DETERMINATION OF SENSITIZATION TO POLLEN ALLERGENS OF BIRCH AND ALDER IN PATIENTS WITH RESPIRATORY ALLERGIC DISEASES USING IMMUNOBLOT AND MULTIPLEX COMPONENT TESTING

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Abstract

The purpose of our study was to evaluate the diagnostic parameters of immunoblot and Immunocap ISAC methods to determine birch and alder allergy sensitization in patients with respiratory allergic diseases - allergic rhinitis and bronchial asthma.

Materials and methods. 40 patients with bronchial asthma and / or allergic rhinitis were examined using two different methods of specific allergic diagnosis (in vitro). Quantitative determination of specific IgE in the serum was performed using the RIDA® AllergyScreen immunoblot method (R-Biopharm AG, Germany) on the basis of the private laboratory of LLC Allergy-Immunological Center PPC. Immunocap ISAC testing was performed at ««Forpost» Allergy and Immunology Clinic».

Results and discussion. Among study subjects, birch allergen sensitization was 80.0 % (32 individuals) with the presence of specific IgE by the Rida AllergyScreen method, 77.5 % (31 persons) with the presence of specific IgE by the ImmunoCAP ISAC method; allergy sensitization to alder was 40.0 % (16 people) in the presence of specific IgE by the Rida AllergyScreen method, 42.5 % (17 persons) in the presence of specific IgE by the ImmunoCAP ISAC method.

As a method for quantifying the specific IgE to birch allergen, immunoblot compared to Immunocap ISAC has a high sensitivity and prognosis of a positive result (96.77 % and 93.75 %, respectively), but the specificity and prognosis of a negative result are 77.78 % (95 % CI: 39.99; 97.19) and 87.50% (95 % CI: 49.66; 98.03), respectively, and the accuracy of the method is 92.5 % (95 % CI: 79.61 98.43).

As a method for quantifying the specific IgE of alder allergen, immunoblot compared to Immunocap ISAC has a high specificity and predictability of a positive result (95.65 % and 93.75%), however, the sensitivity and predictability of a negative result are 88.24 % (95 % CI: 63.56; 98.54) and 91.67 % (95 % CI: 74.90; 97.59), respectively, and the accuracy of the method is 92.50 % (95 % CI: 79.61; 98 , 43).

Key words: allergy, immunoblotting, IgE, molecular allergology.

Ukr. Pulmonol. J. 2020; 1:15–18.