Turkish Journal of Medical Sciences

Turkish Journal

of

Medical Sciences

Serum Transforming Growth Factor-β (TGF-β), Matrix Metalloproteinase-2 (MMP-2), Matrix Metalloproteinase-9 (MMP-9) and Tissue Inhibitors of Metalloproteinase (TIMP-1) Levels in Childhood Asthma

Figen DOĞU
Alişan YILDIRAN
Deniz GÜLOĞLU
Funda EROL ÇİPE
Mutlu YÜKSEK
Emel BABACAN
Aydan İKİNCİOĞULLARI

Department of Pediatrics, Division of Allergy Immunology, Faculty of Medicine,
Ankara University, Ankara - TURKEY

Keywords
Authors

medsci@tubitak.gov.tr

Scientific Journals Home Page

Abstract: Aims: Airway remodelling is a characteristic feature of asthma and is a dynamic process involving extracellular matrix (ECM) production and its degradation. In this regard, the matrix metalloproteinases (MMPs) and their specific inhibitors known as tissue inhibitors of metalloproteinases (TIMPs) have been shown to be important in this process. In the present study, transforming growth factor (TGF)-β, MMP-2, MMP-9 and TIMP-1 levels in serum samples of children with stable asthma and healthy controls were evaluated to determine whether these levels show any difference between asthmatic and healthy children and whether or not these levels change with atopic status. Materials and Methods: Thirty-one mild to moderate stable asthmatic children aged 6-16 years (16 atopic, 15 non-atopic) who were followed in our clinic and 13 age-matched healthy volunteers were enrolled in the study. Serum TGF-β, MMP-2, MMP-9 and TIMP-1 levels were measured by ELISA. Results: There were no significant differences in serum levels of TGF-β, MMP-2 and TIMP-1 between patients and controls. However, serum MMP-9 levels of asthmatic children were found to be significantly higher than those of healthy controls. No difference was observed between atopic and non-atopic asthmatics for TGF-β, MMP-2, MMP-9 and TIMP-1 levels. Conclusions: Results of the present study support the evidence regarding the involvement of MMPs, especially MMP-9, in the asthma pathogenesis. However, MMP-9 levels do not seem to be influenced by atopic status, which is the most significant risk factor in childhood asthma.

Key Words: Asthma, children, metalloproteinase, airway remodelling

Turk J Med Sci 2008; **38**(5): 415-419.
Full text: pdf
Other articles published in the same issue: Turk J Med Sci,vol.38,iss.5.