Pollen Food Allergy Syndrome in Black and White Children with Food Allergies in the FORWARD Study


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Introduction: Pollen Food Allergy Syndrome (PFAS), allergic rhinitis (AR) and asthma have not been well documented in the pediatric population with reference to race. The aim is to identify the prevalence of PFAS, AR and asthma by race in children with food allergies.

Methods: FORWARD is a prospective multi-center cohort study, recruiting black and white children age 0-12 years of age with allergist-diagnosed IgE-mediated food allergies. Guardians of enrolled participants completed an intake survey, which assesses food allergy in association with PFAS, AR and asthma.

Results: 641 children with completed race information at intake, (407 White, 234 Black), 8.9% had PFAS. (11.1% of Blacks, 7.7% of Whites). There was no observed association between race and PFAS (p > 0.05). However, there was a significant association between age and PFAS (p <0.001) in Whites, with older (>5 yrs) more likely than younger (<5yrs). There was no significant findings between age and PFAS in Black children (p > 0.05). Black children who are allergic to tree nut (p <0.05), soy (p <0.05), and sesame (p=0.05) were more likely to have PFAS. White children who are allergic to fin fish (p <0.01), shellfish (p <0.01), and sesame (p <0.05) were more likely to have PFAS. Whites with PFAS were more likely to have AR (p <0.001) and asthma (p < 0.05). Blacks with PFAS were more likely to have asthma (p =0.01). Blacks with PFAS were more likely to have asthma (p <0.01).

Conclusions: In this cohort, 8.9% of children with food allergy also have PFAS, but there was no association by race. PFAS was associated with older age in white children. Interestingly, specific food allergens associated with PFAS differed by race.

Background

Pollen food allergy syndrome is a common adverse reaction that may occur within minutes after ingesting certain raw fruits, vegetables, nuts in children and adults sensitized to certain pollens. While this has been studied in adolescents and adults, it has not been as well studied in children, especially with consideration to race and food allergy. Currently, the prevalence of PFAS in children has been estimated to be between 3-24% worldwide and is thought to be underreported.

Objective

The aim is to identify the prevalence of PFAS as it relates to AR and asthma by race in children with food allergies.

Methods

FORWARD is a prospective multi-center cohort study, recruiting black and white children 0-12 years of age with allergist-diagnosed IgE-mediated food allergies (FA). Guardians of enrolled participants completed an intake survey, which assesses food allergy in association with PFAS, AR and asthma.

References