Effects of Allergic Phenotype on Respiratory Tract Symptoms and Exacerbations in Patients with COPD

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Background: Although COPD is caused primarily by smoking, passive smoking, air pollution, and occupational exposures can aggravate the condition as well. Likewise, allergic sensitization, which is a known risk factor that worsens pulmonary symptoms in asthma, can also contribute to deterioration and exacerbation in the setting of COPD.

Objective: To determine whether allergic sensitization contributes to respiratory symptoms and exacerbations in patients with COPD.

Methods: Subjects with COPD (n=30), defined as aged >40 years, history of smoking, FEV1/FVC <0.70, and no diagnosis of asthma, were identified. The presence of an allergic phenotype was defined as a detectable specific IgE to perennial aeroallergens by positive skin prick test. Fisher’s exact test was used to determine whether an allergic phenotype was associated with respiratory symptoms and exacerbations.

Results: COPD patients with allergic phenotype were more likely to have wheezing symptom (p=0.01), chronic cough (p=0.01), chronic phlegm (p=0.01), pneumonia (p=0.04), and emergency visit due to COPD exacerbation (p=0.04).

Conclusion: Allergic sensitization in COPD patient is associated with increased respiratory symptoms and risk of COPD exacerbations.

Keywords: Allergic phenotype, Chronic obstructive pulmonary disease, Skin prick test