Lung Function Alone: Poor Asthma Control Marker

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SAN FRANCISCO – Lung function alone is a poor marker of asthma control in children, results from a large retrospective analysis demonstrated.

“Physicians should use all components of the 2007 National Asthma Education and Prevention Program Expert Report 3 guidelines, asking questions to patients not only about daytime and nighttime symptoms, but doing lung function testing as well,” Dr. Edward K. Hu advised during a poster session at the meeting.

“Even [among] those patients who are enrolled in a disease management program, there is still going to be a large minority who are going to be uncon- trolled in one way or another, despite follow-up visits and seeing asthma specialists,” the allergist advised.

Dr. Hu, a fellow in the division of allergy and immunology at the Los Angeles County/University of Southern California Medical Center, Los Angeles, and his associates studied 453 children aged 5-18 years who were enrolled in an asthma management program in Los Angeles County in 2009 and who made a total of 886 follow-up visits. Initial analysis defined asthma control based solely on lung function. Secondary analysis included all components of asthma control based on the 2007 National Asthma Education and Prevention Program Expert Report 3, which included impairment and risk.

Of the 453 children, 61% were male and 83% were Hispanic. At baseline more than one-quarter of pediatric patients (29%) had intermittent disease, 21% had mild persistent disease, 23% had moderate persistent disease, and 25% had severe persistent disease.

Dr. Hu reported that when lung function alone was used, 17% of children exhibited asthma that was not well controlled, and 5% exhibited asthma that was poorly controlled. Inclusion of impairment and risk resulted in a downgrade of asthma control in an additional 22% of children, he reported.

The researchers at the Los Angeles County/USC Medical Center also found that males, aged 8-11 years, were significantly more likely than their female counterparts to present with normal lung function and uncontrolled disease due to other factors (24% vs. 15%).

Dr. Hu said that he had no relevant financial disclosures.

Rationale for Flu Vaccination

H1N1 from page 1

asthmatics and 25% in nonasthmatics, a difference that was not statistically significant, with an odds ratio of 1.9 (P = .06). However, after adjustment for race, sex, and allergic sensitization, the difference became statistically significant, increasing to an OR of 3.5 (P < .002).

The incidence of human rhinovirus was statistically similar between the two groups (89% in asthmatics vs. 93% in nonasthmatics), as was the incidence of other viral infections (37% vs. 42%).

Both asthmatics and nonasthmatics reported significant increases in moderate and severe cold symptoms with H1N1, compared with human rhinovirus (63% vs. 28%).

Also, a significantly higher proportion of moderate to severe asthma severity was observed in patients infected with H1N1 influenza, compared with those infected with human rhinovirus (48% vs. 23%). This association held true for severe asthma symptoms as well (19% vs. 4%).

Dr. Kloepfer acknowledged certain limitations of the study, including its single-center design, the fact that it included only children aged 4-12 years, and the fact that it lasted only 8 weeks. The study was supported by grants from the National Institutes of Health. Dr. Kloepfer said that she had no other relevant financial disclosures.