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Comparing the Effectiveness and Salivary Levels of TNF-alpha in Patients with Oral Lichen Planus Treated with Topical Clobetasol Propionate and Fluocinolone Acetonide

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Abstract

Objectives: The purpose of this study was to compare the effectiveness and salivary levels of tumor necrosis factor-alpha (TNF-α) in patients with oral lichen planus (OLP) treated with topical clobetasol propionate (CP) and fluocinolone acetonide (FA).

Methods: A total of 26 patients diagnosed with erosive-atrophic OLP were randomly divided into 2 groups: the first group received CP 0.05%, and the other received FA 0.1%. Pain scores, clinical scores, and saliva samples from the patients were collected for analysis both prior to treatment initiation and after 4 weeks. Salivary TNF-α levels were evaluated using an immunology multiplex assay. The Wilcoxon signed-rank test and the Mann-Whitney U test were used for intra-group and inter-group comparisons, respectively.

Results: Both treatments showed significant reductions in pain scores, clinical scores, and salivary TNF-α levels compared with the pre-treatment values ($p<0.05$). After 4 weeks of treatment, CP 0.05% demonstrated a greater reduction in clinical score compared with FA 0.1% ($p<0.05$).

Conclusions: CP 0.05% and FA 0.1% effectively treat OLP. CP 0.05% demonstrated a quicker clinical score reduction than FA 0.1% over four weeks. Additionally, both steroids reduced salivary TNF-α levels, which could indicate the possibility of using disease-related biomarkers for monitoring.

Keywords: clobetasol propionate, fluocinolone acetonide, oral lichen planus, saliva, tumor necrosis factor-alpha