A multi-center analysis on the changes of sIgE in China from January 2020 to June 2021 under the COVID-19 pandemic

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Abstract

Background: As people in China travel less and consume less imported frozen food during the COVID-19 pandemic, the composition ratio of allergens may have changed. **Objective:** To investigate the changes of composition ratio of 20 types of specific allergens from January 2020 to June 2021 of 618 patients in China. **Methods:** The 20 items of allergen-specific IgE (sIgE) detection includes dermatophagoides pteronyssinus, dermatophagoides farina, ambrosia artemisiifolia, salix babylonica, dander of dog, alternaria, cockroach, artemisia argyi, dander of cat, house dust, milk, hen's egg, mutton, cod, peanut, beef, soybean, shrimp, crab and wheat. The results of detection were collected from patients of dermatology, pediatrics or allergy department. They are from 17 hospitals in China from January 2020 to June 2021, and participants were required to have at least one positive result of sIgE detection ([?]0.35 IU/mL). The age ranges from 0 to 89 years old. Serum detection was performed by enzyme allegro-sorbent test (REAST). **Results:** The proportion of inhaled allergens in 618 patients was significantly lower than that of ingested allergens. Most of the inhaled allergens were indoor allergens. In the first half of 2020, the second half of 2020 and the first half of 2021, the positive proportions of wheat, shrimp and crab were changed. Compared with the same period in 2020, the positive proportion of wheat and shrimp in the spring of 2021 significantly decreased, while that of crab was significantly increased. The ratio fluctuation of dermatophagoides pteronyssinus and dermatophagoides farina was related to seasonal factors. There was no significant difference in the proportion of other allergens. **Conclusion:** The special historical background of the epidemic may have a certain influence on the change of the proportion of allergens, but it is not the only factor.

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