Children failing asthma therapy may have severe asthma with fungal sensitization

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New research presented at the ATS 2012 International Conference in San Francisco suggests that a significant proportion of children with asthma failing Step 4 or greater therapy may have severe asthma with fungal sensitization (SAFS).

"SAFS is a newly described sub-phenotype of asthma, and its prevalence and clinical characteristics in children are unknown," said Alfin Vicencio, MD, chief of pediatric pulmonology and cystic fibrosis at the Cohen Children's Medical Center in Great Neck, NY, and David Goldman, associate professor of pediatric infectious diseases at the Children's Hospital at Montefiore, Bronx, NY.

"Accordingly, we prospectively analyzed serum immunoglobulin E (IgE) levels and fungal sensitization patterns in 41 children failing combination asthma therapy. Of these 41 patients, 17 (41.5%) were diagnosed with SAFS."

Compared with those without SAFS, children with SAFS were older, had higher serum IgE levels, and performed worse on pulmonary function tests. These differences remained significant when children with SAFS were compared to a subset of children without SAFS who were sensitized to non-fungal environmental allergens.

The most commonly implicated organisms were Aspergillus spp (81.2%) and Alternaria spp (68.8%), but numerous other species were represented. More than 65% of children with SAFS exhibited

sensitization to more than one fungal species. Airway remodeling and persistent eosinophilia may also be associated with SAFS, although the researchers note that additional studies are required to more clearly characterize these features of the disease.

"Our results suggest that SAFS may account for a significant proportion of severe asthma in our pediatric population," said Dr. Vicencio. "At this point, however, there are still many unanswered questions, including the role of anti-fungal therapy."

"We are actively pursuing new methods to identify fungal organisms in the lower airway, which would enable us to better define treatment protocols," Dr. Vicencio concluded. "In addition, we are hoping to identify genetic risk factors for disease, which could potentially lead to targeted preventive strategies early in life."

More information: "Severe Asthma With Fungal Sensitization In Children: Characterization Of A New Pediatric Asthma Sub-Phenotype" (Session C27, Tuesday, May 22, 2012: Room 2010-2012, Moscone Center; Abstract 28785)

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