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Original Article

Comparison of 0.1% Tacrolimus & 0.1% Triamcinolone acetonide in Oral Lichen Planus - A Clinical Study

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***ABSTRACT*:**

Background: Lichen planus (LP) is a chronic mucocutaneous disorder that affects oral and genital mucous membranes, skin, nails, and scalp. The present study was conducted to compare 0.1%, triamcinolone acetonide and 0.1% tacrolimus in the management of oral lichen planus. **Materials & Methods:** The present study comprised of 50 patients of oral lichen planus which was confirmed by clinical examination followed by histopathological examination. They were divided into 2 groups of 25 each. Group I were those who were prescribed 0.1% tacrolimus 4 times daily and group II were put on 0.1% triamcinolone acetonide 4 times daily. Patients were recalled regularly to see improvement in the lesion and were recorded as improved and non- improved. **Results:** Pain was present in 12 patients in group I and 14 in group II and burning sensation was present in 17 in group I and 19 in group II patients. The difference was non-significant (P> 0.05). Improvement was seen in 18 in group I and 19 in group II and non improvement in 7 in group I and 6 in group II. The difference was non- significant (P> 0.05). **Conclusion:** OLP is an inflammatory mucosal and cutaneous disorder commonly seen among females. Both 0.1%, triamcinolone acetonide and 0.1% tacrolimus found to be effective in the management of oral lichen planus.

Key words: inflammatory, OLP, mucosal.

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INTRODUCTION

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. It has a prevalence of approximately 0.5–2%. The disease has a female: male ratio of approximately 2:1 and may persist for many years.[1]

The exact incidence and prevalence of LP is unknown. In 1895, Kaposi noted the disease as "rather frequent" with 25 to 30 cases presenting annually. In the United States, the incidence of LP is reported to be approximately 1% of all new patients seen at health care clinics. The Indian subcontinent has a particularly high incidence of disease. The diagnosis of OLP is based on a combination of characteristic clinical findings, history and histopathological examination. The hyperkeratotic variant of OLP is often symptomless. The atrophic or the erythematous (red) variant and the erosive or the ulcerative (yellow) variants of OLP generally have persistent symptoms.[2]

Although the exact etiology of this disease is still unknown, but some factors are associated with it. Familial cases are rare. An association has been observed with HLA-A3, A11, A26, A28, B3, B5, B7, B8, DR1, and DRW9. OLP may occasionally be associated with autoimmune disorders such as primary biliary cirrhosis, chronic active hepatitis, ulcerative colitis, myasthenia gravis, and thymoma. One of the factors responsible for the development of OLP is anxiety and stress. Some of the studies in literature reveal the role of the psychological stress in the etiology of OLP.[3]

Management includes corticosteroids such as 0.1%, triamcinolone acetonide, retinoids, cyclosporine, psoralen

plus ultraviolet A light (PUVA), griseofulvin and hydroxychloroquine. Recently, topical tacrolimus was reported to be effective in the treatment of patients with OLP in a number of pilot studies.[4] The present study was conducted to compare 0.1%, triamcinolone acetonide and 0.1% tacrolimus in the management of oral lichen planus.

MATERIALS & METHODS

The present study comprised of 50 patients of both genders. All were the cases of oral lichen planus which was confirmed by clinical examination followed by histopathological examination. All were informed regarding the study and written consent was obtained. Ethical clearance was obtained prior to the study. General information such as name, age, gender etc. was recorded.
They were divided into 2 groups of 25 each. Group I were those who were prescribed 0.1% tacrolimus 4 times daily and group II were put on 0.1% triamcinolone acetonide 4 times daily. Patients were recalled regularly to see improvement in the lesion and were recorded as improved and non- improved. Results thus obtained were subjected to statistical analysis using chi- square test. P value less than 0.05 was considered significant.

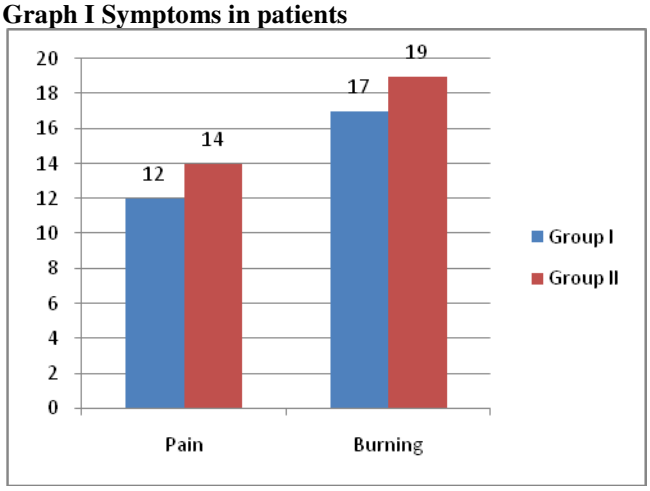
RESULTS

Table I Distribution of patients

Total- 50		
Group I (0.1% tacrolimus)	**Group II (0.1% triamcinolone acetonide)**	**P value**
25	25	1

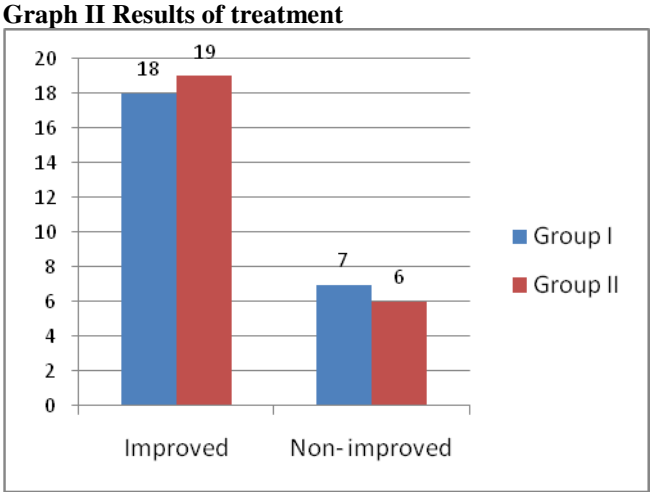
Table I shows that group I (25) were prescribed 0.1% tacrolimus and group II (25) 0.1% triamcinolone acetonide. The difference was non- significant (P- 1).

Graph I Symptoms in patients



Graph I shows that pain was present in 12 patients in group I and 14 in group II and burning sensation was present in 17 in group I and 19 in group II patients. The difference was non- significant (P> 0.05).

Graph II Results of treatment



Graph II shows that improvement was seen in 18 in group I and 19 in group II and non improvement in 7 in group I and 6 in group II. The difference was non- significant (P> 0.05).

DISCUSSION

OLP is a T-cell mediated autoimmune disease in which the auto-cytotoxic CD8 + T cells trigger apoptosis of the basal cells of the oral epithelium. In OLP, there is increased expression of the vascular adhesion molecules (VAM), that is, CD62E, CD54, and CD106, by the endothelial cells of the sub-epithelial vascular plexus.[5]
The cutaneous lesions of LP are characterized by 5 ps: Purple, polygonal, pruritic papules and plaque. 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.[6] It has 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. The face frequently remains uninvolved. The primary symptom of LP is severe pruritis. The severity of pruritus varies.[7]
In present study, group I (25) were prescribed 0.1% tacrolimus and group II (25) 0.1% triamcinolone acetonide. Tacrolimus is an immunosuppressive macrolide drug produced by Streptomyces tsukubaensis and used to prevent transplant rejection. In vitro, tacrolimus exerts an activity that is 10–100 times higher than that of cyclosporine. Topical tacrolimus was approved as a safe treatment for atopic dermatitis. Side-effects such as burning sensation at the site of application, transient taste disturbance, intermittent headaches, and rarely patchy hyperpigmentation of the oral mucosa as a result of topical tacrolimus treatment in OLP were reported.[8]
Triamcinolone acetonide is a synthetic corticosteroid used topically to treat various skin conditions as well as in cases of OLP. Three trials compared the same steroid in different

forms. The comparisons were: flucinoloneacetonide in an oral base 0.1% vs flucinoloneacetonide gel no.1 and the same orabase with flucinoloneacetonide gel no.2, clobetasol (0.025%) in microspheres with clobetasol ointment (0.025%), triamcinolone acetonide in mouth rinse vs intralesional triamcinolone acetonide injection; two studies compared different steroids in different arms topical fluticasone propionate spray and betamethasone sodium phosphate mouthrinse; betamethasone OMP and triamcinolone acetonide paste; one trial compared different steroids in the same arm (clobetasolorabase ointment and triamcinoloneacetonide ointment); one study used the same steroid clobetasol ointment in different concentrations. Among these studies, did not present any significant difference in pain reduction. However, lower pain scores in the group that used microsphere formulation & better response in betamethasone group were shown.[9]

Ronald et al[10] conducted a study which showed that 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.

CONCLUSION

OLP is an inflammatory mucosal and cutaneous disorder commonly seen among females. Both 0.1%, triamcinolone acetonide and 0.1% tacrolimus found to be effective in the management of oral lichen planus.

REFERENCES

1. Rozycki TW, Rogers RS, Pittelkow MR, McEvoy MT, el-Azhary RA, Bruce AJ et al. Topical tacrolimus in the treatment of symptomatic oral lichen planus: a series of 13 patients. J Am Acad Dermatol 2002; 46: 27–34.
2. Kaliakatsou F, Hodgson TA, Lewsey JD, Hegarty AM, Murphy AG, Porter SR. Management of recalcitrant ulcerative oral lichen planus with topical tacrolimus. J Am Acad Dermatol 2002; 46: 35–41.
3. Byrd JA, Davis MDP, Bruce AJ, Drage LA, Rogers RS III. Response of oral lichen planus to topical tacrolimus in 37 patients. Arch Dermatol 2004; 140: 1508–1512.
4. Morrison L, Kratochvil III FJ, Gorman A. An open trial of topical tacrolimus for erosive oral lichen planus. J Am Acad Dermatol 2002; 47: 617–620.
5. Byrd JA, Davis MDP, Rogers RS. Recalcitrant symptomatic vulvar lichen planus. Arch Dermatol 2004; 140: 715–720.
6. Hodgson TA, Sahni N, Kaliakatsou F, Buchanan JAG, Porter SR. Long-term efficacy and safety of topical tacrolimus in the management of ulcerative/erosive oral lichen planus. Eur J Dermatol 2003; 13: 466– 470.
7. Shen JT, Pedvis-Leftick A. Mucosal staining after using topical tacrolimus to treat erosive oral lichen planus. J Am Acad Dermatol 2004; 50: 326.
8. Carrozzo M, Gandolfo S. The management of oral lichen planus (review). Oral Diseases 1999; 5: 196–205.
9. Radfar L, Wild CR, Suresh L. A comparative treatment study of topical tacrolimus and clobetasol in oral lichen planus. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2008;105:187-93.
10. Ronald, Caroli U, Ludtke H, Brautigam M, Kohler-Spath H, Rocken M, et al. Pimecrolimus cream 0.1% & 0.1% triamcinolone acetonide in erosive oral lichen planus- a prospective randomized double-blind vehicle-controlled study. Br J Dermatol 2008;159:936–41.

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