Editorial
Allergy Asthma Immunol Res. 2013 January;5(1):1-2.
http://dx.doi.org/10.4168/aair.2013.5.1.1
pISSN 2092-7355 • eISSN 2092-7363

AAIR
Allergy, Asthma & Immunology Research

Comorbid Diseases in Adult Asthma

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Comorbid diseases are a common problem in older populations because aging is associated with the development of several chronic diseases. Therefore, the assessment and management of comorbid diseases are important in old age. Asthma in old age is also associated with various comorbid diseases, which may affect its clinical manifestation and severity.

The prevalence of comorbidities in asthma is high. Comorbid diseases reported in previous population-based retrospective studies include cardiovascular diseases, depression, diabetes mellitus, dyslipidemia, osteoporosis, rhinosinusitis, chronic obstructive pulmonary disease (COPD), obesity, arthritis, cancer and gastroesophageal reflux disease (GERD).[1-3]

The article in the issue evaluated comorbid diseases in asthma and demonstrated that arthritis, rhinitis, depression and obesity were independently associated with both self-reported asthma and wheezing in adults older than 40 years of age.[4] These results were statistically supported because the authors adjusted for confounding factors and other chronic diseases compared to previous studies. This provides clinically valuable information in the context of management of adult asthma. The strong association of depression in older-aged asthmatics is interesting because it suggests that clinicians should focus on adherence in elderly asthmatics. The result suggests that close relationship between asthma and rhinitis is not the case in elderly asthmatics. Furthermore, significant racial and ethnic differences were observed for dyslipidemia.

The authors did not evaluate GERD or coronary heart disease because of its low prevalence in Korea, as compared to Western countries. However, those diseases should also be evaluated considering the strong association of GERD with asthma and the possible clinical impact of coronary heart disease on asthmatics. Osteoporosis and cancer, which are thought to be comorbid diseases of asthma, should also be included in the study. The interpretation of osteoarthritis in the study would be more appropriate if osteoporosis was evaluated and taken into consideration.

The prevalence of comorbidities in young adults and children is also high.[5] Thus, it would be interesting if the authors evaluated and compared comorbidities between adult and childhood asthmatics. Prospective, large-scale studies spanning a range of age groups could clearly define comorbidities in asthma.

Further studies should evaluate whether these comorbidities can be reduced by controlling asthma and whether their prevalence is associated with changes in treatment patterns. At this time, the impact of comorbidities on the natural history and severity of asthma remains unknown. This should also be examined in the further studies.

Currently, it remains unknown whether comorbidities in asthma are directly or indirectly associated with asthma. Although initial manifestations of mucosal allergic reactions are localized, a systemic component develops, which could feedback into and perpetuate the original local reaction and lead to distant reactions.[6] However, this cannot be generalized to diverse comorbidities.

The term asthma is a definition of grouped clinical and physiological characteristics. Previous studies on the heterogeneous aspects of asthma have supported the idea that asthma consists of multiple phenotypes. Recent studies have focused on this hypothesis and the concept of phenotype is evolving to endotype linking phenotype to pathophysiology. At least five phenotypes of asthma have been proposed.[7] In the article in the issue,[4] asthma was described as a disease characterized by eosinophilic and Th2 type inflammation. However, it is now known that inflammation in asthma is actually more complex. For example, there is an asthma phenotype characterized by neutrophilic, Th1 and Th17 inflammation.[7] A recent study suggested that systemic inflammation is increased in asthmatics with

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Received: December 3, 2012; Accepted: December 3, 2012
• There are no financial or other issues that might lead to conflict of interest.

neutrophilic airway inflammation.[8] This suggests that comorbidities may differ according to the phenotype of asthma. A more comprehensive study, according to the phenotype, is required to clearly define the comorbidities. In the future, we may determine a comorbidities according to the specific phenotype of ashtma, and then it would be possible to link asthma with the comorbidities based on pathophysiology. At this point, we can more properly implement information on comorbidities for use in a clinical setting.

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