

Effect of a prolonged topical glucocorticosteroid on IL-5 production and eosinophilic recruitment in the nasal submucosal compartment

Abstract:

Aim : Intranasal corticosteroids offers effective treatment for allergic rhinitis. The action of IL5(Th2-type cytokine) and its response to intranasal steroids to has not been thoroughly studied in the deep compartment of the nasal mucosa. The aim of this study is to investigate the influence of prolonged topical glucocorticosteroid on the allergic inflammatory responses in the deep compartment of the nasal mucosa in allergic rhinitis patients.

Methods : Fluticasone furoate spray was used once daily. Biopsies were obtained from 22 patients suffering of perennial allergic rhinitis at different intervals; prior to treatment with nasal corticosteroids, after one, six and twelve months. Biopsies were taken from eighteen subjects serving as a control group. All biopsies were examined by Light microscopy and immunostochemisty.

Results: The results demonstrate the efficacy of fluticasone in reducing the number of eosinophils in both epithelial and subepithelial layers which suppresses the allergic manifestations. The maximum reduction occurred after 12 months. This is achieved by reducing the number of eosinophils and IL5 in both epithelial and subepithelial compartments.

Conclusion: Intranasal corticosteroids effectively reduce both the number of eosinophils and IL-5 expression inside activated eosinophils. They influence both the epithelium and the deep compartment of the nasal mucosa.

Keywords : Th2-type cytokine, Interleuken 5, eosinophils, Fluticasone furoate, immunostochemisty, allergic rhinitis.