

Overweight Children Less Responsive to Asthma Medications

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DENVER — Being overweight may affect how children respond to asthma medication, according to researchers at National Jewish Health. At the 2012 Annual Meeting of the American Academy of Allergy, Asthma & Immunology (AAAAI), researchers presented the results of a study that saw a weaker response to a corticosteroid medication in children with asthma who had a higher body mass index (BMI).

National Jewish Health pediatric allergist Pia Hauk, MD, and her colleagues studied 61 children with asthma between the ages of two and 18. Each child was evaluated according to his or her BMI, daily inhaled corticosteroid dose and cellular response to the corticosteroid.

“Both blood and airway cells were cultured in the presence of corticosteroids, a medication used to treat asthma. Then we studied expression of a specific gene that mediates the response to the medication,” explained Dr. Hauk.

Children who age 5 and older were also given a spirometry test to measure the amount of air forced out of their lungs. Based on BMI, 56 percent of the children in the sample were of normal weight, 27 percent were overweight and 24 percent were considered obese. Of the total sample, 56 children used inhaled corticosteroids.

The results showed a decreased cellular response to the corticosteroid with increasing BMI, which was linked with a higher daily inhaled corticosteroid requirement.

“Chronic inflammation, as seen in obese patients, is thought to interfere with the body’s response to corticosteroids, leading to a higher corticosteroid requirement in patients with asthma,” said Dr. Hauk. “More studies are needed to find out if the response to the medication might improve if obese children with asthma lose weight.”

National Jewish Health is the leading respiratory hospital in the nation. Founded 121 years ago as a nonprofit hospital, National Jewish Health today is the only facility in the world dedicated exclusively to groundbreaking medical research and treatment of patients with respiratory, cardiac, immune and related disorders. Patients and families come to National Jewish Health from around the world to receive cutting-edge, comprehensive, coordinated care. To learn more, visit the media resources page.

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