

## COMPARISON OF TOPICAL TRETINOIN AND BETAMETHASONE IN ORAL LICHEN PLANUS

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Thirty-one patients of oral lichen planus were enrolled in this study and two groups were made. Group 1 consisting of 16 patients who applied topical tretinoin 0.05% and Group 2 comprising of 15 patients who were given topical betamethasone dipropionate 0.05%. The patients applying tretinoin showed statistically significant improvement as compared to patients applying betamethasone.

**Key Words : Lichen planus, Tretinoin, Betamethasone**

### Introduction

Tretinoin is a metabolite of vitamin A and its physiologic and pharmacologic effects on tissues and organs in animals and human subjects have been extensively studied.<sup>1</sup> Gunther first described the use of vitamin A acid in the treatment of oral lichen planus<sup>2</sup> and Sloberg et al<sup>3</sup> reported efficacy of tretinoin 0.1% in an open trial. Thomas et al conducted a double blind trial on 20 patients of oral lichen planus using isotretinoin gel 0.1% and showed statistically significant improvement.<sup>4</sup> This preliminary study aimed to compare the efficacy of locally applied tretinoin 0.05% with that of betamethasone dipropionate 0.05% among Indian patients of oral lichen planus.

### Materials and Methods

Thirty one patients with oral lichen planus were enrolled in this study. Local and systemic treatment was withdrawn at least 4 weeks before the trial. At the onset of trial, each patient's oral lichen planus was classified as per the severity of disease on a scale of 0 to 6 by taking in to account various parameters of severity like: size, erythema, infiltration and ulceration. Depending upon morphology, lesions were classified as:

- a) Reticular plaque lesions
- b) Erosive and atrophic lesions.

Patients were assigned in a double blind fashion to apply either tretinoin 0.05% (Group 1, 16 patients) or betamethasone dipropionate 0.05% (Group 2, 15 patients). The patients were advised to apply medicines twice daily for 2 months. Follow up was done every 2 weeks during the trial. At every visit the clinical score was recorded and any subjective and objective adverse effects were noted.

### Results

Among the 31 patients, 17 were male and 14 were female; their age ranging from 21-73 years (mean age 42 years). The duration of their oral lesions ranged from 5 months to 6 years (mean duration 1.4 years). Six patients also had cutaneous lichen planus lesions. In Group I, the patients applying tretinoin 0.05% showed improvement from average score of 3.4 to 1.0. The subjective symptoms like discomfort sensation, pain and soreness improved dramatically in 14 patients in group I. The improvement was quicker in reticular and plaque lesions as compared to erosive and atrophic type. The side effects were minimal, three patients had transient burning sensation after application of tretinoin which disappeared after continuous use of medicine and one patient of erosive lichen planus stopped the application because of

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excessive burning sensation. In group II the patient showed improvement from average score of 3.6 to 2.1. The improvement observed in the patients applying tretinoin 0.05% was significantly greater than that in patients applying betamethasone ( $p < 0.002$ ).

## Discussion

In this study, a distinct and statistically significant clinical improvement was induced in majority of patients applying tretinoin as compared to group 2 applying betamethasone dipropionate. To our best of knowledge, this is the first study comparing the efficacy of tretinoin 0.05% and betamethasone dipropionate 0.05%.

The exact mechanism by which tretinoin improves lichen planus is yet not clear. Thomas et al suggested that lichen planus may represent a T-cell mediated response against

altered basal keratinocytes and it is possible that anti-inflammatory effect of retinoid suppresses this immune response.<sup>4</sup> Regardless of mechanism of action, topical tretinoin offers an effective alternative to systemic and local corticosteroids in treatment of oral lichen planus.

## References

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