INTERASMA Symposium: Clinical diversities in asthma

Asthma-COPD overlap syndrome: an emerging concept?

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There are a variety of chronic obstructive diseases showing chronic respiratory symptoms and chronic airflow limitation. Of these, asthma and chronic obstructive pulmonary disease (COPD) are the most frequent and serious diseases sharing much of the key characteristics: chronic inflammation, airway obstruction with a variable degree of bronchodilator responses and airway hyperresponsiveness. Therefore, it is frequently hard to distinguish asthma from COPD and vice versa, especially in adults and elderly population. Recently, asthma-COPD overlap syndrome (ACOS) is gaining more and more attention with increasing number of research papers on this topic. Now there is considerable agreement that ACOS could be accepted as a descriptive term for obstructive lung disease with both features of asthma and COPD in spite of historical hypothesis that asthma and COPD have its own pathophysiological and clinical features.

In 2014, the Global Initiative for Asthma (GINA) and the Global Strategy for Diagnosis, Management, and Prevention of COPD (GOLD) collaborated to publish the paper on ACOS. In this report, ACOS was defined as a clinical condition, which is characterized by persistent airflow limitation with several features usually associated with asthma and several features usually associated with COPD. While there has been the attempt to build up diagnostic criteria for ACOS, it is still hard to identify which factors are critical and essential for discrimination of ACOS from asthma or COPD. Given the complexity and heterogeneity of asthma and COPD per se, it is not surprising that ACOS does not have its own validated diagnostic criteria yet. Furthermore, it is still on the debate whether COPD with asthmatic features is the same condition as asthma with COPD features. It is likely that ACOS encompasses both subtypes which are different from each other. Thus ACOS is not a uniform phenotype but a complex of diverse combinations of asthma and COPD features. Considering this complexity of ACOS, GINA and GOLD guideline update in 2017 recommended using the term asthma-COPD overlap (ACO) instead of the term ACOS, which might lead to the impression that it is the specific disease entity.

Regarding the natural courses of ACOS, the evidence is accumulating that ACOS is related with frequent

exacerbation, poor quality of life, rapid decline of lung function and greater health care utilization compared with asthma or COPD alone. The poor outcomes for ACOS suggest that much attention should be paid on this clinical phenotype. However, there is still a lack of evidence about the treatment options for ACOS. Since ACOS has both features of asthma and COPD, the combination of inhaled corticosteroids (ICS) plus long-acting beta2 agonists (LABA) and/or long-acting muscarinic antagonists (LAMA) seems to be the best therapeutic agent at present. Nonetheless, effectiveness and safety of this combination have not been proved in prospective clinical trials. Future investigations should also include the biomarkers predicting the response of treatment and the next optimal treatment step for non-responders to ICS with long-acting bronchodilators (LABA or LAMA). Furthermore, we have to examine the usefulness of new therapeutic agents including ultra-long-acting bronchodilators in the treatment of ACOS. Given the heterogeneity of ACOS phenotypes, we also need to develop phenotype or biomarker specific approaches to the treatment of ACOS. Nonpharmacological management for ACOS should be addressed in the future.

With increasing interest and many kinds of research on ACOS, we have learned many things. However, controversies still remain over the accepting this entity in clinical practice and the clinical decisions regarding the definition, diagnosis, and treatment. More evidence is needed before we use ACOS more generally and usefully in the management of the patients with chronic obstructive lung diseases.

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