Relationship between exhaled nitric oxide and biomarkers of atopy in children and adolescents with allergic rhinitis[Relación entre el óxido nítrico exhalado y los biomarcadores de atopia en niños y adolescentes con rinitis alérgica]

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Resumen

Introduction: Measurement of the exhaled nitric oxide fraction (FeNO) has been proposed as an indirect and non-invasive method to detect eosinophilic airway inflammation. Allergic rhinitis (AR) is frequently associated with high levels of FeNO. Allergic sensitization can contribute to the recruitment of eosinophils in the airway and the consequent increase in FeNO. Objective: To correlate FeNO values with inflammatory and atopic sensitization biomarkers in patients with AR. Patients and methods: Observational, analytical, cross-sectional study. Children and adolescents with AR without asthma were included. FeNO, blood eosinophil count, total serum IgE were determined and skin tests with aeroallergens were performed by calculating the scores for PPC1 (number of positive allergens), STS2 (sum of millimeters of positive papules) and the atopy index (ratio between STS2/STS1). Spearman's correlation test was used between FeNO and variables of inflammation and atopy. Results: Twenty-eight patients between 6 and 17 years old were included. There was a significant positive correlation between FeNO and blood eosinophils (r = .38; p = .047) and between FeNO and the atopy index (r = .40; p = .03). No correlation was found between FeNO and total serum IgE (r = .24; p = .21), STS1 (r = .20; p = .32) and STS2 (r = .34; p = .08). Conclusion: In children and adolescents with AR, FeNO was correlated with the atopy index and the blood eosinophil count. These last biomarkers could be used as alternatives for FeNO as biomarkers of lower airway inflammation in patients with AR.

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