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ALLERGIC RHINITIS, SPIROMETRY AND BRONCHIAL HYPERRESPONSIVENESS

Vanya Tsvetkova-Vicheva,
Lyudmil G. Terziev,
Hristina V. Dardanova,
Maya M. Nenova

*Department of Clinical Laboratory,
Clinical Immunology and
Allergology,
Medical University – Pleven,
Bulgaria*

Summary

Different studies have provided evidence for association between allergic rhinitis (AR) and lower airway pathology with consequences in terms of onset of asthma. The mechanisms of influence that allergic rhinitis has on expiratory airflow parameters are still unclear. Patients with AR often manifest nonspecific bronchial hyperresponsiveness (BHR) without evidence for asthma. The aim of the study was to evaluate the impact of allergic inflammation on spirometric parameters in patients with AR without asthma, and assess the relationship between AR and expiratory airflow parameters. To measure the effect of a nose disease on pulmonary function, 265 patients with persistent allergic rhinitis (PAR) were evaluated through spirometry and a methacholine test. Eleven (4.1%) subjects had values lower than 80% for forced expiratory volume in the first second (FEV1) of predicted value (mean values $72.73\% \pm 5.7$); 14 (5.3%) presented with forced vital capacity (FVC) below 80% of predicted value (mean values 2.73 ± 0.6); 78 (31.8%) were found with values lower than 80% of the value predicted for forced expiratory flow at 25% and 75% of the pulmonary volume (FEF₂₅₋₇₅) (mean values 2.6 ± 0.92). The bronchoprovocation test (BPT) with methacholine was positive in 5 patients with FEV1 < 80%, in 6 of those with FVC < 80%, and in 49 patients with FEF₂₅₋₇₅ < 70%. An existing „latent” allergic lower airways inflammation in AR could be manifested through spirometry and BPT.

Key words: allergic rhinitis, spirometry, expiratory airflow rates, FEF₂₅₋₇₅, methacholine damages.

Corresponding Author:

Vanya Tsvetkova-Vicheva
Department of Clinical Laboratory,
Clinical Immunology and Allergology
91, Vladimir Vazov str.
5800, Pleven
Bulgaria
e-mail: vmstsvetkova@abv.bg

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Introduction

Allergic rhinitis (AR) is a global health problem that causes major illness and disability worldwide, resulting in a large financial burden on society. The allergic condition is often accompanied by comorbidities such as asthma, sinusitis, conjunctivitis, otitis media, atopic dermatitis and other allergies. AR has been proved to be a risk factor for asthma, though the mechanisms are not fully understood. Studies on the influence of nasal dysfunction on lung function were conducted in the 1970ies and 1980ies. Today, new and modern investigations are made.