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Immunological and Candida Albicans Study of The Use of Combined Dexamethasone and Chlorpheniramine Mouth Rinse in Patients with Recurrent Aphthous Stomatitis

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Abstract

Recurrent aphthous stomatitis remains as the most common ulcerative lesion of the oral cavity. Approximately 20% of the populations affected with recurrent aphthous stomatitis, and are more common in people below the age of 40 years and individuals of higher socioeconomic levels. Pain usually associated with almost all inflammatory ulcerative oral mucosal lesions involving recurrent aphthous stomatitis.

Corticosteroids considered as a therapeutic choice for symptoms relief. Topical dexamethasone is an effective treatment that may decrease the healing time as well as the size of the ulcers, especially when it is used in the early stage of lesion development.

It is believed that the efficacy of these agents is due to modulation of the local immune response leading to many adverse effects including oral candidiasis.

In healthy individuals, *Candida* colonizes mainly mucosal surfaces of the oral cavity, gastrointestinal and urogenital tracts without disease symptoms, with the most frequently identified specie is *Candida Albicans*. Although, *Candida Albicans* can be cultured from the mouth of non-infected normal individuals, it does not cause oropharyngeal candidiasis unless predisposing factors exist to allow the infection to become established.

Aims of the study:

- To assess the presence of *Candida Albican* before and after combined dexamethasone and chlorpheniramine mouth rinse in patients with recurrent aphthous stomatitis.
- To measure the level of tumor necrosis factor alpha and secretary Immunoglobulin A before and after combined dexamethasone and chlorpheniramine mouth rinse in patients with recurrent aphthous stomatitis.

Subjects, Materials and Methods: Sixty-five patients with RAS were participated and divided randomly into 2 groups; study group consisted of 45 patients who were informed to use the combined dexamethasone and chlorpheniramine mouth rinse 4 times a day for 10 days and control group consisted of 20 patients without mouth rinse. For all patients, *Candida Albicans* (colony forming unit /ml), tumor necrosis factor alpha (ng/L) and secretary immunoglobulin A ($\mu\text{g/ml}$) were measured at starting and after 10 days.

Results: Visual Analogue Scale decreased significantly after 3 days in the study group compared to control ($P= 0.000$), while at starting there was no significant difference between both groups.

Regarding *Candida Albicans*, there was no significant difference in the number of *Candida Albicans* between study and control groups neither at starting nor after 10 days.

Secretary Immunoglobulin A, showed no significant difference between study and control group neither at starting nor after 10 days.

Also, tumor necrosis factor- α showed that there is no significant difference between study and control group neither at starting nor after 10 days. However, after the mouth rinse no clinical adverse reaction observed regarding oral candidiasis.

Conclusion: Combined dexamethasone and chlorpheniramine mouth rinse is safe and effective to use in treating recurrent aphthous stomatitis for 10 days without the need for antifungal medication to be added to the combination.