

学位論文審査結果の要旨

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<p>(学位論文審査結果の要旨)</p> <p>Risk Factors for Lung Function Decline in Pediatric Asthma under Treatment: A Retrospective, Multicenter, Observational Study</p> <p>【主論文審査結果の要旨】</p> <p>著者らは論文において下記の内容を述べている。</p> <p>Background: Childhood asthma is a major risk for low lung function in later adulthood, but what factors in asthma are associated with the poor lung function during childhood is not known.</p> <p>Objective: To identify clinical factors in children with asthma associated with low or declining lung function during the treatment.</p> <p>Methods: We enrolled children with asthma who had been treated throughout three age periods, i.e., 6-9, 10-12, and 13-15 years old, at seven specialized hospitals in Japan. Clinical information and lung function measurements were retrieved from the electronic chart systems. To characterize the lung function trajectories during each age period, we evaluated the forced expiratory volume in one second (FEV1) with % predicted values and individual changes by the slope (S) from linear regression. We defined four trajectory patterns: normal (Group N) and low (Group L), showing %FEV1 ≥80% or &lt;80% throughout all</p>			

three periods; upward (Group U) and downward (Group D), showing  $S \geq 0$  or  $S < 0\%$ . Logistic regression analysis was performed to compare factors associated with the unfavorable (D/L) versus favorable (N/U) groups.

**Results:** Among 273 eligible patients, 197 (72%) were classified into Group N ( $n = 150$ )/U ( $n = 47$ ), while 76 (28%) were in Group D ( $n = 66$ )/L ( $n = 10$ ). A history of poor asthma control, long-acting beta2 agonist use, and a lower height Z-score during 13-15 years were associated with an unfavorable outcome (Group D/L). Conversely, inhaled corticosteroid (ICS) use during 10-12 years and high-dose ICS use during 13-15 years were associated with a favorable outcome (Group N/U).

**Conclusion:** We identified several factors that are associated with unfavorable lung function changes in pediatric asthma. Attention should be paid to the possible relationship between yearly changes in lung function and poor asthma control, use of ICS (and its dose) and use of LABA.

喘息小児における肺機能の推移と、その低下に関わる因子を明らかにした、学術上極めて有益であり、学位論文として価値あるものと認めた。

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