



Pulmonary Function Continues to Decline in Children with Clinical Controlled Asthma

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To the Editor: The *z* scores of FEV1%pred, FEV1/FVC%pred, and MEF25%pred in 1353 children were calculated. They had a total of 8558 tests. For FEV1%pred, there were 324 (23.95%) children who were below but close to average; 599 (44.27%) children continued decline and 430 (31.78%) showed a downward trend followed by an upward trend. For FEV1/FVC%pred, 873 (64.52%) showed a gradual upward trend at first and a gradual downward trend in the later stage. A total of 480 (35.48%) children continued increase. There were 1267 patients who completed 4638 measurements of MEF25%pred. Among them, 171 children (13.49%) had a higher level, 269 (21.23%) were near the average level, and 827 (65.27%) were always below the average level.

The three FEV1%pred trajectories groups differed according to BMI, onset age, interval between diagnosis of asthma and first onset, count of lymphocytes, IgE, allergy to dust mites, and mold combination at enrollment. The multinomial logistic-regression results showed that BMI, a longer delay period in diagnosis, the dust mite ≥ 50 kU/L, and onset between the ages of 1 and 3 y had significant statistical significance on FEV1%pred.

In the study, nearly 50% of children's lung function showed a downward trend after long-term treatment, especially the

small airway indicators, which was lacking in previous studies [1–3]. Pediatricians should focus on changes in lung function as well as the clinical control of asthma. We also found that BMI, onset at 1–3 y of age, a longer time interval of delayed diagnosis, and a high allergy to dust mites were closely related to FEV1 decline. In particular, we have previously identified the impact of the delayed diagnosis on lung function [4], so the early diagnosis of asthma needs to be taken seriously.

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Declarations

Conflict of Interest None.

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