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Editorial
Respiratory Diseases

Asthma-COPD Overlap in Two Comprehensive Cohorts in Korea: Time to Move to Treatable Traits

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Asthma–chronic obstructive pulmonary disease (COPD) overlap (ACO) is a mixed phenotype of airway disease that is characterized by a fixed airway obstruction in patients exhibiting features of both asthma and COPD. Although international guidelines have suggested several definitions of ACO, the prevalence and phenotypes of ACO remain unclear. Furthermore, patients with ACO often experience more frequent exacerbations, hospitalizations, and increased healthcare resource use than those with only asthma or COPD.[1] It is still ambiguous to determine the definition and the management of ACO because it is not easy to manage patients of ACO such as "eosinophilic COPD" or "smoking asthma" and show refractoriness to current treatments.

In this issue of the *Journal of Korean Medical Science*, Joo et al.[2] have reported the prevalence and phenotypes of ACO in COPD and severe asthma based on multicenter cohorts in South Korea. This study is novel in that it is the first to investigate the prevalence of ACO in the 2 representatives of nationwide cohorts. The Korean COPD Subgroup Study (KOCOSS)[3] and the Korean Severe Asthma Registry (KoSAR)[4] are national representative COPD and severe asthma cohorts, respectively. This study investigated the prevalence and phenotype of ACO based on the recent Spanish guidelines and revealed that approximately one-fifth of the patients with COPD had ACO and one-tenth of the patients with severe asthma had ACO features. These findings are in accordance with previous reports that 10-25% of patients with COPD have features of asthma and *vice versa*. Considering that distinguishing ACO from severe asthma and/or COPD is still challenging given these diseases share common features, diagnosis based on a specialist's discretion is crucial rather than that based on specific diagnostic criteria. Furthermore, we hope to find the specific biomarker to diagnose ACO and to improve the treatment outcomes of ACO based on big data obtained from both the KOCOSS and KoSAR cohorts.

Joo et al.[2] classified ACO into 2 clinical domains: smoking history and blood eosinophil count. Using their two domain approach, they revealed that the group C (smoking history ≥ 20 pack-years and blood eosinophil ≥ 300 cells/μL) was the largest group, accounting for 73.8% of the combined cohort. So far, ACO treatment approaches have been based on the extrapolation of data from clinical studies on asthma or COPD alone as clinical studies typically exclude these patients. The authors identified inhaled corticosteroid (ICS)+ long-

acting beta agonist (LABA) has been prescribed more often than ICS+LABA+long-acting muscarinic antagonist (LAMA) to patients with ACO in the real-world practice. We look forward to forthcoming observational studies comparing the trajectory of the exacerbation of asthma and lung function between ICS+LABA dual therapy and ICS+LABA+LAMA triple therapy in patients with ACO.

Bronchial asthma and COPD are heterogeneous airway disease entities that can change over time. This heterogeneity indicates that using the umbrella term ACO to define both the entities can be confusing to both physicians and patients. Moreover, the 2020 updated Global Initiative for Chronic Obstructive Lung disease (GOLD) guidelines did not refer to ACO anymore and GOLD recommended the blood eosinophils to direct the ICS therapy in COPD. Therefore, focusing on the detailed "treatable traits" rather than labeling them under the traditional umbrella term ACO is considered more strategic.[5] In the era of personalized medicine, many patients with asthma and COPD are still assessed in a one-size-fits-all format. Chronic airway diseases management are always included among this treatable traits approach, particularly the ACO due to lack of definitive diagnostic criteria. Although the current study is a beginning toward determining the prevalence and phenotypes of ACO, further studies are needed to identify biomarkers and treatment strategies for ACO to achieve optimal care.

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