1.04 Can serum total IgE predict the severity of environmental allergies by the size of the Skin prick test wheel?

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Background: Asthma, allergic rhinitis, and other respiratory illnesses can exacerbate IgE-mediated hypersensitivity reactions. This study aimed to assess the correlation between serum total IgE levels and the size of the wheel produced during skin prick testing for common allergens. **Methods:** In an Ontario respiratory clinic, a cohort of patients with asthma and allergic rhinitis was identified via retrospective chart review. Serum IgE levels and eosinophil counts were retrieved from electronic medical records. Skin prick test results for common allergens were reviewed and correlated using SPSS software. **Results:** Among 89 patients (42 females, 47 males). Median serum IgE was 490 kU/L (range 102-17,800 kU/L). Median age of 66 years (range 18-91). Mean FEV1 was 69.75%. Median eosinophil count was 0.5 x10⁹/L (range 0-9.3 x10⁹/L). IgE levels had a negative correlation with FEV1 (r = -0.138, p = 0.197) and a positive correlation with eosinophil count (r = +0.351, p = 0.001). A positive correlation was found between total IgE and birch tree skin wheel size (r = 0.219, p = 0.040). **Conclusion:** In this cohort, there was no statistically significant correlation between serum total IgE level and severity of skin-prick testing for 11/12 allergens except birch tree. **Affiliations:** I, Fatima Shahbaz, am a medical student at Royal College of Surgeons in Ireland. The second author is a respiratory physician at Peterborough Regional Hospital, Ontario, Canada.

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