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Title: Increased serum levels of soluble IL-18 receptor complex in allergic asthma

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Body: Introduction IL-18 is known to play an important role in Th1/Tc1 polarization, and promoting the production of Th2 cytokines (e.g. IL-4, IL-5, IL-9, and IL-13) by T cells, NK cells, basophils, and mast cells. Recent studies have reported that IL-18 plays a key role in the pathogenesis of pulmonary inflammatory diseases including bronchial asthma, COPD, and lung fibrosis. Aim We reported that serum levels of IL-18 were significantly higher in the asthmatic subjects, when compared to either the non-asthmatic allergic subjects, or the healthy controls. However the roles of soluble IL-18 receptor complex (sIL-18R) in allergic asthma remain unclear. Therefore, in this study we measured serum levels of sIL-18R in patients with allergic asthma. Method We obtained sera from age-matched 19 allergic asthmatic subjects, 14 allergic non-asthmatic subjects, and 14 healthy controls. We measured serum levels of sIL-18R by using ELISA system. Result The serum levels of sIL-18R in allergic asthmatics (32.9 ± 4.3 ng/ml) were significantly higher than those in non-asthmatic allergic subjects (18.8 ± 1.5 ng/ml) and healthy controls (16.1 ± 1.6 ng/ml). In the entire population, there was a significant correlation between serum sIL-18R levels and the levels of IgE. Conclusion sIL-18R may play an important role in the inflammatory process of allergic asthma.