CASE REPORT

THE GINGIVAL ORAL LICHEN PLANUS: A HOLISTIC TREATMENT MODALITY

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ABSTRACT

Oral Lichen Planus (OLP), a chronic inflammatory disease of unknown etiology, is a painful condition that tends to become malignant, urging appropriate therapy[1]. Laser therapy has recently been suggested as a new treatment option with visible results and without significant side effects, but has not been able to prove itself with stand-alone treatment option owing to cost factor with around 15-22 sittings required and the resistant variant of OLP[2]. This article presents a cases of erosive OLP treated with Low Level Laser Therapy (LLLT) as an adjunct to Topical steroid application. Lesion type and pain was recorded before and after treatment. Severity of lesions and pain were reduced after treatment. LLLT is an effective treatment with no side effects and it may be considered as an alternative therapy for erosive/ulcerative oral lichen planus.

Keywords : *Oral Lichen Planus, Treatment, Low Level Laser Therapy*

INTRODUCTION

Lichen planus is a muco-cutaneous disease of unknown etiology[1]. T Lymphocytes are responsible for its pathogenesis. It occurs more in women, a prevalence of 1 to 4%. The sites involved over the skin include the flexor surfaces of the legs and arms, especially the wrists and elbows and scalp[1]. It is associated with Blood pressure stress induced and more common in individuals who are under tremendous stress or low stress threshold[2].

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Keratotic (white, reticular or plaque like) and non-keratotic (erosive/atrophic/ulcerative) forms has been described. Keratotic lesions are usually asymptomatic and need no therapy, while red lesions need treatment for pain and soreness as well as their malignant potential. Treating red OLP is still a problem, and several empirical treatments have been used including corticosteroids, griseofulvin, curcuminoid, sulodoxide, oxypentifylline, as well as the surgery, photochemotherapy, and laser.

Local corticosteroid treatment promises outcomes in remission and pain/soreness relief but requires patient compliance and strict discipline to follow the regime. Side effects are common with this treatment and include mucosal atrophy, candidiasis, adrenal suppression, gastrointestinal upset, hypertension, and hyperglycemia.

LLLT is a recent evolution in medical/dental treatments, specifically regarding mucocutaneous lesions such as OLP.

DESCRIPTION OF THE CASE

A 50 yr old male patient named Vivek rai reported to our clinic (CLOVE SDA) with a chief complaint of pain and burning sensation in the gums in the past 3 weeks. The patient was apparently normal 3 weeks before after which he started noticing pain and burning sensation in the gums, along with a metallic taste after which he reported to the clinic. Patient gives a medical history hypertension and under medication for the same and skin eczema and under symptomatic treatment with Topical steroid application whenever flare-up arises. He gives a dental history of scaling done few weeks before and root canal treatment and crown placement 3 years back. He also gives a history of using a new mouth wash 3-4 weeks before (ACT mouthwash).

On examination of the oral cavity, a diffuse, fiery red, glazed, atrophic gingiva on the attached gingiva of both upper and lower jaws seen, small pinpoint haemorrhagic points seen in the left buccal mucosa with respect to 27,28 region. There was presence of calculus, stains, subgingival deposits present, mild to moderate gingivitis, bleeding on probing was present. A provisional diagnosis of erosive form of lichen planus was given. The patient was advised to quit the mouth wash usage. SRP,

adjunctive low-level laser was advised. Complete oral prophylaxis was performed. Firstly the 980 nm S1 PIOON TRIPLE WAVELENGTH diode laser was used for LLLT (0.3 W, 6J, 20 secs, pulsed mode, non-contact mode), then the treatment continued up to 2 sessions, along with Topical application of Tess(triamcinolone 5 gm) thrice daily for 7 weeks in a reducing dosage, Antoxid HC once daily for 7 days and topical application of Evion 400mg twice daily for 1 week. At the end of 1st week patient had partial relief from the symptoms and metallic taste, on examination we noticed patient had redness on the attached gingiva of PM and molars and almost pink gingiva in attached gingiva of anterior teeth, on asking patient informed us that he had been applying gel only of the anterior attached gingiva and not posteriorly on the buccal aspect of Pre-Molars and Molars. Instructions were reinforced to the patient and second session of LLLT was performed. At the end of

PRE OPERATIVE VIEW

1 WEEK FOLLOW UP

POST OPERATIVE VIEW

second session we had partially split mouth kind of situation where parts of attached gingiva (of posterior teeth) was only treated with LLLT and part of the attached gingiva(of anterior teeth) with combination of LLLT and topical gel application. The patient was followed up after 7 days of 2nd session, on examination, there were no signs of gingival erythema and redness seen with respect to upper and lower facial attached gingiva and highly reduced redness on the attached gingiva of PM and Molars, patient also had complete symptomatic relief from burning sensation and improvement in taste sensation.

At 1week follow-up, reduction in size and redness was obvious, after one week the lesion disappeared totally, at one-month follow-up no sign of recurrence was seen.

DISCUSSION

Oral lesions in LP are chronic, rarely undergo spontaneous remission, and potentially premalignant. Common sites of OLP are buccal mucosa, tongue, lips, gingiva, floor of mouth and palate with a symptom of burning sensation of oral mucosa[1,2]. Reticular, Papular, Plaque, Atrophic, Bullous are different types OLP[5]. Reticular OLP is the Common type. Erosive OLP has central ulceration of varying degrees is seen. Periphery of lesion is usually bordered by fine, white radiating lines (Wickham's Striae). In Erosive OLP attached gingiva there is desquamation of gingivitis with pain & burning sensation of involved area.

Erosive/ulcerative OLP is a potentially premalignant lesion which can interfere with eating or speaking. Although corticosteroids are the first line of treatment, they are not approved totally because of their side effects. Diphenhydramine or other local anesthetics might be used in conjunction with corticosteroids, as well as antifungal agents to manage Candidiasis. This multi- drug regimen reduces the patient compliance. Since it is difficult to be compliant with this tough regimen

There are several contributing factors to OLP like HLA antigen, dental materials, infectious agents gram negative anaerobic bacillus spirochetes and stress. OLP has a correlation between diabetes, hypertension (grinspan syndrome), hepatitis C virus, celiac disease and with other immune mediated diseases like alopecia areata, dermatomyositis, myasthenia gravis. OLP is more common in middle aged females[3]. 28% of OLP have skin lesions with SIX "P" presentations Planar, Polygonal, Purple, Pruritic, Papules &Plaques. Koebner's Phenomenon is appearance of fresh lesion on scratch marks

All treatment should be aimed at eliminating atrophic and ulcerative lesions, alleviating symptoms, and potentially decreasing the risk of malignant transformation. The conventional treatment of OLP mainly includes topical corticosteroids (triamcinolone acetonide, betamethasone, etc.), calcineurin inhibitors (cyclosporine, tacrolimus or pimecrolimus), retinoids and phototherapy, of which the local application of corticosteroids has been acknowledged as the first-line drug therapy.

The gel is applied to painful areas to modulate inflammation and immune response are effective in most patients. In case of painful gingival lesions topical steroids can be applied through soft custom trays. Topical corticosteroids are safe when applied to mucous membranes for short interval.

The systemic application of corticosteroids is suitable only for patients with acute or refractory OLP or are usually reserved for cases where topical approaches have failed, where there is recalcitrant, erosive, or erythematous OLP, or for widespread OLP when skin, genitals, esophagus, or scalp are also involved. Prednisolone 40 to 80 mg daily is usually sufficient to achieve a response. It should be taken either for brief periods of time (5–7 days) and then the dose should be reduced by 5–10 mg/day gradually over 2–4 weeks.

Various previous studies have shown that the pathogenesis of OLP is associated with oxidative stress, which is mainly manifested as the imbalance between reactive oxygen species (ROS) and antioxidants[7].

Antioxidants are inhibitors of oral cavity carcinogenesis. Antioxidants work by tracking down free radicals and neutralizing their harmful effects. That helps keep more of the body's cells healthy and less susceptible to becoming cancerous. Vitamin A and vitamin E can produce clinical regression of oral leukoplakia, a premalignant lesion for oral cancer.

A systematic review on OLP demonstrated that antioxidants could reduce the pain and clinical scores of OLP, and improve the pain and lesion conditions in patients with OLP without increasing adverse effects, indicating that antioxidants could be a beneficial treatment for OLP[7].

LLLT is a recent evolution in medical/dental treatments, specifically regarding mucocutaneous lesions such as OLP. lichen planus lesions showed acceptable responses to laser therapy. Different types of lasers with different wavelengths have been utilized in the treatment of OLP. Among different wavelength, the 980 nm diode lasers have demonstrated acceptable haemostasis and coagulation features along with good wound healing,

lack of swelling, bleeding and alleviating pain.

Importance of counselling and modification of lifestyle and must be understood by the consultant and reinforced to the patient to live a healthy lifestyle including walk, yoga, meditation, healthy protein and antioxidant rich food, be happy and not take stress of any kind.

Combination treatment helped in alleviating symptoms in the patients with LLLT, topical steroids, topical application of Vitamin E, antioxidants, meditation, yoga, exercise, stress free lifestyle and healthy diet with protein and antioxidants along with decreasing the risk of malignant transformation. Furthermore, patient should also be kept under long-term follow up due to malignant tendency of LP and histopathological findings by biopsy must be done whenever needed.

Treatments are usually nonspecific and directed in decreasing the inflammation and therefore there is no complete cure of the disease.

SUMMARY

Our treatment modality is a combination of various treatments in lieu of a holistic approach towards patient's treatment and comfort while keeping it cost effective. It is characterized by the treatment of the whole person, taking into account mental and social factors, rather than just the symptoms of OLP.

CONCLUSION

In conclusion, the treatment using a combination of low potency steroid, LLLT, antioxidants could be a potentially effective method for patients with OLP and is worth promoting in clinical practice.

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Further research with more participants and statistical analyses is necessary to evaluate this combination therapy as a novel therapeutic approach for OLP.

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