Young Infants with Recurrent Wheezing and Positive Asthma Predictive Index Have Higher Levels of Exhaled Nitric Oxide

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Abstract

Objective. The aim of this post hoc analysis was to establish the relationship between FENO levels and the asthma predictive index (API) among infants with recurrent wheezing. Methods. Infants with recurrent wheezing (three or more episodes) were recruited consecutively and online FENO tests at tidal breathing with multiple breaths were performed. Results. Twenty-seven (84%) out of 32 infants (median age of 12 months) who met the inclusion criteria for this post hoc analysis, successfully performed the FENO determinations. Eighteen (66%) infants were classified with positive stringent API. FENO levels were significantly higher among patients with positive API than those with negative (median [IQR] of 12.3 [14.8] ppb vs. 4.1 [7.9] ppb, respectively, p = .016). Furthermore, FENO and positive API had a significant correlation (Spearman’s rho, ρ = 0.4741, p = .0125). After logistic regression analysis including FENO levels, gender, age, and use of controller therapy, FENO was the only variable that was marginally related to API (OR = 1.12, 95% CI: 0.99–1.27, p = .07). Conclusion. Infants with recurrent wheezing who had a positive stringent API already had higher FENO levels than those with a negative API. This finding needs to be corroborated in a larger prospective study.