

RESPIRATORY SYMPTOMS AND FOOD ALLERGENS

M. Jesenak, Z. Rennerova, Z. Havlicekova, L. Jakusova, R. Ronchetti, M.P. Villa, and P. Banovcin

Department of Pediatrics, Jessenius School of Medicine, Comenius University, Martin, Slovakia and Department of Pediatrics, 2nd School of Medicine, University "La Sapienza", Rome, Italy; jesenak@gmail.com

Food allergens can provoke many symptoms in various systems and organs of human body. Food allergy may present with a variety of respiratory tract symptoms, which can be provoked either by IgE-mediated reactions or cellular (non-IgE) mediated reactions. Among the diagnostic procedures in management of food allergy, the skin tests have very important position, especially a skin prick test for diagnosis of IgE-mediated, acute reactions) and newly introduced atopy patch test (APT) for diagnosis of cellular, delayed immune reactions. We studied the prevalence of positive skin prick and atopy patch tests with food (cow's milk, hen's egg, wheat flour, tomato) and inhalant (*Dermatophagoides pteronyssinus* and mixed grasses) allergens in an unselected children population of Italian schoolchildren (n = 532, 50.6% boys, age 10.232.27 years). On the population level, we investigated the correlation between the positivity of skin tests and questionnaire derived atopic and non-atopic respiratory symptoms and diseases (nocturnal cough, cough after physical effort, nasal obturation, bronchitis, pneumonia, otitis media, allergic rhinoconjunctivitis, laryngitis, bronchial asthma). The children with positive APT to wheat flour had more cough after physical effort in the past (p = 0.033) or in the last year (p = 0.019). Children with positivity to wheat flour more frequently suffered from allergic rhinoconjunctivitis (p = 0.031) in the last year. They also had frequently bronchitis recidivans in the past (p = 0.019). The subjects with positive APT reactions to hen's egg suffered from allergic rhinoconjunctivitis in the past (p = 0.020) or in the last year (p = 0.050) compared to those with negative results of the APT with hen's egg. This children also had bronchial asthma in the past (p = 0.028). In children with positive APT with mixed grasses we observed higher prevalence of bronchial asthma in the past (p = 0.011) in comparison with children with negative APT results. In children with a history of the other respiratory symptoms or diseases mentioned, we were unable to detect the association with positive APT results either with food allergens or aeroallergens. Food and inhalant allergens play important role in the induction and exacerbation of some respiratory allergic diseases. The positive correlation of positive results of skin tests with these allergens,

also on the level of an unselected population, confirm the importance of these tests in the diagnostic algorithms of allergic diseases involving respiratory system.