

**P051****INFLUENCE OF WINTER WEATHER ON THE POLLEN SEASON IN NORTHEAST OHIO**

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**Introduction:** Seasonal pollen counts affect symptom severity experienced by susceptible patients. Predicting pollen burden may enable physicians and patients to better treat their symptoms. Prognostic indicators for pollen season severity are not always reliable. Our investigation focuses on the possible correlation between winter weather and the ability to predict outcomes of the tree pollen season in Northeast Ohio.

**Materials and Methods:** Pollen counts were performed in Northeast Ohio from 2010-2014. These counts were compared with average winter temperatures, precipitation, and snowfall. Five pollen parameters, (tree, grass, weed, ragweed, and mold), were evaluated. The weather data was collected from: [http://www.cleveland.com/datacentral/index.ssf/2008/09/cleveland\\_weather\\_history\\_find.html](http://www.cleveland.com/datacentral/index.ssf/2008/09/cleveland_weather_history_find.html).

**Results:** Of the five allergens evaluated, only tree pollen appear to be affected by winter weather conditions. With increased temperatures, the number of days with pollen being absent increased, days with low pollen counts decreased and days with high pollen counts increased. Likewise, with a decrease in temperature, absent pollen days decreased, low pollen days increased, and high pollen days decreased. No clear conclusion could be drawn from the moderate pollen counts. Tree pollen counts appeared to increase with increased winter snowfall. There is no apparent correlation between winter precipitation and tree pollen counts.

**Conclusion:** Evidence suggests a potential link between winter weather conditions and spring tree pollen counts. A possible correlation is demonstrated between average winter temperatures and tree pollen; a probable correlation exists between average winter snowfall and tree pollen. Warmer winter weather patterns may be predictive of more days with high tree pollen counts during the spring season.

**P052****THREE MAXIMUM PEAKS OF THE RAGWEED POLLEN SEASON IS NOW AN ESTABLISHED TREND IN UKRAINE**

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**Background:** Ragweed pollen has biological rhythms influenced by global temperature increases.

**Method:** Pollen counts from March 1 until October 31 in 1999 to 2000 were obtained by gravimetric sampling and from 2009 to 2016 used volumetric methods employing a Burkard trap placed at a height of 25 meters above the ground at Vinnitsa Medical University.

**Results:** Two main periods of pollen count increase were seen for Ambrosia initially. Ragweed a short-day plant pollination depending on photoperiodism, had maximum pollination at the end of August in 1999 and 2000. The second pollen count increase seen in September is significantly impacted by temperature increases. This two-maximum periodicity changed in recent years with addition of another period of high ragweed pollen seen in early or mid-August starting in 2010. Increased ragweed pollen occurs with increased daily temperature. Three maximum peaks of the pollen seasons were seen in 2010, 2013-2015. Intensity of ragweed pollination is regulated by humidity with low precipitation in June, providing a seasonal peak in September augmented by high daily air temperature and rains in August or early September. With higher September temperature, a later

peak occurs. The latest Ragweed peak pollen count occurred on September 18, 2012 and on September 11, 2015, both being seasonal peaks. The peak occurred no later than September 6 in 1999 and 2000.

**Conclusion:** Ragweed pollen season peaks are impacted by global temperature increase which induces ragweed to produce more pollen in the beginning of August and increases pollination in September when weather conditions also include high humidity.

**P053****PREVALENCE OF FOOD ALLERGEN SENSITIZATION IN PATIENTS WITH MUGWORT ALLERGY**

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**Introduction:** Mugwort allergy has been associated with oral allergy syndrome with celeriac, mango, apple, peach, melon, pepper, carrot, broccoli, cauliflower, cabbage, mustard, garlic and onion.

**Methods:** Retrospective, observational, descriptive study. We included 205 patients with food and aeroallergen skin prick tests. SPT with positive results to Mugwort were compared with food SPT results.

**Results:** Positive SPT to Mugwort 21/205 patients (10.2%). From those, 15/21 (80.9%) with positive food SPT. Positive results in order: Bean 6/21 (28.5%), shrimp (23.8%), watermelon, cantaloupe, pea, soybean (19%), turkey meat, casein, sardine, peach, orange, grape, cacao, almond, beet, pumpkin, lettuce (14.2%), egg white, egg yolk, tuna, sea bass strawberry, peanut, bell pepper, cauliflower, green bean, rice, corn, wheat, pepper (9.5%), beef, apple, papaya, lime, coffee, onion, tomato, zucchini, barley, mustard (4.7%). We found monosensitization 4/15 (%), 2-3 sensitizations 4/15 (%), more than 4 sensitizations 7/15 (%). Out of the reported sensitization SPT were positive to melon, peach, bell pepper, cauliflower, apple and onion.

**Conclusion:** Sensitization to reported cross-reactive allergens was not as prevalent, coming behind two food allergens not associated with Mugwort allergy. Previous reports of our center have showed sensitization to milk, egg, and fish, as the main allergens. Finding oral allergy syndrome in patients with Mugwort allergy was not the objective of this study, however it opens up new opportunities for further research.

**P054****DIFFERENCES IN SENSITIZATION TO POLLEN IN ADULTS AND CHILDREN WITH RESPIRATORY ALLERGY IN NORTHEASTERN MEXICO**

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**Introduction:** In northeastern Mexico, sensitization to regional grass, weed and tree pollen allergens causes and triggers respiratory allergy including allergic rhinitis and asthma. The aim of this study is to assess the difference in sensitization to pollen allergens among children and adults with respiratory allergy tested in an allergy center.

**Methods:** A retrospective study was conducted, obtaining data from the records of skin tests (ST) performed in patients of a regional allergy center in Monterrey, Mexico, from January 2010 to December 2015, including 20 regional pollen allergens.

**Results:** 5825 records were reviewed (2900 patients <18 years old and 2925 adults with allergic rhinitis, asthma or both). The most frequent positive ST were for Fraxinus americana (21.4%), Cynodon dactylon (20.6%) and Atriplex canescens (17.7%). The