Management of Gingival Pemphigus Vulgaris with Custom Fabricated Medication Trays

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Introduction
Pemphigus vulgaris (PV) is an immune-mediated mucocutaneous disease characterized normally by IgG autoantibodies directed against the cell adhesion molecules desmoglein 1 and 3. Normally flaccid bullae located on oral and/or cutaneous tissues tend to rupture quickly resulting in superficial ulcers. Direct and indirect Nikolsky sign support a diagnosis of PV. PV lesions demonstrate suprabasilar acantholysis on light microscopy and intercellular deposition of IgG and C3 in a lattice pattern on direct immunofluorescence. Indirect immunofluorescence and/or ELISA testing may be helpful for diagnosis and monitoring disease progression. Glucocorticoids, often with immunosuppressives, and/or rituximab, are typically effective therapeutic agents for PV, although rituximab is rapidly becoming a first-line therapy.

Oral PV lesions appear similarly to their cutaneous counterparts and are commonly observed on the buccal/labial mucosae and tongue. However, these lesions may be confined to the gingiva and cause sloughing of the gingival epithelium, commonly termed desquamative gingivitis. Patients with gingival PV often experience pain and bleeding which can compromise oral hygiene practices and/or nutritional intake. Topical corticosteroids, such as fluocinonide gel 0.05%, are considered first-line therapy for oral PV and are typically applied by the patient to the affected intraoral location(s) with substantial efficacy. Gels are typically favored for intraoral use compared to other vehicles (e.g. creams/ointments) due to their increased solubility. However, application of topical corticosteroid gel to affected gingival tissue(s) is often problematic as the contact time of the tissues with medication is limited by salivary washing. An effective method of increasing contact time of topical medications to gingival tissues is through the use of custom fabricated medication trays. We present a case of a patient with gingival PV whose condition was managed effectively with use of these devices.

Case Report
A 30-year-old Caucasian male of Greek origin presented for evaluation and management of symptomatic gingival lesions of three years’ duration. He was diagnosed with PV via serology approximately seven years prior to presentation and cutaneous manifestations of PV were managed effectively with systemic immunosuppressants. At the time of consultation, the patient was taking methylprednisolone 4mg daily and denied active cutaneous and mucosal lesions other than oral complaints. Medical history, family and social
histories, and review of systems were unremarkable. Extraoral examination was unremarkable and intraoral examination revealed generalized erythema and patchy desquamation of the maxillary and mandibular gingivae. (Figures 1A, B). Cumulative findings were consistent with gingival PV and custom fabricated medication trays to be used with topical corticosteroids were recommended to manage the patient’s oral condition. Dental impressions were completed for fabrication of maxillary and mandibular medication trays to be used with clobetasol gel 0.05% twice daily with clotrimazole troches 10mg three times daily for fungal prophylaxis. (Figures 2A, B). After three months of treatment, the clinical appearance of the patient’s gingivae substantially improved accompanied by symptom resolution, and he is now using the trays with topical medication on an as needed basis. (Figures 3A, B).

**Discussion**

Patients with gingival PV typically benefit from application of topical corticosteroids via custom fabricated medication tray(s). Dental impressions are typically completed with alginate impression material and must capture the affected gingival tissues to ensure appropriate use and fit of the tray(s).
Atraumatic impression technique should be employed, especially in patients with severe desquamation and/or ulceration, as pain and/or excessive bleeding can affect impression outcome. Tray(s) are typically constructed from vacuum-formed, clear vinyl material on the stone cast(s) of the respective arch(es). The authors recommend applying a thin strip of medication to the gingival contact areas of the tray(s) for 30-60 minutes of use up to twice daily to achieve therapeutic benefit. Tray(s) are to be thoroughly rinsed with water after use and stored in an appropriate container. Longevity of the tray(s) is variable but may last for years with appropriate use and care. It is the authors’ opinion this type of treatment is appropriate for other immune-mediated mucocutaneous disorders with gingival involvement, such as lichen planus and mucous membrane pemphigoid.

Patients with oral mucosal diseases, such as PV, often have difficulty maintaining appropriate oral hygiene due to ulceration, bleeding and/or pain associated with these conditions. Inadequate home care leads to accumulation of local irritants, plaque, and calculus, which often exacerbates gingival inflammation. It is imperative for oral health care providers to reinforce the importance of oral hygiene practices, review appropriate home care technique(s) and consider dental prophylaxis at increased frequency for patients with these disorders.

Conclusion
Custom-fabricated medication trays for use with topical corticosteroids should be considered to manage patients with gingival PV. Oral health care providers can have an important role in effective management of immune-mediated mucocutaneous disorders.

References

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