

The effects of disease awareness on lifestyle changes and the use of preventive measures in asthma patients

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Reduction in asthma incidences and mortality, as well as improved quality of life, can be achieved via a wide use of prevention methods. A number of randomized cohort studies demonstrated the effectiveness of such management and the need for multiple treatments. Here, we evaluate whether asthma awareness influences the lifestyle and the use of prevention, as well as the effects of age, sex, economic status, and education on the use of prophylaxis. A total of 18,617 (53.8% female; 24.2% 6–7 years old, 25.4% 13–14 years old, and 50.4% 20–44 years old) were selected by a stratified cluster sampling method in eight cities and one rural area, each over 150,000 citizens. The sample was selected based on the methods and questionnaires of International Study of Asthma and Allergies in Childhood and European Community Respiratory Health Survey. Patients aware of asthma significantly less often ($p < 0.05$) reported owning asthma-inducing items and significantly more often reported behaviors minimizing the number of allergens ($p < 0.05$). Patients aware of asthma took all actions reducing their exposure to in-house allergens significantly more often than the healthy ($p < 0.05$) and individuals with symptoms only ($p < 0.05$). Allergy prevention was used more often in children ($p < 0.0005$), responders aware of diseases ($p < 0.05$), higher levels of education ($p < 0.05$), and higher household income ($p < 0.05$). The most common type of prophylaxis used is prophylactic actions, which are undertaken by patients diagnosed with asthma and who are aware of their disease. Adults do not use preventive measures as often as children or adolescents do. Higher rates of prevention-oriented behavior were observed in groups characterized by higher levels of education and higher household income.

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Serum high-sensitivity C-reactive protein can be an airway inflammation predictor in bronchial asthma

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It is controversial that the serum high-sensitivity C-reactive protein (hs-CRP) can be a useful marker of airway inflammation in bronchial asthma, because various factors have been reported to affect hs-CRP levels. We conducted a study in patients with mild bronchial asthma without complications to determine whether hs-CRP is a useful indicator of airway inflammation. The induced sputum

cell differentiation, respiratory function tests, bronchial hyperresponsiveness tests, and hs-CRP measurement were performed in the subject population consisted of 40 healthy volunteers and 45 patients with bronchial asthma. The log-transformed (log) serum hs-CRP level was higher in asthmatic patients compared with healthy controls (2.49 ± 0.41 versus 2.21 ± 0.39 ; $p = 0.002$). A receiver-operating characteristic (ROC) analysis showed a sensitivity of 0.69 and specificity of 0.70 for a log serum hs-CRP of 2.3 to distinguish asthmatic patients from healthy controls. The log serum hs-CRP level negatively correlated with forced volume in 1 second ($FEV_{1.0}\%$) ($r = -0.31$, $p = 0.04$), positively correlated with sputum eosinophils ($r = 0.34$, $p = 0.02$), negatively correlated with sputum macrophages ($r = -0.56$, $p < 0.001$), and did not correlate with log 20% fall in $FEV_{1.0}$ (PC_{20}) ($r = -0.09$, $p = 0.56$). A multiple regression analysis revealed that the log serum hs-CRP concentration significantly correlated with eosinophils ($p = 0.019$) and neutrophils ($p = 0.042$) in the sputum, respectively. Serum hs-CRP may be a useful marker of airway inflammation in nonsmoking asthmatic patients without complications, such as heart disease, hypertension, hyperlipidemia, chronic obstructive pulmonary disease, or infection.

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Effect of TRPV1 gene mutation on bronchial asthma in children before and after treatment

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Bronchial asthma is a worldwide disease with high incidence. It not only harms children's physical and mental health, but it also brings a heavy burden to their families as well as the society. However, the trigger and pathogenesis of the disease remain unclear. This study aimed to analyze TRPV1 gene mutation and expression of cytokines in children with acute bronchial asthma before and after treatment, thus providing theoretical guidance for the diagnosis and treatment of bronchial asthma in children. Real-time quantitative polymerase chain reaction was adopted to detect TRPV1 mRNA expression level and enzyme-linked immuno sorbent assay was used to detect the serum total IgE level, eosinophil (EOS) number, IL-4, IL-5, and interferon (IFN) gamma levels in peripheral venous blood of children in the healthy control group and asthma group before and after treatment. Logistic regression analysis was applied to analyze the most essential factor inducing bronchial asthma in children. TRPV1 mRNA level of peripheral blood in the asthma group was higher than that in the control group before treatment ($p < 0.01$). The IL-4, IL-5, and EOS levels in serum were markedly higher than those in the control group ($p < 0.01$), whereas the IFN-gamma level was lower than that in the control group ($p < 0.01$). After conventional treatment, TRPV1 mRNA level

increased significantly ($p < 0.01$). The levels of serum IL-4, IL-5, and EOS were significantly lower than those before treatment ($p < 0.01$), whereas, IFN-gamma level was higher than that before treatment ($p < 0.01$). Compared with that before treatment, the expression level of IgE showed a significant decrease after treatment ($p < 0.01$). The results of logistic regression analysis indicated that

TRPV1 expression level, IL-4 level, and rs4790522 site mutation were the main risk factors inducing bronchial asthma in children. TRPV1 gene mutation was closely related to bronchial asthma in children, which provided a theoretical basis for the treatment and prognosis of children with bronchial asthma.
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