

Active smoking effect in allergic rhinitis

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Resumen

Background: Tobacco smoke has been described as causing increased prevalence of rhinitis symptoms and decreased atopy. Furthermore, these nasal symptoms and quality of life in smokers with Allergic Rhinitis (AR) were not significantly different to non-smokers. As a result of this duality, a comparison study between the quality of life and inflammatory markers of atopy among active smokers and non-smokers having AR was put forward. **Material and methods:** Cross-sectional study in adult smokers and non-smokers, with a clinical diagnosis of AR and positive Skin Prick Test (SPT). Smoking status was confirmed by salivary cotinine measurements. Functional respiratory evaluation was performed, and quality of life between groups was compared using Mini-RQLQ questionnaire. Immunological markers in serum and nasal washes (IgE, IL-4, IL 5, IL 13, IL 17, IL 33) were evaluated, while samples from a third group of passive smokers was incorporated for serological comparison exclusively. The statistical analysis included Student T test, χ^2 , Mann Whitney U (Anova 2-way), and Kruskal Wallis for 3 groups analysis. Values of $P < 0.05$ were considered significant. **Results:** Twenty-two patients per group with similar demographics and allergen sensitivity were studied. Regarding inflammatory markers, a reduction of IL 33 in the serum of smokers ($P < 0.001$) was the only statistically significant different parameter revealed, showing a remarkable trend in nasal lavage. Salivary cotinine levels were absolutely different ($P < 0.0001$), but pulmonary function evaluations were not statistically significant after multiple adjusting. There were no significant

differences in quality of life parameters. Conclusions: In our study of AR, active smokers do not demonstrate impaired nasal related quality of life or impact on atopic inflammatory parameters, compared to non-smokers. Reduced levels of IL33 could explain a lack of symptoms alerting smokers of the harmful consequences of smoking.

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