

POSTER PRESENTATION



Immunoregulatory role of secretory leukocyte protease inhibitor in allergic asthma

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Background

Asthma is a complex and multi-factorial inflammatory disease [1]. It is one of the most common chronic diseases among children and adolescents [2]. Secretory leukocyte protease inhibitor (SLPI) has shown higher levels in asthmatic patients and its function as an anti-inflammatory protein has been documented in respiratory diseases [3,4]. However, its role in the immunomodulation of the response during allergic asthma has not yet been fully elucidated. The aim of this study was to evaluate the role of SLPI in the development of phenotypes associated with allergic asthma, and the effect of resiquimod treatment on the SLPI and the possible mechanisms of action involved in the disease.

Materials and methods

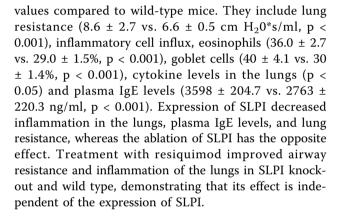
The importance of SLPI was assessed by evaluating airway resistance and inflammatory parameters in SLPI transgenic and knock-out mice using an ovalbumin (OVA)-induced model of acute allergic asthma and treatment with resignimod.

Results

Allergic SLPI transgenic mice showed a significant decrease in airway resistance compared to wild-type mice (6.3 \pm 1.1 vs. 8.0 \pm 2.1 cm H₂0 × s/ml, p < 0.001), the same effect was observed with inflammatory cell infiltration, eosinophil percentage (24 \pm 1.1% vs. 29 \pm 2.3%, p < 0.001), goblet cells (6 \pm 1.4 vs. 36 \pm 4.0%, p < 0.001) in the lungs and IgE levels (2014.1 \pm 309.2 vs. 4173.2 \pm 685.6 ng/ml, p < 0.001) in plasma. Allergic SLPI knock-out mice displayed significantly higher

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Conclusions

SLPI plays an immunoregulatory role in the respiratory tract by reducing the inflammatory process and by improving lung physiology in a murine model of acute allergic asthma.

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