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Title: Level of vitamin D is decreased in asthmatic patients

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Body: Background. 1.25-Dihydroxy vitamin D (1.25[OH]D) has long been recognized as a critical mediator in bone health. Several studies of resent years have shown the relationship between chronic inflammatory lung diseases and Vitamin D serum levels. Aim. The aim of this study was to elucidate Vitamin D levels in allergic asthma (AA) and non allergic asthma (NA) patients, and to compare these results with healthy subjects (HS). Methods and material. Eighteen patients with AA, 14 with NA, as well as 10 HS were involved to the study. 1.25[OH]D levels in serum samples were analysed by ELISA. Eosinophil count was evaluated in induced sputum and peripheral blood samples. Results. We found that vitamin D levels in asthmatics were lower compared with HS: in asthmatic group 66.93±21.5 pmol/L vs HS 134.5±20.1 pmol/L, $p<0.05$. However in AA (81.06±21.5 pmol/L) and NA (52.8±21.5 pmol/L) significant difference of 1.25[OH]D was not obtained. Level of 1.25[OH]D significantly negatively correlated with eosinophil count in induced sputum ($r=-0.72$, $p<0.05$) and in serum ($r=-0.54$, $p<0.05$). Conclusions. Levels of vitamin D is decreased in patients with asthma. It let us hypothesize that 1.25[OH]D may be important in the pathogenesis of asthma.