Subclinical airflow obstruction in allergic rhinitis

Sir,

Asthma and rhinitis have traditionally been considered two different entities, affecting the lower and upper airways, respectively. Recent pathophysiological findings, however, have identified both disorders as manifestations of the chronic inflammatory respiratory syndrome of the common airways, or united airways disease.[1] Asthma is characterized by reversible airflow obstruction. The gold standard to evaluate bronchial obstruction is FEV_1 (Forced expiratory volume/1 second). There is an increasing trend in considering a possible involvement of small airways in asthma.[2] Although there is no direct parameter to assess small airway obstruction, it has been suggested that forced expiratory flow at the 25% and 75% of the pulmonary volume (FEF_{25-75}) might be a suitable parameter to assess small airway obstruction rather than FEV_1.[3] Our study aimed at assessment of subclinical airway obstruction in the allergic rhinitis patients.

It was conducted on 100 patients aged 12 years or above with symptoms suggestive of allergic rhinitis but no obvious symptom of breathlessness and sensitized to one or more aeroallergen on the skin prick test (SPT) carried out on 65 common aeroallergens (1:10 w/v, 50% glycerinated). Patients with primary lung pathology and diagnosed cases of asthma were excluded from the study. Pulmonary function test was performed and forced vital capacity (FVC) in liters, FEV_1 in liters, their ratio FEV_1/FVC% and FEF_{25-75} were obtained. Spirometric evaluation of the patients was done as per American Thoracic Society Guidelines.[4]

We found that 91 patients (91%) were polysensitized and 9 patients (9%) were monosensitized. Small airway obstruction (FEF_{25-75} <80%) was found in 41 patients (41.0%) of sensitized allergic rhinitis patients. It was observed that out of 41 patients who showed impaired FEF_{25-75}, 21 patients (51.22%) also showed mild impairment of FEV_1, and 4 patients (9.76%) showed moderate impairment of FEV_1. None of the monosensitized patients showed any evidence of airway obstruction.

This study reinforces the concept of 'united airways disease'

since small airway obstruction is quite frequent in allergic rhinitis, even in the absence of overt asthmatic symptoms. There is a possible existence of progression of allergic rhinitis (AR) towards asthma. Despite good evidence on relationship between AR and asthma, spirometry is rarely used as a diagnostic aid by most otorhinolaryngologists. A good collaboration between an otorhinolaryngologist and a chest physician is strongly recommended for an integrated and unified approach to both the diseases. We would like to suggest that probable bronchial involvement should be sought in each patient of AR.

Future research is needed to determine if early and efficient treatment of allergic rhinitis can alter the natural history of asthma. Whether asymptomatic airflow obstruction demands initiation of asthma treatment or not also needs to be further investigated for possible favorable implications. The effect of each specific treatment needs further comprehension and therapeutic guidelines of allergic rhinitis and asthma requires modification for an integrated approach to both the diseases.

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