

## Original Article

### Assessment of Efficacy of two Different Treatment Modalities in Treating Patients with Oral Lichen Planus: A Comparative Study

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#### ABSTRACT:

**Background:** Oral lichen planus (OLP), the mucosal counterpart of cutaneous lichen planus, presents frequently in the fourth decade of life. Corticosteroids have been the mainstay of management of OLP; yet, other modalities like calcineurin inhibitors, retinoids, dapsone, hydroxychloroquine, mycophenolatemofetil and enoxaparin have contributed significantly toward treatment of the disease. Hence; we planned the present study to assess and compare the efficacy of topical tacrolimus ointment and triamcinolone acetonide ointment in treating OLP patients. **Materials & Methods:** The present study included assessment of efficacy of in oral lichen planus patients. A total of 20 patients with OLP were included in the present study. All the patients were broadly divided into two study groups; group A and group B, with 10 patients in each group. Group A included patients who were treated with topical tacrolimus ointment, while group B included patients treated with triamcinolone acetonide 0.1% in hypromellose ointment. All the patients were treated with their specific treatment for a period of 2 months. All the patients were checked on follow-up after six months' time. **Results:** fewer side effects and better treatment was seen in patients of group A. **Conclusion:** Topical tacrolimus ointment shows better results in treating OLP patients.

**Key words:** Acetonide, Oral Lichen Planus, Tacrolimus.

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## INTRODUCTION

Oral lichen planus (OLP), the mucosal counterpart of cutaneous lichen planus, presents frequently in the fourth decade of life and affects women more than men in a ratio of 1.4:1. The disease affects 1–2% of the population.<sup>1,2</sup> It is seen clinically as reticular, papular, plaque-like, erosive, atrophic or bullous types. Intraorally, the buccal mucosa, tongue and the gingiva are commonly involved although other sites may be rarely affected. Oral mucosal lesions present alone or with concomitant skin lesions.<sup>3,4</sup> Corticosteroids have been the mainstay of management of OLP; yet, other modalities like calcineurin inhibitors, retinoids, dapsone, hydroxychloroquine, mycophenolatemofetil and enoxaparin have contributed significantly toward treatment of the disease.<sup>4,6</sup>

Hence; we planned the present study to assess and compare the efficacy of topical tacrolimus ointment and triamcinolone acetonide ointment in treating OLP patients.

## MATERIALS & METHODS

The present study was conducted in the department of oral medicine and radiology of the dental institute and included assessment of efficacy of in oral lichen planus patients. Ethical approval was taken from institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol. A total of 20 patients with OLP were included in the present study. All the patients were broadly divided into two study groups; group A and group B, with 10 patients in each group. Group A included patients who were treated with topical tacrolimus ointment, while group B included patients treated with triamcinolone acetonide 0.1% in hypromellose ointment. Confirmation of the diagnosis of the OLP was done based on the histopathologic confirmation of the features of OLP. Exclusion criteria for the present study included:

- Patients less than 20 years of age,
- Patients with history of any systemic illness,
- Patients with any known drug allergy,
- Patients with lichenoid dysplasia,

All the patients were treated with their specific treatment for a period of 6 months. Discontinuation of the treatment was done on completion of healing process. All the patients were checked on follow-up after two months' time. All the results were recorded and analyzed by SPSS software. Chi-square test was used for assessment of level of significance. P-value of less than 0.05 was taken as significant.

## RESULTS

We included a total of 20 OLP patients in the present study and broadly divided them into two study groups based on the type of treatment protocol followed. Mean age of the patients of group A and group B included 52.5 years and 53.8 years respectively. **Table 1** shows the comparison of patients of both the study groups. Slightly better results were produced in patients of group A.

**Table 1:** Comparison of patients of both the study groups

Parameter	Group A	Group B
Mean age (years)	52.5	53.8
Results after 6 months of treatment (N)	No improvement	1
	Improvement	6
	Worsening	0
	Healing	3
Side-effects (N)	3	1

## DISCUSSION

In the present study, we observed fewer complications and better treatment results among patients of group A. Laeijendecker R et al compared the efficacy of topical tacrolimus ointment with triamcinolone acetonide ointment in patients with oral lichen planus. Twenty patients (group I) were treated with topical tacrolimus 0.1% ointment 4 times daily, and 20 (group II) were treated with triamcinolone acetonide 0.1% ointment 4 times daily. The clinical effect was graded after 6 weeks. In group I, 6 patients healed, 12 showed improvement and 2 showed no improvement. In group II, 2 patients healed, 7 improved and 11 showed no improvement. The most commonly reported side-effect in both groups was temporary burning or stinging at the site of application. Unfortunately, oral lesions recurred within 3-9 weeks of cessation of treatment in 13 of the 18 patients who had initially shown an improvement or were healed in group I and in 7 of the 9 patients in group II. Topical tacrolimus 0.1% ointment induced a better initial therapeutic response than triamcinolone acetonide 0.1% ointment. However, relapses occurred frequently within 3-9 weeks of the cessation of treatment.<sup>7</sup> Byrd JA et al described their experience with topical tacrolimus in patients treated for symptomatic oral lichen planus. A survey was mailed to 40 patients with symptomatic oral lichen planus treated with topical tacrolimus. Surveys were completed by 37 patients (93%) a mean of 1.3 years after initiation of treatment. Thirty-three (89%) of the 37 patients reported symptomatic improvement, and 31 (84%) reported partial to complete lesion clearance while using topical

tacrolimus. On average, patients noted improvement in 1 month. Twelve patients (32%) reported adverse effects consistent with those reported previously (ie, burning, irritation, and tingling). Among the 28 patients still using the medication, 15 patients (54%) apply it at least once daily. Of the 9 patients who discontinued using the medication, 5 experienced recurrence. Topical tacrolimus is effective for the treatment of oral lichen planus. Most patients experienced symptomatic improvement in less than 1 month. However, the effect is temporary; when topical tacrolimus is discontinued, oral lichen planus may flare again.<sup>8</sup>

Gorouhi F et al compared the efficacy and safety of pimecrolimus 1% cream with triamcinolone acetonide 0.1% paste in treating OLP. In this investigator-blinded parallel-group randomized clinical trial, 40 patients were randomly assigned in two equal groups to receive either pimecrolimus 1% cream or triamcinolone acetonide 0.1% paste 4 times daily for a total of 2 months and followed up for another 2 months. The patients were assessed for painful symptoms measured by visual analog scale, the Oral Health Impact Profile score, and objective clinical score. Nonparametric tests were used to assess the main outcomes. Intention-to-treat analysis was used. Eighteen patients in pimecrolimus group and 17 patients in triamcinolone group finished the 4-month trial course. Both pimecrolimus and triamcinolone groups showed significant improvement in all measured efficacy end points throughout the visits. There was no significant difference between changes from baseline median values of pimecrolimus and triamcinolone groups after treatment termination in terms of visual analog scale score (-9.8 +/- 11.3 vs -8.4 +/- 18.3, P = .70), Oral Health Impact Profile score (-1.5 +/- 2.6 vs -1.6 +/- 2.1, P = .38), and clinical score (-0.7 +/- 0.6 vs -0.8 +/- 0.7, P = .86), respectively. Two patients in pimecrolimus group experienced prominent but transient burning sensation whereas none of the patients in triamcinolone group had any prominent adverse event (P = .24). Blood levels in pimecrolimus group were not measured and carcinogenicity of pimecrolimus, especially in its long-term use for OLP, is yet to be determined. This study showed that patients with OLP may benefit from both topical pimecrolimus and triamcinolone acetonide therapy with minimal side effects.<sup>9</sup>

## CONCLUSION

From the above results, the authors concluded that topical tacrolimus ointment shows better results in treating OLP patients.

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