

Curcumin alone and curcumin with prednisone in management Oral Lichen Planus patients

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ABSTRACT:

Background:Oral Lichen Planus is a chronic inflammatory mucocutaneous disease affecting the oral cavity, skin and nails. The present study compared curcumin alone and curcumin with prednisone in management of cases of oral lichen planus.

Materials & Methods:The present study was conducted on 68 patients diagnosed clinically and histologically as oral lichen planus which were divided randomly into 2 groups of 34 each. In group I patients, Curenex oral gel was prescribed for topical application for 15 minutes, three times a day. In group II patients, a paste of crushed tablet of prednisone and curenex oral gel was prescribed for 15 minutes, three times a day. All patients were recalled after 10 days for 1st follow up and 20 days later for 2nd follow up and reticulation, erosion and pain on VAS were recorded.

Results: The mean reticulation score at baseline in group I was 1.82, in group II was 1.80, on 10th day in group I was 1.60 and in group II was 1.14 and on 20th day in group I was 0.86 and in group II was 1.42. The difference was significant ($P < 0.05$). The mean erosion score at baseline in group I was 2.32, in group II was 2.30, on 10th day in group I was 1.95 and in group II was 1.45 and on 20th day in group I was 0.82 and in group II was 0.10. The difference was significant ($P < 0.05$). The mean VAS score at baseline in group I was 4.10, in group II was 3.94, on 10th day in group I was 3.24 and in group II was 1.92 and on 20th day in group I was 1.26 and in group II was 0.06. The difference was significant ($P < 0.05$).

Conclusion:Authors found that combination of curcumin and prednisone proved to be effective as compared to curcumin alone in patients of oral lichen planus.

Key words: Curcumin, Oral lichen planus, Prednisone

INTRODUCTION

Oral Lichen Planus (OLP) is a chronic inflammatory mucocutaneous disease affecting the oral cavity which has been associated with severe burning sensation which in turn affects the quality of life of the patients.¹ It affects patient's quality of life (QOL) by impairing mastication, taste and causing sleep disturbances. OLP is a T cell mediated autoimmune mucosal disorder. It can occur on skin as well as mucosa.² It commonly occurs in oral cavity. LP occurs in 6 different forms but the commonest ones are erosive and reticular, atrophic associated with white striae. Common oral manifestations are like reticulating white striae, erosions, papules, erythema associated with varying degree of oral discomfort. Signs and symptoms could range from mild to no discomfort.³

Currently, the effective treatment of choice remains the use of corticosteroids. There are lot of treatment modalities but steroid being most popular. Topical treatment is more preferred owing to the recurrent nature of the illness.⁴ Systemic steroid is used for full blown cases, recalcitrant cases. Steroids stay as main stream treatment modality owing to its strong anti-inflammatory properties. The chronicity and recalcitrant nature of the disease demand the long term use of these drugs with ensuing adverse effects.⁵ Turmeric and its active ingredient, "curcumin", have been found to have anti-inflammatory, antioxidant and anticancer properties. It has a chemopreventive effect in oral potentially malignant disorders. The anti-inflammatory property of curcumin benefits patients with oral lichen planus since OLP is described as autoimmune chronic inflammatory disease.⁶ The present study compared curcumin alone and curcumin with prednisone in management of cases of oral lichen planus.

MATERIALS & METHODS

The present study comprised of 68 patients diagnosed clinically and histologically as oral lichen planus. The study was approved from ethical committee. The consent of all recruited patients was obtained.

Data such as name, age, gender etc. was recorded. Patients were divided randomly into 2 groups of 34 each. In group I patients, Curenext oral gel was prescribed for topical application for 15 minutes, three times a day. In group II patients, a paste of crushed tablet of prednisone and curenext oral gel was prescribed for 15 minutes, three times a day. All patients were recalled after 10 days for 1st follow up and 20 days later for 2nd follow up.

Parameters such as reticulation, erosion and pain on VAS were recorded. Reticulation was scored as: a. 1 = striae > 1 cm b. 2 = striae 2-3 cms c. 3 => 3 cms. Erosion was scored as: a. 1 = lesion more than 1 cm b. 2 = lesion 2-3 cms c. 3 = entire buccal mucosa Pain/burning sensation was assessed with: a. 0 = no symptoms b. 1 = mild discomfort c. 2 = mild burning on intake of spicy food d. 3 = moderate burning on intake of spicy food e. 4 = severe burning on intake of spicy food f. 5 = unbearable pain. Results thus obtained were compared in both groups. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Groups	Group I	Group II
Agent	Curenext oral gel	Tablet prednisone and curenext oral gel
Number	34	34

Table I shows distribution of patients based on drugs used. Each group had 34 patients.

Table II Assessment of reticulation score

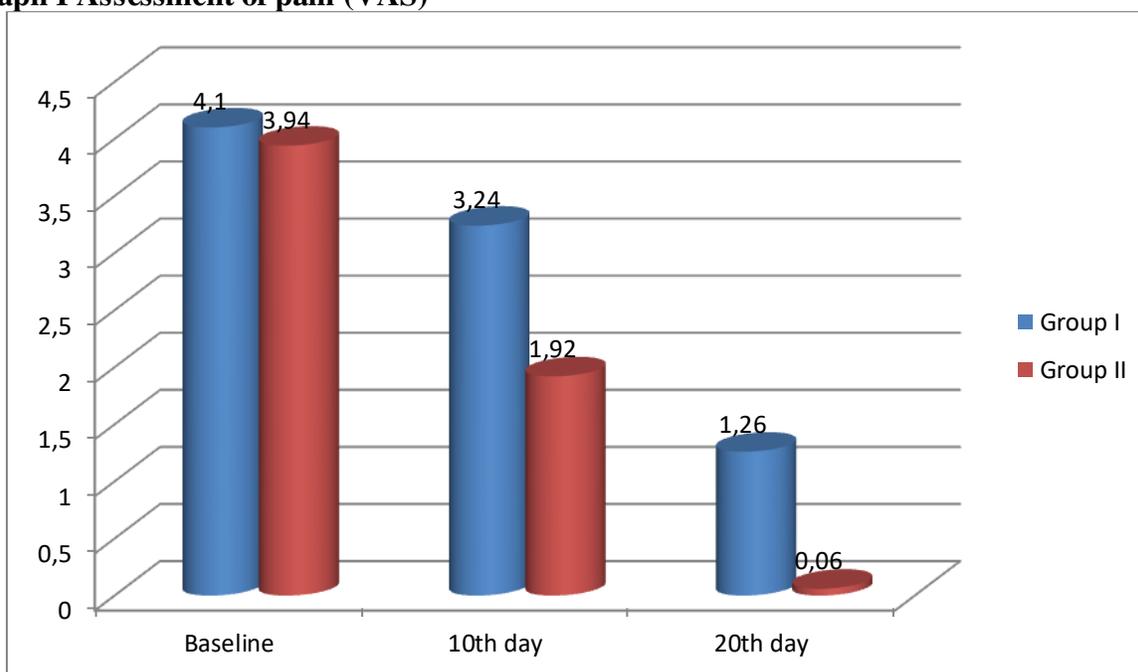
Follow up	Group I	Group II	P value
Baseline	1.82	1.80	0.94
10 th day	1.60	1.14	0.07
20 th day	0.86	1.42	0.01

Table II shows that mean reticulation score at baseline in group I was 1.82, in group II was 1.80, on 10th day in group I was 1.60 and in group II was 1.14 and on 20th day in group I was 0.86 and in group II was 1.42. The difference was significant ($P < 0.05$).

Table III Assessment of erosion score

Follow up	Group I	Group II	P value
Baseline	2.32	2.30	0.96
10 th day	1.95	1.45	0.09
20 th day	0.82	0.10	0.001

Table III shows that mean erosion score at baseline in group I was 2.32, in group II was 2.30, on 10th day in group I was 1.95 and in group II was 1.45 and on 20th day in group I was 0.82 and in group II was 0.10. The difference was significant ($P < 0.05$).

Graph I Assessment of pain (VAS)

Graph I shows that mean VAS score at baseline in group I was 4.10, in group II was 3.94, on 10th day in group I was 3.24 and in group II was 1.92 and on 20th day in group I was 1.26 and in group II was 0.06. The difference was significant ($P < 0.05$).

DISCUSSION

Lichen planus (LP) is a chronic mucocutaneous disorder of the stratified squamous epithelium that affects oral and genital mucous membranes, skin, nails, and scalp. Oral lichen planus (OLP) is the mucosal counterpart of cutaneous LP. It is derived from the Greek word "*leichen*" means tree moss and Latin word "*planus*" means flat.⁷

The cutaneous lesions of LP are characterized by 5 ps: Purple, polygonal, pruritic papules and plaque.⁸ Initially, LP is evident as a cutaneous and mucosal eruption, though rarely it can manifest with only oral or nail findings. LP usually begins as discrete, flat-topped papules that are 3 to 15 mm in diameter which may coalesce into larger plaques. Early in course of the disease they appear red, but soon they take on reddish purple or violaceous hue.⁹ The center of the papule may be slightly umblicated and its surface is covered by characteristic, very fine grayish white lines, called Wickham striae. The lesions can occur anywhere on the skin surface but often are located on the flexor surfaces of limbs, inner aspects of knees and thighs and trunk and also may appear on lines of trauma, reflecting the Köbner phenomenon.¹⁰ The present study compared curcumin alone and curcumin with prednisolone in management of cases of oral lichen planus.

In this study, we recruited 68 patients of OLP. Patients were divided randomly into 2 groups of 34 each. In group I patients, Curenext oral gel was prescribed for topical application for 15 minutes, three times a day. In group II patients, a paste of crushed tablet of prednisone and curenext oral gel was prescribed for 15 minutes, three times a day. We found that at mean reticulation score at baseline in group I was 1.82, in group II was 1.80, on 10th day in group I was 1.60 and in group II was 1.14 and on 20th day in group I was 0.86 and in group II was 1.42.

Naiket al¹¹ in their study was evaluated the clinical efficacy as a topical drug of a novel mixture of prednisone and curcumin in 60 patients of oral lichen planus. Novel mixture effectively reduced the reticulation, erosion and pain and these differences were significant when compared with first mode of therapy.

We observed that mean erosion score at baseline in group I was 2.32, in group II was 2.30, on 10th day in group I was 1.95 and in group II was 1.45 and on 20th day in group I was 0.82 and in group II was 0.10. The mean VAS score at baseline in group I was 4.10, in group II was 3.94, on 10th day in group I was 3.24 and in group II was 1.92 and on 20th day in group I was 1.26 and in group II was 0.06. Thomas et al¹² conducted a study on 75 patients diagnosed with OLP divided into three groups, Group 1 (0.1% triamcinolone acetonide oral paste thrice daily in tapering doses), Group 2 (curcumin oral gel thrice daily) and Group 3 (curcumin oral gel six times daily). The patients were analysed for the symptom (burning) and sign (erythema and ulceration) using the numerical rating score and Modified Oral Mucositis Index (MOMI) for a period of three months on a bimonthly basis. Intragroup comparison using paired t-test showed statistically significant reduction in burning sensation ($p < 0.001$) as well as erythema and ulceration ($p < 0.001$) in all the three groups. However, when the three groups were compared Group 1 showed the maximum reduction in burning sensation (77%) and erythema and ulceration (67%). Among the curcuminoid group, increased frequency was found to be more beneficial. Curcumin oral gel can bring about clinical improvements in OLP patients; however it cannot be used as a mainstay drug. Instead, it can be used as a maintenance drug after the patient is treated with an initial course of corticosteroids.

The shortcoming of this study is small sample size. Moreover, only 2 drugs were compared.

CONCLUSION

Authors found that combination of curcumin and prednisone proved to be effective as compared to curcumin alone in patients of oral lichen planus.

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