

**P184****AQUAGENIC URTICARIA**T. Aung<sup>\*1</sup>, L. Montelibano<sup>1</sup>, K. Zin<sup>2</sup>, 1. New Orleans, LA; 2. Savanna-la-mar, Jamaica.

**Introduction:** Physical urticarias are disorders in which urticarias are induced by environmental stimuli, such as heat, cold, pressure applied to the skin, exercise, water, vibration and sunlight. 20-30 percent of chronic urticaria in adults are physical urticarias.

**Case:** A 16 year-old female presented with hives occurring when showering. It started one year ago with both hot and cold water. It appears within minutes of contact with water. Episodes last 2 to 3 hours then disappear. In the office, she splashed with water to her upper chest and pruritic urticaria appeared within 10 minutes. She was started on cetirizine 20 mg twice daily but did not respond well. She was given a trial of propranolol 20 mg once daily and this was not tolerated. She continues to have itching with hives when showering.

**Conclusion:** Aquagenic urticaria is a rare condition. Pathogenesis of this condition is poorly understood. Water may act as a solvent in aquagenic urticaria, solubilizing an antigen that permeates the skin and activates dermal mast cells. It is also possible that water may interact with sebum to form a substance capable of acting as a direct mast cell degranulator. As a last resort, omalizumab can be attempted; it is recombinant DNA-derived humanized IgG monoclonal antibody used in patients with chronic idiopathic urticaria not responsive to high dose of antihistamines.

**P185****POSITIVE AUTOLOGOUS SERUM AND PLASMA SKIN TEST PREVALENCE IN INDIVIDUALS WITH CHRONIC IDIOPATHIC URTICARIA**

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**Introduction:** Chronic urticaria (CU) is a skin disease characterized by erythematous, pruritic hives which appear almost daily for more than 6 weeks. Its causes can be divided in physical, allergic, autoimmune and idiopathic. In approximately 70% of patients there is no specific cause, so the prevalence is unknown. It is estimated that 1% of the population presents chronic urticaria.

**Method:** A total of 52 patients were divided in two groups, healthy individuals and patients with chronic urticaria or autoimmune diseases. Plasma and serum skin tests were performed in both groups.

**Results:** In the chronic urticaria group the autologous serum was positive in 40 (77%) individuals and 12 (23%) were negative. In the healthy individuals group 6 (11%) were positive and 46 (88%) were negative. The autologous plasma skin test in the urticaria group was positive in 38 (73%) and negative in 14 (27%) and positive in the healthy individuals 5 (10%) and negative in 47 (90%).

**Discussion:** There has been controversy in the effectiveness and usefulness of the autologous serum and plasma skin tests regarding chronic urticaria.

**Conclusion:** The autologous serum and plasma skin test proved to be in our population a helpful diagnostic tool.

**P201****COMORBIDITY BURDEN OF CHILDREN WITH ASTHMA IN THE U.S.**P. Sullivan<sup>1</sup>, V. Ghushchyan<sup>2</sup>, P. Navaratnam<sup>3</sup>, H. Friedman<sup>3</sup>, A. Kavati<sup>4</sup>, B. Ortiz<sup>\*4</sup>, B. Lanier<sup>5</sup>, 1. Denver, CO; 2. Yerevan, CO; 3. New York, NY; 4. East Hanover, NJ; 5. Fort Worth, TX.

**Introduction:** Certain comorbid conditions can make asthma more severe and harder to control for school-aged children (SAC).

**Methods:** This was a cross-sectional retrospective analysis of children (aged 6-11) and adolescents (aged 12-17) in the nationally representative 2007-2013 Medical Expenditure Panel Survey (MEPS). Asthma was identified by questionnaire response. Comorbid conditions were identified by ICD-9 codes. The prevalence of atopic and non-atopic conditions for SAC with asthma were compared to those of SAC without asthma using survey-design based F statistics.

**Results:** There were 22,529 children (3,118 [13.4%] with asthma) and 21,791 adolescents (2,772 [12.8%] with asthma) totaling 44,320 SAC (aged 6-17). The prevalence of atopic conditions were statistically significantly higher among SAC with asthma compared to SAC without asthma ( $p < 0.05$ ): allergic rhinitis (22%; 7%), chronic sinusitis (7%; 4%), contact dermatitis (4%; 2%), food allergies (1.2%; 0.2%) psoriasis (0.4%; 0.1%) and nasal polyps (0.13%; 0%). The prevalence of non-atopic conditions were also statistically significantly higher among SAC with asthma compared to SAC without asthma ( $p < 0.05$ ): attention deficit-hyperactivity disorder [ADHD] (12%; 7%), anxiety disorder (4.2%; 2%), pneumonia (2.6%; 0.7%), seizure disorders (0.5%; 0.2%), and cerebral palsy (0.29%; 0.08%).

**Conclusion:** SAC with asthma have a higher comorbidity burden than SAC without asthma. This additional comorbidity burden may complicate efforts to achieve optimal asthma control. Strategies to effectively manage comorbidities would likely improve asthma treatment and disease management.

**P202****THE ASSOCIATION BETWEEN ASTHMA, OBESITY AND OUTCOMES AMONG SCHOOL-AGED CHILDREN IN THE U.S.**P. Sullivan<sup>1</sup>, V. Ghushchyan<sup>1</sup>, P. Navaratnam<sup>2</sup>, H. Friedman<sup>2</sup>, A. Kavati<sup>3</sup>, B. Ortiz<sup>3</sup>, B. Lanier<sup>\*4</sup>, 1. Denver, CO; 2. New York, NY; 3. East Hanover, NJ; 4. Fort Worth, TX.

**Introduction:** Obesity and asthma are correlated, but it is unclear how their association may influence outcomes among school-aged children (SAC).

**Methods:** This was a cross-sectional analysis of SAC (aged 6-17) in the nationally representative 2007-2014 Medical Expenditure Panel Survey. Outcomes included asthma-specific (AS) Emergency Department (ED) and inpatient (IP) visits and expenditures (adjusted to 2015\$); health status and missed school days. Health status questionnaires included the Columbia Impairment Scale (CIS), Children with Special Healthcare Needs (CSHCN), Child Health Questionnaire (CHQ), and perceived health status. Negative binomial regression was used for ED and IP visits; Generalized Linear Models with log-link for expenditures; and logistic/ordered logistic regression for health status.

**Results:** There were 43,915 SAC (2,089 obese; 4.7%) without asthma and 6,751 (513 obese; 7.4%) with asthma. Obese SAC were more likely to have asthma than normal weight SAC (Odds Ratio [OR] 1.67;  $p < 0.001$ ). Compared to normal SAC with asthma, obese SAC with asthma: had 5.3 times the number of asthma-specific IP visits and had higher asthma-specific medical expenditures; were more likely to have health problems on the CIS (unhappy/sad; problems playing sports/hobbies) ( $p < 0.05$ ); were more likely to exhibit poor health and worry on the CHQ ( $p < 0.01$ ); had lower perceived physical health status ( $p < 0.001$ ); and were more likely to miss school ( $p < 0.05$ ).

**Conclusion:** Asthma with comorbid obesity represent a significant burden to SAC in the U.S., resulting in deleterious economic, health status and school outcomes. Effective strategies that address this comorbid combination should be incorporated into asthma treatment and disease management programs.