

## Original Article

## Comparison of 0.1% Dexamethasone and 0.2% Triamcinolone acetonide mouthwashes for treatment of Oral lichen planus- A clinical study

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### Abstract

**Background:** Oral Lichen Planus (OLP) is a relatively chronic T-cell-mediated inflammatory muco-cutaneous autoimmune disease. The present study was conducted to compare 0.1% Dexamethasone and 0.2% Triamcinolone acetonide mouthwashes for treatment of OLP. **Materials & Methods:** This study was conducted in year 2015 in patients with OLP. They were divided into 2 groups. Group I included 20 patients (males-10, females-10) who were given 0.1% Dexamethasone mouthwash. Group II included 20 patients (males-10, females-10) who were given 0.2% Triamcinolone acetonide mouthwashes. Diagnosis of OLP was made by the presence of clinical Wickham's striae followed by histology. The size of lesion and VAS score was compared in both groups. **Results:** Group I (0.1% Dexamethasone) included 20 patients (males-10, females-10) and group II (0.2% Triamcinolone acetonide) included 20 patients (males-10, females-10). The difference was non-significant ( $P > 0.05$ ). Before treatment, the size of the lesion was 628 mm<sup>2</sup> which at 1<sup>st</sup> week became 435 mm<sup>2</sup>, at 2<sup>nd</sup> week 217 mm<sup>2</sup> and at 4<sup>th</sup> week it reduced to 109 mm<sup>2</sup>. Whereas in group II, before treatment, the size of the lesion was 630 mm<sup>2</sup> which at 1<sup>st</sup> week became 525 mm<sup>2</sup>, at 2<sup>nd</sup> week 302 mm<sup>2</sup> and at 4<sup>th</sup> week it reduced to 132 mm<sup>2</sup>. There was great reduction in size of lesion in group I but the difference was non-significant ( $P > 0.05$ ). VAS score in group I before treatment was 6, at 1<sup>st</sup> week was 4, at 2<sup>nd</sup> week was 2 and at 4<sup>th</sup> week was 0. In group II, VAS score before treatment was 6.5, at 1<sup>st</sup> week was 5, at 2<sup>nd</sup> week was 3 and at 4<sup>th</sup> week was 0. There was fastest reduction in VAS score in group I but the difference was non-significant ( $P > 0.05$ ).

**Conclusion:** There was reduction in size of lesion with both 0.1% dexamethasone and 0.2% Triamcinolone acetonide. The VAS score also decreased with both the drugs. However, 0.1% dexamethasone showed better and faster results.

**Key words:** Oral Lichen Planus, Dexamethasone, Triamcinolone acetonide

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### INTRODUCTION

Oral Lichen Planus (OLP) is a relatively chronic T-cell-mediated inflammatory muco-cutaneous autoimmune disease. 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 is manifested as reticular, papular, plaque-like, bullous and ulcerative lesions. In case of erosions or ulcers, since the patients may experience pain or discomfort, it is mandatory to take therapeutic measures to treat the disease.<sup>1</sup> 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. LP is estimated to affect 0.5% to 2.0% of the general population, the prevalence being ranging from 0.5% selectively in Japanese population, 1.9% in Swedish population, 2.6% in Indian population and 0.38% in Malaysia.<sup>2</sup> The relative risk is 3.7% in people with mixed oral habits, lowest (0.3%) in non-users of tobacco and highest (13.7%) among those who smoked and chewed tobacco. This disease has most often been reported in middle-aged patients with 30-60 years of age and is more common in females than in males. OLP is also seen in children, although it is rare. It affects all racial groups. However, according to some literature white individuals are five and a half time more likely to develop this disease compared to other races. OLP occurs more

frequently than the cutaneous form and tends to be more persistent and more resistant to treatment.<sup>3</sup> The patients are recommended to be under regular follow-up examinations due to the premalignant nature of OLP. Unlike the skin lesions, oral lesions of OLP are rarely resolved completely. One of the main goals of taking therapeutic measures in treating OLP is to relieve patients' pain and discomfort. Patients' problems vary from burning sensation or pain to difficulty in speech and swallowing. If the lesions do not respond to treatment, there will be a probability of dysplasia.<sup>4</sup> There is substantial fluctuation in disease activity within an individual patient and there are also variations between patients with regard to both the desire for, and response to, various treatments. The management of OLP is challenging. Currently, treatment for OLP is focused mainly to eliminate mucosal erythema, ulcerations and alleviate symptoms of disease during periods of activity and, if possible, increase the periods of disease quiescence. Various treatment regimens have been tried to improve the lesions and reduce the associated pain, but a cure for OLP has not yet been found because of its recalcitrant nature & lack. Various agents used are topical dexamethasone, triamcinolone, bethmethasone etc.<sup>5</sup> The present study was conducted to compare 0.1% Dexamethasone and 0.2% Triamcinolone acetonide mouthwashes for treatment of OLP.

#### MATERIALS & METHODS

This study was conducted in the department of Oral Medicine & Radiology in year 2014. It included 40 symptomatic OLP patients. Patients having any systemic disease, pregnancy, allergy to drugs, dysplastic features in histological view and lichenoid lesions were excluded. They were informed regarding the study and informed written consent was obtained. Patient's information such as name, age, gender etc was recorded.

They were divided into 2 groups. Group I included 20 patients (males-10, females-10) who were given 0.1% Dexamethasone mouthwash. Group II

included 20 patients (males-10, females-10) who were given 0.2% Triamcinolone acetonide mouthwashes. Diagnosis of OLP was made by the presence of clinical Wickham's striae followed by histology. Furthermore, in following the arranged protocol among the patients, in case of any disorder, the relevant participant was excluded from the study. At first, a complete description of situation was provided and lesions were assessed by a transparent grid calibrated to 1mm.<sup>2</sup> Pain was evaluated by using VAS scale as 0 - 10. Each patient was reassessed for all these aspects in the first, second and fourth weeks. In group I patients, 5cc of Dexamethasone ampoule 8mg/2ml in combination with 15cc normal saline and in group II patients 1cc of Triamcinolone acetonide ampoule 40 mg/ml and combined with 19cc normal saline was given to patients to rinse their mouths with mouthwashes 4 times daily for 4 weeks; after meals and before sleep at night. Each time they were treated with 5cc of prepared drug for 5 minutes. They had been instructed not to drink or eat for 30 minutes after rinsing.

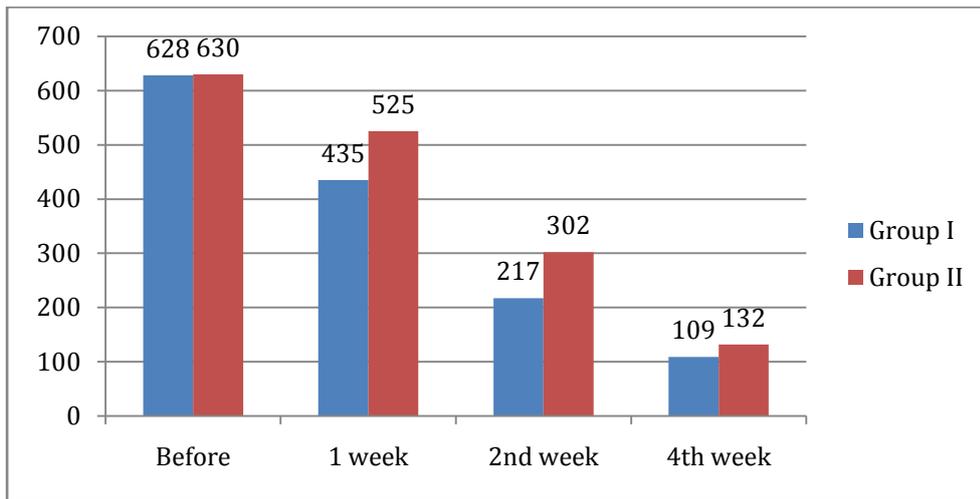
Results thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

#### RESULTS

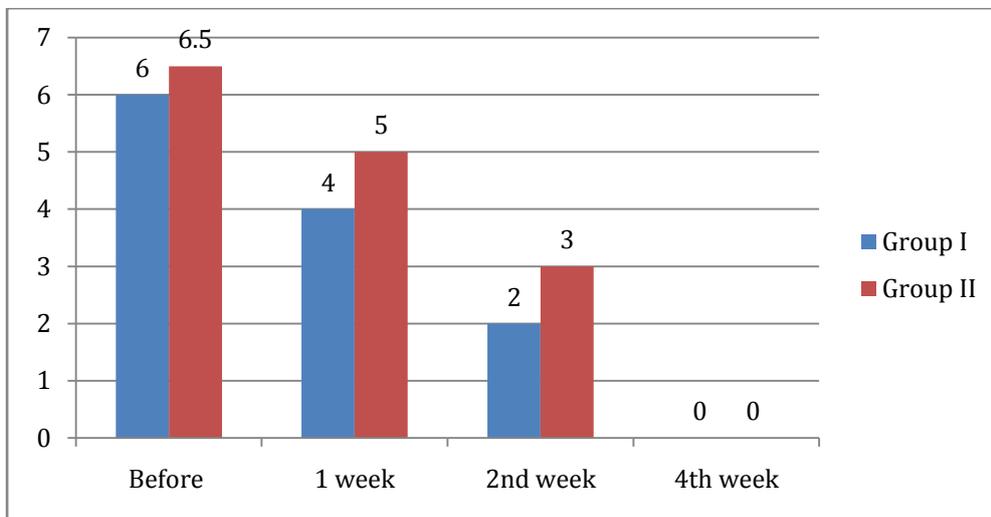
Table I shows that group I (0.1% Dexamethasone) included 20 patients (males-10, females-10) and group II (0.2% Triamcinolone acetonide) included 20 patients (males-10, females-10). The difference was non - significant (P > 0.05). Graph I shows that before treatment, the size of the lesion was 628 mm<sup>2</sup> which at 1<sup>st</sup> week became 435 mm<sup>2</sup>, at 2<sup>nd</sup> week 217 mm<sup>2</sup> and at 4<sup>th</sup> week it reduced to 109 mm.<sup>2</sup> Whereas in group II, before treatment, the size of the lesion was 630 mm<sup>2</sup> which at 1<sup>st</sup> week became 525 mm<sup>2</sup>, at 2<sup>nd</sup> week 302 mm<sup>2</sup> and at 4<sup>th</sup> week it reduced to 132 mm.<sup>2</sup> there was great reduction in size of lesion in group I but the difference was non – significant (P > 0.05). Graph II shows that VAS score in group I before treatment was 6,

**Table I: Distribution of patients**

Total (n) - 40		
Group I (0.1% Dexamethasone)	Group II (0.2% Triamcinolone acetonide)	P value
20	20	1



**Graph I Size of lesion before and after treatment**



**Graph II: VAS score in both groups**

at 1<sup>st</sup> week was 4, at 2<sup>nd</sup> week was 2 and at 4<sup>th</sup> week was 0. In group II, VAS score before treatment was 6.5, at 1<sup>st</sup> week was 5, at 2<sup>nd</sup> week was 3 and at 4<sup>th</sup> week was 0. There was fastest reduction in VAS score in group I but the difference was non-significant ( $P > 0.05$ ).

**DISCUSSION**

Although the exact etiology of this disease is still unknown, but some factors are associated with it. An association has been observed with HLA-A3, A11, A26, A28, B3, B5, B7, B8, DR1, and DRW9. Materials commonly used in restoration treatments in the oral cavity have been identified as triggering elements for OLP, including silver amalgam, gold, cobalt, palladium, chromium and even non-metals such as epoxy resins (composite) and prolonged use of denture wear. Oral lichenoid drug reactions may be triggered by systemic drugs including NSAIDs, beta blockers, sulfonylureas, some angiotensin-converting enzyme (ACE) inhibitors,

and some antimalarials, contact allergens including toothpaste flavorings, especially cinnamates.<sup>6</sup>

The present study was conducted to compare 0.1% Dexamethasone and 0.2% Triamcinolone acetonide mouthwashes for treatment of OLP.

We prepared 2 groups. Group I (0.1% Dexamethasone) included 20 patients (males-10, females-10) and group II (0.2% Triamcinolone acetonide) included 20 patients (males-10, females-10). In this study we compared size of lesion and VAS score using 0.1% Dexamethasone and 0.2% Triamcinolone acetonide.

We found that there was great reduction in size of lesion in group I as compared to group II but the difference was non-significant ( $P > 0.05$ ). This is in accordance to Saxon et al.<sup>7</sup> However, Ashworth<sup>8</sup> found greater reduction with 0.1% triamcinolone acetonide as compared to 0.2% dexamethasone as mouth wash. We also found that there was fastest reduction in VAS score in group I as compared to

group II but the difference was non - significant ( $P > 0.05$ ). This is in agreement with Buajeeb et al.<sup>9</sup> Drugs used in topical form are corticosteroids, immunosuppressives, retinoids, and immunomodulators. Drugs which are used systemically are thalidomide, metronidazole, griseofulvin, and hydroxychloroquine, some retinoids and corticosteroids.<sup>10</sup> Small and accessible erosive lesions located on the gingiva and palate can be treated by the use of an adherent paste in the form of a custom tray, which allows for accurate control over the contact time and ensures that the entire lesional surface is exposed to the drugs.

### CONCLUSION

There was significant reduction in size of lesion with both 0.1% dexamethasone and 0.2% Triamcinolone acetonide. The VAS score also decreased with both the drugs. However, 0.1% dexamethasone showed better and faster results.

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