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Title: The crucial role of the expression of negative regulator of gene transcription SOCS5 in asthma pathogenesis

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Body: The aim of the study is to analyze an expression of a negative regulator of gene transcription SOCS5 in peripheral blood of patients with allergic and non-allergic bronchial asthma (BA). Materials and methods. 20 healthy controls, 49 patients with allergic (atopic) and non-allergic BA were examined. The expression of SOCS5 mRNA was analyzed by RT-PCR. To estimate the SOCS5 mRNA quantity reverse transcription PCR followed by electrophoresis on 1,5% agarose gel was performed. Primers of SOCS5 have been developed on the basis of known sequences (GenBank). The expression level of mRNA SOCS5 was estimated concerning level of β -actin. Results. We determined the increase of mRNA SOCS5 expression level in mononuclears of peripheral blood in patients with non-allergic BA in comparison with control group (in 1,3 times) and group of patients with allergic BA (in 1,2 times). While allergic BA patients did not have any significant distinctions of mRNA SOCS5 expression degree in comparison with control group. We also observed strong significant correlations between the level of SOCS5 expression and the duration of smoking ($R=0,72$) and the number of pack-years in patients with non-allergic BA ($R=0,68$). Conclusion. The negative regulator of gene transcription SOCS5 can probably play the important role in pathogenesis of bronchial asthma influencing the IL-4 signaling. As a result, the level of activated STAT6 will be decreased. Increase of expression of mRNA SOCS5 in patients with non-allergic BA can specify in disturbances of system of negative regulation in asthma patients affecting especially the Th1/Th2 balance.