The Efficiency of 0.05% Clobetasol of Propionate in Custom Made Soft Acrylic Tray in Management of Desquamative Gingivitis in Patient With Oral Linchen Planus

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Abstract

Oral lichen planus is a common chronic immunologic inflammatory mucocutaneous disorder that appears as keratotic (reticular or plaque like) to erythemathous and ulcerative. A 56 years old female patient referred to our dental hospital complained pain on gum and oral mucosa since December 2006 and the disease interfered in her daily activities as major difficulty in eating and drinking. The patient has been treated with chlrohexidine gluconate 0.2%, mycostatic oral suspension and predison 5mg dilute with water and to be gargled 3 times daily. The management of those drugs for one month was effective on the buccal mucosa lesion only. Therefore, we decided to change the therapy with clobetasol propinate 0.05%, an adhesive paste form applied in a custom made tray mainly on erosive gingival lesion. The purpose of topical corticosteroid on the gingival lesion and custom tray is to ensure that the drug will be placed on the entire gingival lesion which is will be more effective. The patient was examined at every visit and showed good response in term of pain and ulcerative. In conclusion the application of clobetasol propionate 0.05% in custom tray appears to be effective for erosive gingival lesion in oral lichen planus.

Keywords: Oral Linchen Planus, Desquamative Gingivitis, Clobetasol Propianate 0.05%
Introduction

Oral lichen planus is a chronic immunologic inflammatory mucocutaneous disorder of oral mucosa\(^1\). The incidence of oral lichen planus are above 40 years and occur more commonly in women than men. Normally oral lesions are bilateral and 90% affect the buccal mucosa and lateral aspects of tongue\(^1\). On gingival, lesion may show red atrophic appearance and on palatal may also be affected.

The etiology of lichen planus involves a cell mediated immunologically induce degeneration targeting the basal cell layer of the epithelium. The cells that involve are T lymphocytes, Langerhans’ cells and macrophages. The Langerhans’ cells and macrophages process antigens and present the antigenic material to T lymphocytes. The lymphocytes proliferate and become cytotoxic for basal cells of the squamous epithelium\(^1\). Lichen planus is variety of a broader range disorders which an immunologically induced lichenoid lesion is the common denominator. Thus, there are many clinical and histologic similarities between lichen planus, lichenoid dermatoses and stomatitides associated with drugs, some autoimmune disorders and graft-versus-host reactions\(^2,3\).

There are variant of clinical presentations can occur in oral lichen planus. It can be classified as reticular (keratotic mucosal), plaque (white homogenous plaques), atrophic (keratotic changes combined with mucosal erythema), erosive (pseudo membrane covered ulcerations combined with keratosis and erythema) and bullous\(^1,2,3\). (vesiculobullous presentation combined with reticular or erosive patterns).

The reticular form consists of slightly elevated fine whitish lines (Wickham’s striae) that produce either a lace like pattern or a pattern of fine radiating lines and annular lesions\(^3\). It is quite frequently an indolent and painless lesion that is usually asymptomatic before it can identified during a routine oral examination. The white lesions in reticular and plaque form are non painful, rough to palpation and cannot be rub off.

The atrophic form which has been epithelial thinning consists of erythematous mucosa with a reticular keratotic pattern along the periphery. The erosive form is describe as the irregular areas of oral epithelial destruction (shallow or deep) which are covered in a yellow layer of fibrin and combines ulcerations with atrophic features\(^3\). The
atrophic and erosive forms are typically symptomatic. Occasionally, vesicles are seen, which quickly rupture to form painful ulcers. Ulcers and erosions can involve the attached gingiva producing a desquamative gingivitis pattern in 25% of patients.

There are three features for the histopathologic diagnosis of lichen planus; (1) Hyperkeratosis; (2) Basal keratinocyte necrosis; (3) Lymphocytes at epithelial connective tissue interface.

The prognosis of a patient with oral lichen planus depends on the type of lesion. Andreasen reported that 41% of reticular lesions healed spontaneously whereas 12% of atrophic lesions, 7% of plaquelike lesions, and 0% of erosive lesions healed without treatment. Silverman and Griffith reported that when observed longer than 1 year, approximately 10% of a group of patients with predominantly erosive lesions had cured.

There is no specific treatment for oral lichen planus. So, the management of symptoms is indicated for those patients who experience oral discomfort. Treatment should be given to the severity of disease that characterise oral lichen planus. With mild to moderate case, the patient can administrated topical corticosteroid. Systemic steroids for short periods of time are indicated for severe case and fail to respond to topical steroids.

In this report we describe the efficiency of 0.05% clobetasol propionate in custom made soft acrylic tray in management of desquamative gingivitis lesions in patient with oral lichen planus.

**Case Report**

A 56 year old female patient referred to Department of Oral Medicine, Faculty of Dentistry, Universitas Padjadjaran, complained pain on gum and oral mucosa since December 2006 and the disease interfered in her daily activities as major difficulty in eating and drinking. A medical history of the patient was taken and revealed no unusual finding. Intraoral examination revealed erosive lesion on both sides of buccal mucosa with pigmented on right side. On the left side of buccal mucosa showed erosive lesion with 1cm with and striae. Gingiva area on anterior maxilla and mandibular showed gingival inflammation sign of desquamative gingivitis patterns. There were whitish
coated on the tongue. The patient was diagnosed with lichen planus with erosive and reticular type.

On the 1st visit, predisone tabs 5mg was prescribed to patient for three times daily. The patient also was prescribed with chlorohexidine gluconate and mycostatin oral suspension.

On 4th visit showed no improvement on gingival area. Further critical treatment was planned include periodontal therapy such as standard scaling and consistent plaque control. After periodontal treatment was carried out, a topical corticosteroid therapy was instituted using custom made maxilla and mandibular soft acrylic tray fabricated on study model. The patient was instructed to coat clobetasol propionate 0.05% combined with triamcinolone acetocide cream 0.1% on custom made trays and inserted 3 times a day for 15 minutes each.

All area of erosive lesion slowly reduced 6 week after applied clobetasol propionate. On gingival also showed reduction of inflammation. Close follow up of the patient was carried out once in 3 weeks.

Discussion

Based on the clinical examination we have found that the patient is having erosive ulceration and Wickam’s striae type appearance in her oral mucosa as a sign of oral lichen planus. Moreover the patient was having painful on her oral mucosa and gum, she also complaint of difficulty while eating. The biopsy test wasn’t taken due to the painful oral mucosa and also financial matter, and based on the blood test of the patient she have no systemic disease or any abnormalities.

The cause of oral lichen planus is unknown and it is unclear whether oral lichen planus represents a single disease or manifestation of several closely related conditions. Some authorities have associated lichen planus with variety of medical conditions, such as diabetes mellitus, stress, HLA predispositions. In this case patient possible predisposing factor is stress. Many patient with painful oral lichen planus are frustrated and distressed as consequences of their disease. As stress and traumatizing parafunctional oral habits may be important contributing factors in disease exacerbation.
The hypothesis can be proposed that psychosomatic factors may be related to the oral lesions of oral lichen planus, in the sense that patient with erosive and atrophic lesions exhibit greater anxiety and other psychologic alterations. As noted, various author have indicated the role of the psychomatic factors in oral lichen planus. In the present study, a number of scale were used to measure depression and anxiety. However we did not use the Hamilton depression and anxiety scales, for in our opinion these were designed to appraise depression and anxiety among patients previously and clinically diagnosed with these disorder (unlike the patient in our series). When we differentiated by gender, we found a very interesting series of data: women with erosive oral lichen planus showed significantly higher levels of depression than women in control group, no matter what scale was used.

The most widely accepted treatment for lesions of oral lichen planus involves topical or systemic corticosteroids to modulate the patient immune response. Factors that influence the effectiveness of topical corticosteroid in oral medicine include: the intrinsic potency of the drug, which can be significant increased by halogenation of the steroid; esterification, which makes the drug more lipophilic and gives it greater penetrability. The contact time between the drug and lesion and the vehicle used to apply it; and an increased concentration, which increase its clinical effectiveness, although no additional advantage is obtain beyond certain limits. The patient firstly was treated with 5mg of predisone dilute with water and to be gargle 3 times daily as systemic corticosteroids therapy. The management of the predisone for one month was only effective only on the buccal mucosa lesion whereby the patient also has gingival lesion. Due to the patient gingival lesion oral manifestation we decided to treat the patient with topical corticosteroids therapy which is by applying a paste form of clobetasol propinate 0.05 in a custom made tray, with combination of triaminolone acetacide (kenalog) as the adhesive factor for the clobetasol propinate 0.05%. The application of topical corticosteroid is to approach to the gingival lesion and the use of the custom made tray is to ensure that the drug will be place on the entire gingival lesion.

With the present study, this treatment with clobetasol propionate was found to be efficacious and relatively good to control severe erosive disease of the oral mucosa. Topical steroid known to be used in oral medicine can be classified broadly as having
mild, moderate, high or very potency. Clobetasol 17-propionate is currently the most widely used potent topical corticosteroid.\textsuperscript{12} Clobetasol has demonstrate superior therapeutic effects compared with other corticosteroid.\textsuperscript{12} The lesion was slowly cured with the outcomes of the direct contact of the topical corticosteroid by using the custom tray (3 times a day after day). Without the use of the custom tray, the drug cannot be placed on all gingival lesions.\textsuperscript{13} In a separate study, a author used a tray to apply clobetasol propionate and found complete remission of pain and ulcers in all patient with severe erosive gingival lesion.\textsuperscript{14}

We also used mycostatin oral suspension and clorohexidine 0.2\% as prophylaxis therapy to deter the opportunistic infection such as antifungal infection because clobetasol propionate 0.05\% could have the induced the appearance of candidiasis in most patient. This is due to the significant of corticosteroid therapy as a immunosuppressive drug. The patient is still under treatment control and at every visit was recorded to have a good response in term of pain and ulcerative.

**Clinical figures before the therapy :**

![Desquamative gingivitis on the labial gingival on maxilla](image1)

![Desquamative gingivitis on the labial gingival on mandible](image2)
During the treatment control
Custom tray

Conclusion

To summarize, the predisposing cause of the oral lichen planus in the patient is due to stress and the application of clobetasol propionate 0.05% in custom tray appears to be effective for erosive gingival lesion in oral lichen planus.
References

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