#450 - Atopy and multisensitizations in patients with severe asthma.

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Background
Asthma is a chronic inflammatory airway disease. With prevalence estimated at 8% in European adults asthma is an important society problem. Fortunately, with modern inhalation drugs it affects mostly quality of life with low risk of death. Still, 6% of patients experience severe asthma. These patients with high symptom intensity and frequent exacerbations present a challenge for allergologists. They allergic vs. non-allergic profile might be different from standard asthmatic group.

Method
20 patients (Age 22-67) with severe asthma according to GINA were enrolled. They experienced at least 2 exacerbations during past year and had uncontrolled asthma despite high inhaled steroid use. Microarray serum Alex^{2R} test (allergen-specific IgE to 295 extracts and components; Emma-mdt) has been performed together with Complete Blood count. Total IgE concentration detection threshold was 20 U/ml.

Results
The most prevalent allergen was grass pollen (30%). Food sensitizations were discovered in 25% of patients. Interestingly, in 5 out of 20 patients sensitization to insect venom was observed, with only one reporting allergy. In total, 12 patients had allergic asthma (60%). 55% of patients had increased blood eosinophilia (over 0,35 G/l). Microarrays were able to detect additional inhaled allergen sensitization in 8 (40%) patients. The most prevalent new detection were grass pollen and fungi. After Alex test results one additional patient would qualify for biological treatment according to polish guidelines. Though, still out of entire group 30% of patients could not receive such treatment (lack of perennial allergen, low eosinophilia).

Conclusion
Allergen microarrays is a useful tool in thorough diagnosis of inhaled allergen sensitizations in patients with severe asthma especially looking for additional perennial sensitization in qualification for biologicals. High presence of insect venom sensitizations might show danger of post-stinging anaphylaxis in severe asthma. Also, the results point out a need of new biologicals development, since high number of patients cannot receive currently available therapies.