

# Cross-food allergy with manifestations of perennial allergic rhinitis and skin allergic syndrome with true sensitization to PR10

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**Introduction:** Currently, the role of molecular allergiagnostics in the differential diagnosis of cross-reactivity with allergens of plant origin has been proved.

**Objective:** to identify possible causes of cross-reactivity with plant-derived products in patients with perennial allergic rhinitis (PAR) associated with skin allergic syndrome (SAS)

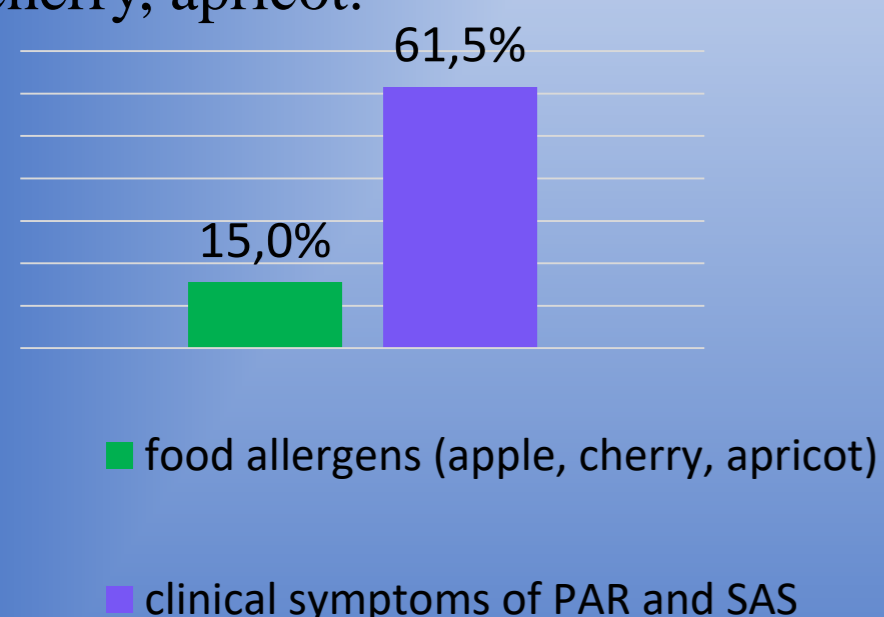
## Materials and methods:

Under our supervision were 13 patients of both sexes, aged 23 to 60 years with allergic rhinitis (AR) in combination with SAS (atopic dermatitis, urticaria, etc.). All patients were examined by the Immunocap ISAC method. The group includes patients with whom an allergic examination by the ELISA method was previously carried out. Adequate statistic processing was carried out.

## Results

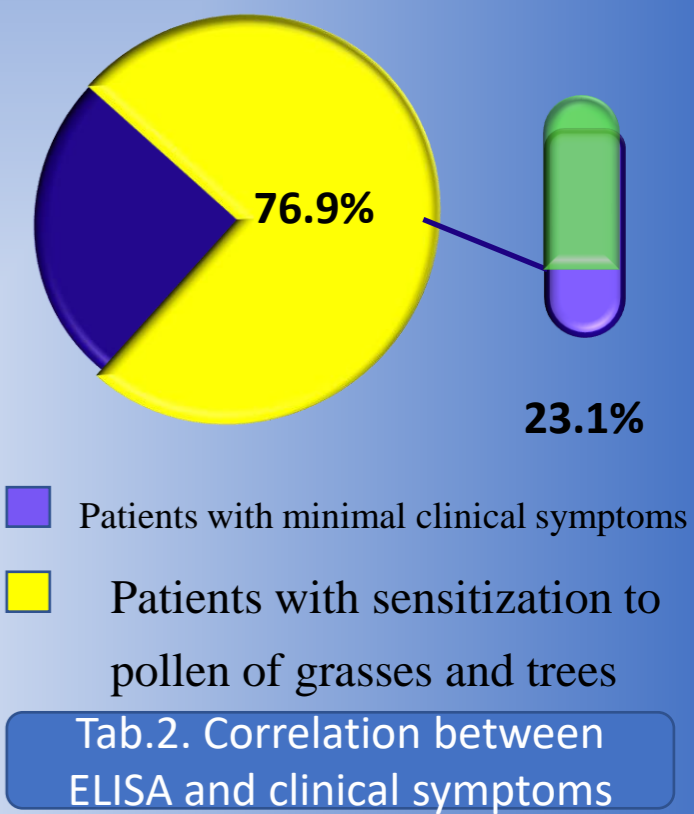
Clinical symptoms of PAR occurred in all studied patients. An increase in the level of total IgE was found in 53.8%.

In 15.4% of cases, sensitization to household allergens was established by enzyme immunoassay. In 61.5% of patients in this group, clinical symptoms of PAR and SAS were noted for food allergens (egg, fish) and histaminoliberator products, in 15% - for apple, cherry, apricot.



Tab.1. Frequency of sensitization in observed group patients

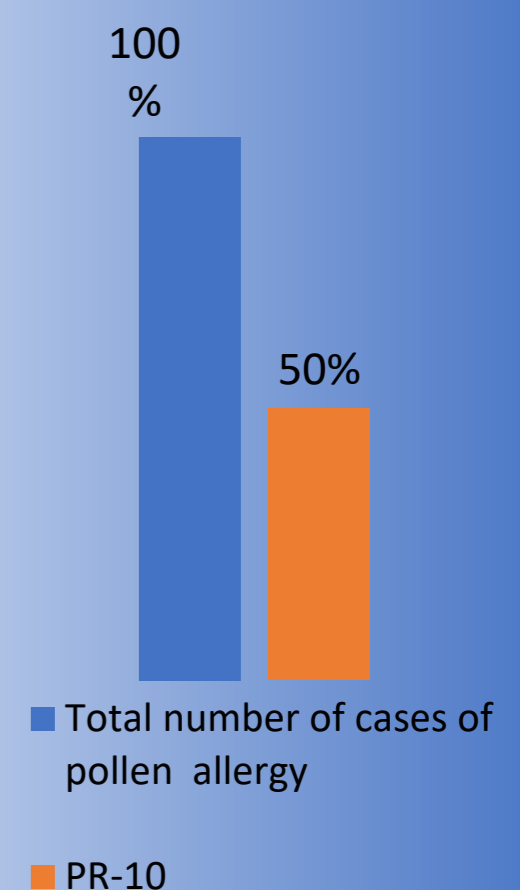
In this group of patients, 76.9% of cases showed sensitization to pollen of grasses and trees (birch, timothy, wormwood, pig-grass), while only 23.1% of patients showed minimal clinical symptoms of AR in the spring-summer period.



Tab.2. Correlation between ELISA and clinical symptoms

It is known that sensitization to PR-10 often develops oral allergic syndrome. At the same time, patients of the study group who had sensitization to PR-10 had cross-reactivity food allergy that manifested PAR and SAS.

In patients sensitized to grass and tree pollen, an Immunocap ISAC study was conducted. In 50% of cases the allergy to the cross reacting components of birch pollen allergen PR10 which structure is homologous to proteins of family Nut (nuts), fruits (apples, apricots, peaches, sweet cherry), vegetables (carrots, a celery) and spices is detected.



Tab.3. Frequency of occurrence of sensitization to PR-10 in patients sensitized to grass and tree pollen

**Conclusion:** A study by the Immunocap ISAC method in patients with PAR associated with SAS showed that 50% of patients with confirmed pollen sensitization showed a true allergy to cross-reacting components of the allergen PR10, which made it possible to clarify the causes of food allergies demonstrating KAP and KAS, optimize the hypoallergenic diet and achieve clinical remission.