



Clinical Allergy Tips

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Editors Note: Blood eosinophilia is common in allergic asthma. Eosinophil numbers are increased in airway tissues in both allergic and nonallergic asthma. Chronic cough associated with eosinophilic airway inflammation can occur in the absence of variable airflow obstruction and may improve after treatment with inhaled corticosteroids. The selection of the patient who might respond to inhaled corticosteroids frequently remains an enigma. Dr. Phil Lieberman, past President of the American Academy of Allergy Asthma and Immunology (AAAAI) and Clinical Professor at the University of Tennessee shares insight with us in the first article of our new series. In addition, Dr. Lieberman is the Medical Editor of the "Allergy & Asthma Disease Management Center" at AAAAI.org.



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The peripheral eosinophil count

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The most useful easily accessible tool in our practice is the peripheral eosinophil count. One of the first applications of the eosinophil count in our office was to evaluate patients who present with cough. We found, with others, that an eosinophil count of 286 or above correlated quite well with methacholine challenge tests and successful steroid and bronchodilator treatment in patients who presented with the sole manifestation of cough and normal pulmonary function studies. Thus, it became our test of choice in making a diagnosis of cough-variant asthma in the presence of normal pulmonary functions (1).

Using this example, we have since found it to be helpful in making a diagnosis of asthma in patients who present with shortness of breath and normal pulmonary functions. We find it has a high correlation in these patients, as in cough-variant patients, with methacholine challenge and steroid and bronchodilator responsiveness.

Finally, it has become useful to us in making decisions regarding whether or not a dose of inhaled corticosteroids can be lowered. It can be difficult to decide when to lower the dose of inhaled corticosteroid in patients who are under symptomatic control. We found that lowering the steroid dose when the peripheral eosinophil count is above 400 oftentimes portends a relapse, and when the eosinophil count is below 200, lowering the dose can be done with a high degree of success. We have been so impressed with this technique that we purchased an analyzer that permits us to assess the eosinophil count rapidly and accurately for our office.

Reference:

1. Cohen R, Grant W, **Lieberman P**, Potter W, Golden E, Crawford L, Herrod H, and Yoo TJ. The Use of Methacholine Inhalation, Methacholine Skin Testing, Distilled Water Inhalation Challenge and Eosinophil Counts in the Evaluation of Patients Presenting with Cough and/or Nonwheezing Dyspnea. *Annals Allergy*, 56(4):308-312, 1986.