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学位論文の題名	Characteristics of the European Respiratory Society/American Thoracic Society severe asthma definition as a determinant of future use of biologics/bronchial thermoplasty (欧州呼吸器学会/米国胸部学会の重症喘息の定義の特徴と今後の生物学的製剤/気管支サーモプラスティの使用に関する決定要因について) Asia Pac Allergy, 2020 Oct; 12(4):e44
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Background
Asthma is one of the most common respiratory diseases worldwide. Inhaled corticosteroids (ICS) provide better asthma control and reduce severe asthma exacerbations and mortality. However, 5%–10% of patients are still suffer from asthma symptoms despite receiving extensive treatment and are diagnosed with severe uncontrolled asthma. International guidelines define severe uncontrolled asthma. Biologics or bronchial thermoplasty (Bio/BT) are recommended for such patients.
Objectives
To determine which definitions of severe uncontrolled asthma are associated with an additional Bio/BT treatment in patients with severe uncontrolled asthma.
Methods
Consecutive 107 asthmatics (including 15 patients for whom Bio/BT was introduced within 3 months after examination), classified as treatment step 4 according to the Global Initiative for Asthma 2015 guideline, were eligible for this analysis. Patients were assessed using the European Thoracic Society/American Thoracic Society (ERS/ATS) severe uncontrolled asthma guideline as defined by these 4 characteristics: poor control (ACT < 20), frequent exacerbations (≥2/yr), admissions (≥1/yr), and airflow limitation (forced expiratory volume in 1 second < 80% of predicted), along with comorbidities, and biomarkers, including blood granulocytes, fractional nitric oxide, and capsaicin cough reflex sensitivity (C-CS). These indices were compared between patients with and without Bio/BT introduction, and multivariate logistic regression analysis was performed to determine the association of the 4 definitions with treatment needs for Bio/BT.
Results
Patients who were introduced to Bio/BT had heightened C-CS, heavier smoking history, and a greater prevalence of diabetes mellitus than those without ($p < 0.05$). Poor asthma control (ACT < 20), frequent exacerbations (≥2/yr), and admissions (≥1/yr) were relevant to the future use of Bio/BT in the multivariate regression analysis. Type 2-related biomarkers including absolute eosinophil counts were higher in patients in the Bio introduction group than in the BT introduction group. Meanwhile, there was no significant difference of the 4 characteristics of severe uncontrolled asthma definition between patients in the Bio and those in the BT groups.
Conclusion
Although multiple factors such as treatment cost and asthma phenotypes affect treatment decision-making, the definition of poor asthma control, frequent exacerbations and admission by the ERS/ATS guidelines were important factors for an additional intensive treatment for severe uncontrolled asthma.