Letter to the Editor

Received: March 14, 1988

Accepted: December 22, 1988

Respiration 1989;55:127-128

Is a Simultaneous Beta-Blocker Therapy a Risk Factor for Enalapril-Induced Cough?

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Dear Sir,

The prevalence of cough related to ACE inhibitor therapies has been reported to be in the range of 1–6% among patients receiving captopril [1, 2] and 3–10% among patients treated by enalapril [1, 3]. Kinins, especially bradykinin, and substance P are putative candidates to cause this side effect [4]. ACE inhibitors may increase the amounts of these mediators in the respiratory tract by inhibiting their hydrolysis by ACE [5, 6]. Both of these agents are able to cause cough: substance P by initiating axon reflex and kinins by inducing mucosal inflammation [7]. In guinea pigs captopril increases the bradykinin-induced bronchoconstriction, which is further enhanced by pro-pranolol [8].

Town et al. [9] reported bronchial hyperreactivity in 3 of their 10 patients having normal lung function and getting cough from enalapril. Bucknall et al. [10] found, however, that patients coughing

during ACE inhibitor treatment had even before the therapy increased sensitivity to inhaled histamine enhancing further during ACE inhibitor therapy.

We performed a follow-up study of 12 consecutive patients having enalapril-induced cough. Their concomitant medication was recorded and lung function, degree of bronchial reactivity to methacholine inhalation challenge and the total blood eosinophil count were measured during and without enalapril therapy. No changes in lung function or in total blood eosinophil count were observed in relation to enalapril treatment, and only in 1 patient mild bronchial hyperreactivity was noticed during the enalapril phase. Interestingly, 7 of the 12 consecutive subjects getting cough from enalapril had simultaneously a selective beta-blocker therapy for hypertension. This suggests an increased risk of that combination of therapy to induce side effects in the respiratory tract.

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