was defined as chronic cough or wheezing responsive to bronchodilator. Atopy was defined as a positive skin prick test and symptoms consistent with allergic rhinitis. Patients were on inhaled corticosteroids for asthma and nasal steroids for allergic rhinitis. They had to be able to perform spirometry and not be on oral steroids.

METHODS. Observations were made in a 4-step sequence: (1) exhaled nitric oxide fraction (FeNO) measurement with a portable NIOX MINO (Aerocrine Inc, Morrisville, NC; ≤35 ppb = controlled, >35 ppb = uncontrolled); (2) spirometry (forced expiratory volume in 1 second ≥80%, forced expiratory flow, midexpiratory phase ≥60%, peak expiratory flow rate ≥80% and forced expiratory volume in 1 second/forced vital capacity ≥80% = controlled); (3) childhood Asthma Control Test (cACT) (<19 = uncontrolled); and (4) clinical assessment by a pediatrician without knowledge of preceding results.

RESULTS. A total of 71 children (mean age 8.4 years; 46 boys and 25 girls) completed the study. The mean FeNO is uncontrolled asthma and was 37 ppb vs 15 ppb in controlled asthma ($P < .005$) but with considerable overlap. Comparison of individual spirometric indices revealed some correlation, but of the unrelated comparisons, those that agreed with each other most often (69%) were clinical assessment by the pediatrician and the cACT. Worst agreement was noted for FeNO and cACT (49.3%).

CONCLUSIONS. Overall this study revealed significant disagreement among many of the common methods used to assess asthma control.

REVIEWER COMMENTS. Asthma control is the key to successful management, and assessment of control is recommended in all major guidelines. It is nice to have different measures to choose from but disheartening to see the lack of agreement between tests. Previous studies have also shown a lack of agreement between many of these measures. The authors speculate that taking the individual patient's asthma phenotype into consideration may be the key and that a combination of physician assessment and objective testing will be required. We continue to wait for the perfect test or combination of tests.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2013–2294QQQ

Melinda M. Rathkopf, MD
Anchorage, AK

Does Bronchial Hyperresponsiveness in Childhood Predict Active Asthma in Adolescence?

Riiser A, Hovland V, Carlsen KH, Mowinckel P, Lødrup Carlsen KC. *Am J Respir Crit Care Med*. 2012;186(6):493–500

PURPOSE OF THE STUDY. To address the question: How well does bronchial hyperresponsiveness (BHR) predict later clinical asthma?

STUDY POPULATION. Five hundred thirty children in a prospective population-based birth cohort underwent a methacholine challenge and exercise challenge on separate days at age 10 years. At age 16 years, they underwent a clinical evaluation and repeat methacholine challenge.

METHODS. BHR was scored as follows based the methacholine dose causing a 20% drop in FEV1 (PD20): severe ≤1 μmol, mild to moderate 1 to 8, and borderline 8 to 16. Exercise-induced bronchospasm (EIB) is defined as ≥10% reduction in forced expiratory volume in 1 second 3 to 20 minutes after running. Active asthma is defined as at least 2 of the following: doctor's diagnosis of asthma, asthma symptoms during the last 12 months, and use of asthma medication during the last 12 months.

RESULTS. Active asthma at age 16 was observed in 74% of the children with active asthma, and 10% of children without active asthma, at age 10. Fifty-four percent of the children with methacholine PD20 ≤1 μmol at age 10 had active asthma at age 16, 30% with PD20 1 to 8, 26% with PD20 8 to 16, and 31% with EIB. Separately the tests explained 10% (methacholine) and 7% (exercise) and together 14% of the variation in active asthma at age 16. In multivariate analysis, only methacholine PD20 ≤1 and active asthma at age 10 were risk factors for active asthma at age 16.

CONCLUSIONS. BHR at 10 years was a significant but modest predictor of active asthma 6 years later, with methacholine challenge being superior to exercise test.

REVIEWER COMMENTS. Not surprisingly, having methacholine-induced bronchospasm or EIB at age 10 increases the likelihood of active asthma at age 16, but most asthma at age 16 cannot be predicted by these tests done at age 10. When applied to children without active asthma at age 10, methacholine PD20 ≤1 had a positive predictive value of only 0.26 and EIB and a positive predictive value of only 0.12. Clearly the strongest predictor of active asthma at age 16 is active asthma at age 10.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2013–2294RRR

John M. Kelso, MD
San Diego, CA

Missed Sleep and Asthma Morbidity in Urban Children

Daniel LC, Boergers J, Kopel SJ, Koinis-Mitchell D. *Ann Allergy Asthma Immunol*. 2012;109(1):41–46

PURPOSE OF THE STUDY. To investigate the effects of missed sleep on quality of life and asthma morbidity.

STUDY POPULATION. Parents of 147 asthmatic children ages 6 to 13 years from urban neighborhoods near Providence, Rhode Island, participated. Other inclusion criteria included

Does Bronchial Hyperresponsiveness in Childhood Predict Active Asthma in Adolescence?

John M. Kelso

Pediatrics 2013;132;s42
DOI: 10.1542/peds.2013-2294RRR

PEDIATRICS®
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Does Bronchial Hyperresponsiveness in Childhood Predict Active Asthma in Adolescence?

John M. Kelso

Pediatrics 2013;132;s42
DOI: 10.1542/peds.2013-2294RRR