



Effect of a leukotriene receptor antagonist on cough receptor sensitivity and allergen-induced cough in a patient with atopic cough variant asthma

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A 24-year-old female patient with chronic dry cough, without wheezing and other symptoms, was diagnosed as atopic cough variant asthma (CVA) sensitized with house dust (HD) mite. To investigate the effect of a leukotriene (LT) receptor antagonist (pranlukast hydrate, O NON 450 mg/day), cough score, respiratory function, cough receptor sensitivity to capsaicin, airway inflammation evaluated by hypertonic saline inhalation and airway reactivity to histamine were studied before and after treatment for 4 weeks. Furthermore, the effect of a LT receptor antagonist on HD allergen-induced bronchoconstrictive and cough responses was investigated. Treatment with a LT receptor antagonist resulted in disappearance of cough, improvement of respiratory function, decrease in eosinophil percentage in induced sputum and increase in capsaicin and histamine threshold. Although bronchoprovocation with HD extract induced an immediate bronchoconstriction followed by cough responses before treatment, inhibition of both bronchoconstrictive and cough responses was observed after treatment. These results suggest that LT is involved in the mechanism of cough in this patient with atopic CVA.

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