticosteroids because of the involvement of the skin and other oral mucosal areas.

Additional attempts to treat this condition using either tetracycline or dapsone (a sulfone class medication), with both being systemically administered, have had limited success, and hence, their use as possible substitutes (or options) for corticosteroids is discouraged. The side effects of dapsone (consisting mainly of hemolysis, anemia, and bone marrow suppression, among others) have been a deterrent for its routine use in oral medicine clinics [14-15].

Unfortunately, owing to the anatomical characteristics of the gingival mucosa (narrow width and lack of elasticity owing to its firm adherence to the underlying bone), the use of intralesional steroids, which would certainly be greatly beneficial for DG management, is precluded.

A review of the relevant publications on the management of DG suggested that no therapeutic approach is highly effective. Tacrolimus ointment (0.1%) was the most effective in controlling the signs and symptoms of DG [16]. However, relapse typically occurred after drug withdrawal. Furthermore, awareness regarding the clinical risks associated with the use of this medication, even briefly during flare-ups, is important, and the potential for malignancy at the lesion site owing to the use of this medication should always be considered [13-16].

Long-term follow-up studies on the clinical behavior of DG are lacking, which further increases the difficulty in prognosis. In our experience, most (if not all) patients initially comply with the standard treatment (i.e., topical corticosteroids applied using a custom tray) for a certain period. Currently, combination therapy comprising moderate-dose corticosteroid and antibiotics such as gentamycin (betamethasone dipropionate 0.5 mg/g or 0.64 mg/g + gentamicin sulfate 1.0 mg/g), applied twice a day for approximately 2–4 weeks) is preferred in our clinic. This combination appears to enhance the benefits of steroids by reducing bacterial colonization through the addition of antibiotics. However, patients who observe that treatment does not effectively solve their gingival problems usually discontinue follow-ups and maintain oral care on their own, similar to our patient.

In this respect, our patient exhibited this behavior. After experiencing no significant benefit from treatment with a medium-potency topical corticosteroid followed by a systemic corticosteroid and then topical 0.1% tacrolimus, she decided that she could continue by caring for her gingival lesions herself without any medication, simply by maintaining good oral hygiene. Later, she returned to our clinic reporting that she had been free of her gingival lesions for approximately 6 months and that her lesions had disappeared spontaneously. To date, she has experienced no relapse.

CONCLUSION

Although effective treatment for DG remains a challenge, for a few fortunate patients, their immunological mechanisms can have dual roles, both causing the disease and producing a cure.

Conflict of Interest

Nothing to declare.

Informed consent

Written informed consent was obtained from the patient for publication of this case report.

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