Elevated blood eosinophil levels are a risk factor for asthma exacerbations

May 20 2014

In adults with persistent asthma, elevated blood eosinophil levels may be able to predict which individuals are at increased risk for exacerbations, according to a new study presented at the 2014 American Thoracic Society International Conference.

"Eosinophils are known to be involved in the pathophysiology of asthma, and determining their relationship with asthma exacerbations may allow us to determine in advance which of these patients needs targeted interventions," said lead author Dr. Robert Zeiger, MD, PhD, Physician Investigator at Kaiser Permanente in San Diego, California. "In our study, elevated blood eosinophil levels were found to be a risk factor for subsequent exacerbations in adult asthma patients."

Eosinophils are white blood cells that become active in individuals with certain allergic diseases, including asthma, and other medical conditions.

In the study, blood eosinophil levels were measured in 2,392 adult asthma patients in 2010 and the relationship between these levels and the rate of exacerbations in 2011 was determined in analyses adjusting for demographics, co-morbidities, and asthma burden and care.

Increasing level of blood eosinophil at baseline was associated with increasing risk of future asthma exacerbation in both crude and adjusted analyses. The relationship was observed in crude analysis for baseline eosinophil level of >300/mm3 (crude rate ratio 1.25; 95% CI, 1.04-1.51, P = 0.02) and was weaker after adjustment for baseline characteristics

(adjusted rate ratio 1.16; 95% CI, 0.97-1.39, P=0.11). A baseline eosinophil level of >400/mm3 was associated with future asthma exacerbations in 2011 after adjustment for baseline features (adjusted rate ratio 1.31; 95% CI, 1.07-1.60, P