LETTER TO THE EDITOR

Is air trapping really a determinant of persistent airway obstruction in asthmatics?

Dear Editor,

We read the article titled “Air trapping is a major determinant of persistent airway obstruction in asthmatics” with great interest. In this study, Park S-W et al, longitudinally studied the effect of guideline based treatment for 1 year in moderate-to-severe asthma patients, on improvement in lung function and air trapping quantified by High Resolution Computed Tomography (HRCT). In 18 out of 32 asthma patients post bronchodilator (post-BD) forced expiratory volume in 1 s (FEV1) improved to more than 75% predicted and were classified as 'recovered' and the remaining 14 subjects were classified as having 'persistent airflow obstruction.' This definition of recovery itself entails that the 'recovered' group would show good bronchodilator response to asthma treatment as found by authors in terms of improvement in FEV1 and the ratio of FEV1 to forced vital capacity (FVC) i.e. FEV1/FVC in this group. Bronchodilation is known to improve air trapping. Hence, it is obvious that in any study where improvement is defined based on bronchodilation, the 'recovered' group would show an improvement in air trapping. Besides, in this study the improvement happened at second examination, i.e. after treatment, while at baseline both the 'recovered' and 'persistent airflow obstruction' group had similar levels of air trapping (53.4% vs 50.7%, p-value = 0.16). This is in violation with the Hill’s criteria of temporal relationship for causation, which states that the cause should precede the consequence. Hence, it is obvious that in any study where improvement is defined based on bronchodilation, the 'recovered' group would show an improvement in air trapping. Nevertheless, this study brings out an important message that there is high percentage of asthmatics who do not respond to current asthma therapy and that, mechanisms other than those related to cigarette smoke, age and eosinophilia could be contributing significantly to steroid under-responsiveness, considering that these factors were well matched in both responsive and unresponsive groups in this study. There is need to have novel treatment or strategies for treatment for asthma patients who do not respond to conventional asthma therapy.

Conflict of interest

Authors Kodgule, Vanjare, Brashier and Salvi have no conflicts of interest to disclose.

References


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