RAGWEED POLLEN LOAD AND SENSITISATION IN HUNGARY

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Background: In Hungary the most important ambient aero-allergic pollutant is ragweed. There is a slight increasing tendency in the areas covered by this invasive weed in the country.

Objective: To show the changes and tendency of pollen concentration in ambient air measured by the Aerobiological Network of the Public Health Service. To present the data of sensitisation of allergic patients in four areas of the country with different ragweed load.

Material and methods: Ambient air concentration of ragweed was monitored by Hungarian Aerobiological Network. The concentration of pollen is measured by applying standard sampling method: Hirst type Burkard trap; samples are stained by para-roseanilin dye and evaluated under microscope. The ragweed exposure was evaluated by 3 parameters: → yearly total pollen count/m^3, → daily maximum of the season (pollen count/m^3), → number of days with concentration >10, >30 and >100 pollen count/m^3. In 2006 the maximum yearly pollen count was 8,658 grain/m^3, the peak daily concentration was 705 grain/m^3, both data were slightly less than in the previous years. The number of days when pollen concentration is very high (>30 grains/m^3) to produce symptoms at each patient was between 9–35 days in the different areas of the country. Sensitisation was studied in four counties with different ragweed load. In three towns 50 adult patients were investigated and 22 children in the fourth town. The patients filled out a questionnaire about their living environment, smoking habits and allergy history. A special kit of antigens was prepared, the

same laboratory measured the specific IgE concentration against 42 airborne and food allergens.

Results: The results showed that specific IgE against ragweed could be detected in the highest rate (35.5%) of patients. In the most polluted area this frequency was much higher (57%), in contrast to this, in the less polluted areas this frequency was between 16–18%. In the areas with lower ragweed airborne concentration the most common aeroallergen was common pellitory (*Parietaria erecta*, in 53% of patients) and corn flour (in 62%). In 30% of patients with ragweed allergy, specific IgE against house dust mite could be measured in one county with moderate ragweed exposure. The rate of ragweed sensitised patients was slightly higher among those who were not breast feed.

Conclusion: Although ragweed is the major airborne aeroallergen, patients are sensitised to it with different frequency in different parts of the country. The study revealed the importance of other outdoor, indoor and food allergens.

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