



Topical Occlusive Corticosteroid Therapy for the Treatment of Gingival Manifestation of Mucous Membrane Pemphigoid – a Case Report

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Abstract

Mucous membrane pemphigoid (MMP) is a chronic, autoimmune, subepithelial vesiculobullous disease that very frequently affects the mucous membranes and less often the skin. Oral cavity is the most commonly affected site and desquamative gingivitis (DG) is the most common manifestation. This is the main reason why dentists play a vital role in the diagnosis and managing the oral health of patients. Treatment is usually challenging, however, it only can achieve temporary symptomatic effect. We report a case of desquamative gingivitis, manifestation of MMP that was treated successfully with topical corticosteroid. The latter was applied by using of individual made custom trays to improve clinical efficacy.

Keywords

desquamative gingivitis, mucous membrane pemphigoid, topical occlusive therapy, topical corticosteroids

INTRODUCTION

Mucous membrane pemphigoid (MMP) is a chronic, autoimmune, subepithelial vesiculobullous disease that primarily affects the mucous membranes (oral, ocular, nasopharyngeal, oesophageal, laryngeal, genital) and occasionally the skin.¹ The exact etiology of MMP is usually unknown. Known causative factors include severe mucosal inflammatory injury, drugs (clonidine, indomethacin, D-penicillamine), viruses, ultraviolet light, and genetic predisposition (HLA DQB1*301, Interleukin-4RA gene polymorphism) or possible association with other autoimmune diseases.^{2,3}

MMP antigens are usually presented in lamina lucida of basement membrane, but lamina densa may also be the

primary site of involvement in some cases.⁴ Six target antigens are associated with the clinical phenotype of MMP: BP180 (about 75% of diagnosed patients), BP230 (25%) usually with reactivity together with BP180, integrin subunits $\alpha 6\beta 4$, laminin 5 (laminin-332, epiligrin), laminin 6, and type VII collagen.

Autoantibodies (IgG) against basement membrane proteins, together with complement (C3) and neutrophils cause a subepithelial split and result in bulla formation.⁵

The oral cavity of MMP patients is the site that is most commonly affected in this condition.⁶ Therefore, dentists play a vital role in its early detection, adequate initial treatment and prevention of severe functional problems.⁷ The commonest intraoral site that becomes affected is the gin-

giva which commonly presents as desquamative gingivitis (97%). The sites that are less frequently affected in MMP patients are the palate (21%), the buccal mucosa (21%), lips (5%), floor mouth (3%) and the tongue (3%).^{2,8}

CASE REPORT

A 57-year-old woman was referred from her dentist to the Division of Oral Pathology in the Faculty of Dental Medicine, Medical University of Plovdiv, Bulgaria with a history of burning sensation, tenderness in the gums and inability to eat sour and spicy food. The patient has also noticed blister formation on the gums. The medical history revealed that these complaints have appeared since 6 months before the first visit. The patient didn't report any relevant family history and presence of allergies.

Intraoral examination revealed diffuse gingival inflammation with mild edema and evidence of erosion in the region of right upper lateral incisor and two intact hemorrhagic bullae in the region of lower lateral incisors. Heavy plaque accumulation was present around the teeth and gingival bleeding occurred with the slightest provocation with a periodontal probe (Fig. 1). Gentle manipulation of gingiva induced bulla formation in the marginal and papillary gingiva (positive Nikolsky sign). Upon physical examination, the patient presented a good health, with no evidence of other lesions in her



Figure 1. Initial clinical appearance – arrows show intact bullae eruption, filled with hemorrhagic fluid.

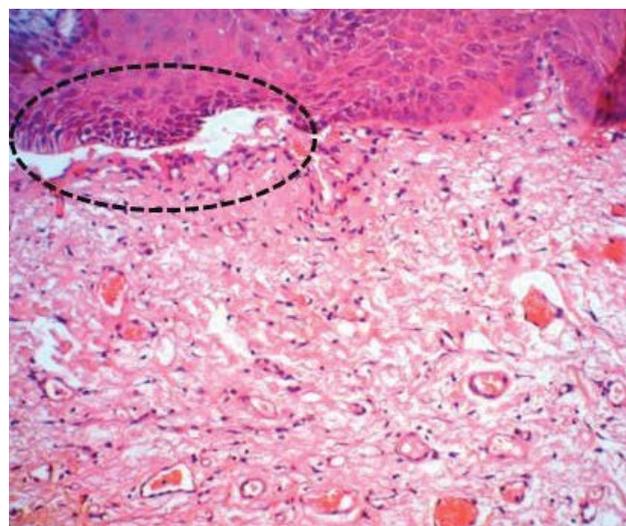
body (ocular, cutaneous or genital).

Based on the clinical findings, medical history and the positive Nikolsky's sign, a provisional diagnosis of desquamative gingivitis was made due to the vesiculobullous disorder. Differential diagnosis included mucous membrane pemphigoid, bullous pemphigoid, pemphigus vulgaris and bullous lichen planus.

Clinical protocol

An incisional biopsy material was taken from perilesional intact gingival epithelium by Er:YAG laser for histology study. The histopathologic examination showed hyper- and parakeratosis, pseudopapillomatosis and subepithelial bul-

la formation (Fig. 2). A mild to moderate mixed inflammatory infiltrate was usually present in the lamina propria (predominantly lymphocytes, plasma cells and fewer eosinophils). Clinical correlation with routine histopathology confirmed the definitive diagnose of mucous membrane pemphigoid. The golden standard to diagnose MMP is di-



2A



2B

Figure 2. A. Black dotted line demonstrates subepithelial bulla formation; B. Black dotted line shows hyper- and parakeratosis. Arrows show pseudopapillomatosis.

rect immunofluorescence, but the patient refused to do it for financial reasons.

During the second visit, preliminary impressions were taken from the upper and lower jaws with alginate ("Hydrogum" Zhermack), for making individual custom trays similar to those described by Aufdemorte et al.⁹ (Fig. 3).

The splits were fabricated from silicone plates 1 mm thick and the edges of its reach to mucogingival junction.



Figure 3. Study models with custom trays.

The patient was instructed to cover all internal surfaces on the split with topical corticosteroid (clobetasol propionate 0.05%, dermovate cream).

The treatment took three weeks, the first two weeks the patient inserted trays twice daily, 20 minutes each time af-



4A



4B

Figure 4. A. Thin layer of dermovate 0.05% cream; B. Adaptation of trays in the mouth.

ter oral hygiene. The topical corticosteroid was gradually tapered off over the third week - once daily (**Fig. 4**). The therapeutic plan of treatment was approved by the Ethics Committee of the Medical University of Plovdiv (No 4/12.12.2019). The patient was advised to expectorate excess saliva after the application and not to swallow for at least 1 hour. One of the complications of topical steroid therapy includes secondary candida infection. Therefore, concomitant antifungal prophylaxis may be necessary during the treatment (daktarin gel).

Efficacy of topical occlusive therapy was assessed by the following outcomes: primary self-reported pain the patient felt assessed by a visual analogue scale of 0 to 10 (VAS), and the clinical changes in gingiva (absence of bullae and erosions). Upon completion of therapy we found certain reduction of the VAS score: before treatment VAS score was 8, after cessation of treatment it dropped to 2. The lesions showed considerable improvement after administration of steroids and all areas of ulceration healed after three weeks (**Fig. 5A**). Proper atraumatic periodontal treatment was carried out after the acute phase of this type of gingivitis (**Fig. 5B**). The patient was instructed to implement optimal oral hygiene, including soft mouth rinses with diluted chlorhexidine and not to use mouth



5A



5B

Figure 5. A. Clinical significant improvement after cessation of treatment; B. Clinical situation immediately after periodontal treatment.

rinses with alcohol. A regular follow-up was done every 6 months.

DISCUSSION

The therapeutic approach in patients with oral manifestation of MMP is a major challenge in oral medicine. Several treatment modalities have been reported. However, management can achieve only temporary symptomatic effect and prolongation of the remission period.¹⁰ Treatment should be individualized for each patient depending on the disease severity, age, and general state of health.^{11,12}

Topical corticosteroids remain the mainstay of treatment in patients with gingival manifestation of MMP. There are different methods to apply the topical corticosteroids: with gauze compresses, mouthwashes, rubbing with finger, etc. The most effective method uses custom trays or gingival veneers.¹³ A promising new treatment for gingival MMP is the topical use of immunomodulator tacrolimus (protopic 0.1%), especially in patients with steroid-recalcitrant lesions.¹⁴ Recently, low-level laser therapy (LLLT) has also been used to improve the healing of tissue after local corticosteroid application.¹⁵

Patients with multiple, recalcitrant oral lesions, and involvement of other mucous membrane should be referred to their dermatologist or internist for systemic therapy.^{16,17}

CONCLUSIONS

Dentists could be the first health professionals to recognize this multi-mucosal involvement disorder. The gingival lesions in MMP patients are usually treated by improved oral hygiene measures and topical corticosteroid therapy. The use of custom trays has been promised to improve disease control because avoids normal mouth movements that can rapidly displace the corticosteroid from its initial localization reducing the contact time between drug and lesions.

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Местная окклюзионная кортикостероидная терапия для лечения десневых проявлений пемфигоида слизистой оболочки – клинический случай

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Резюме

Пемфигоид слизистых оболочек (ПСО) – хроническое аутоиммунное, субэпителиальное, везикулярно-буллезное заболевание, которое очень часто поражает слизистые оболочки, реже – кожу. Чаще всего поражается полость рта, и десквамативный гингивит (ДГ) является наиболее частым проявлением. Это основная причина, по которой стоматологи играют важную роль в диагностике и лечении полости рта пациентов. Лечение обычно сопряжено с трудностями, но может дать только временный симптоматический эффект. Мы сообщаем о случае десквамативного гингивита, проявлении ПСО, который успешно лечился местными кортикостероидами. Последние вводили с использованием индивидуальных ложек, разработанных для клинической эффективности.

Ключевые слова

десквамативный гингивит, пемфигоид слизистой оболочки, местная окклюзионная терапия, местные кортикостероиды
