sample was taken and analyzed by flow cytometry. eNO was measured by using an NO analyzer. Univariate linear regression analysis was used to determine correlations between continuous variables and eNO concentrations.

RESULTS. eNO levels were significantly elevated in patients with moderate-to-severe asthma compared with those in healthy subjects (18.53 ± 2.00 vs 5.90 ± 0.90 ppb). With treatment, eNO levels in patients with moderate-to-severe asthma decreased to levels near those of the healthy subjects by 4 weeks. Interferon γ expression was decreased in patients with moderate-to-severe asthma. An elevated eNO level was also associated with decreased interleukin 4 and interleukin 13 cytokine expression by CD8 lymphocytes.

CONCLUSIONS. eNO levels were elevated in patients with moderate-to-severe asthma. With 4 weeks of treatment, eNO levels in patients with moderate-to-severe asthma were no different from those in the control subjects. There was decreased interferon γ expression by the CD4- and CD8-positive peripheral blood lymphocytes of patients with moderate-to-severe asthma. Elevated eNO levels were associated with suppression of both T-helper 1 and 2 cytokine expression by the peripheral blood lymphocyte, suggesting a systemic immunomodulatory effect.

REVIEWER COMMENTS. This study adds to the growing information on the utility of eNO levels to monitor asthma-treatment response. It demonstrates how eNO can be used to measure the reduction in airway inflammation as a response to treatment primarily in patients with moderate-to-severe asthma. At this point, it is not clear what the implications are of the association between elevated eNO levels and cytokine suppression.

The Impact of Spirometry on Pediatric Asthma Diagnosis and Treatment


PURPOSE OF THE STUDY. To evaluate the use of spirometry as a diagnostic tool in a pediatric asthma-management program at an inner-city community health clinic.

STUDY POPULATION. The study profiled 56 pediatric patients who presented with respiratory symptoms that were indicative of an acute asthma exacerbation.

METHODS. Clinicians recorded each patient’s history of asthma symptoms as well as heart rate, respiratory rate, and pulse oximetry. Patients then were assessed for current asthma symptoms and given an initial assessment of asthma, upper respiratory infection, or both. An initial treatment plan for nonreactive airway management, al-
Cardiopulmonary Exercise Testing in Children and Adolescents With Asthma Who Report Symptoms of Exercise-Induced Bronchoconstriction

Fawwaz Humayun and Harvey L. Leo

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