Correlations between skin prick test and specific IgE measured by CAP system of inhalant allergens

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Background/Aims: It appears that much of the discordance between skin prick test (SPT) and ImmunoCAP in clinical practice. We investigated the correlation between SPT and ImmunoCAP for inhalant allergens.

Methods: A total of 523 patients who were tested SPT and ImmunoCAP were from July 2012 to June 2013 in Dong-A University hospital, and the results of two tests were compared. For SPT, wheal 3x3 mm or greater at 15min, and the result of ImmunoCAP of >0.35 kU/L was considered positive, respectively.

Results: Of the study subjects, bronchial asthma was 22.2% (n=116), rhinitis 28.9% (n=151), allergic conjunctivitis 12.2% (n=64), and atopic dermatitis 0.8% (n=4). SPT were positive in 52% (n=272) of the subjects. The positive responses and agreements of SPT with ImmunoCAP for each allergens were Dermatophagoides pteronyssinus (32.1% for SPT and 36.1% for ImmunoCAP; agreement 79.2%), Dermatophagoides farinae (13.6% and 47.8%; 75.2%), birch (12.8% and 47.6%; 42.9%), beech (10.3% and 44.6%; 44.6%), ragweed (3.6% and 25%; 84.6%) and mugwort (9.4% and 43.8%; 82.9%).

Conclusions: The agreement between SPT and ImmunoCAP was various according to allergens. We should determine the clinical relevance of the allergen sensitization using both SPT and ImmunoCAP not alone with combination of clinical symptoms.

Key words: Allergen, ImmunoCAP, skin test, immunoglobulin E

Vitamin D levels and sensitization to indoor inhalant allergens in Korea

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Background: Recently, many studies have suggested possible effects of vitamin D on the manifestations of allergic diseases. However, it is still unclear whether vitamin D level is linked to a sensitization to indoor inhalant allergens. Objective: To investigate the association between serum vitamin D and sensitization to indoor inhalant allergens using data of the Fifth Korea National Health and Nutrition Examination Surveys (KNHANES V) conducted in 2010. Methods: We analyzed the relationship between serum 25 hydroxyvitamin D (25(OH)D) levels and total IgE in a nationally representative samples of 2342 participants over 10 years old. The association of 25(OH)D level with specific IgE levels of 3 different indoor inhalant allergens (Dermatophagoides farinae, cockroach, and dog hair) was assessed after adjusting possible confounders by using logistic regression models. Results: There was a significant positive correlation between 25(OH)D level and log-transformed total IgE level. (r=0.108, p<0.01) Logistic regression revealed an inverse association between low levels of 25(OH)D and sensitization to Dermatophagoides farinae. (p<0.01) There was no significant association between 25(OH)D level and the sensitization to cockroach or dog hair. Conclusion: This study suggests that elevated serum vitamin D level is associated with high total IgE and sensitization to Dermatophagoides farinae in Koreans. Further research is required to confirm these findings.