DIFFERENT EFFECTS OF THE WILD TYPE AND K409A MUTANT rHSP65 OF *Mycobacterium leprae* ON SYSTEMIC LUPUS ERYTHEMATOSUS

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The chaperones hsp60s guide several steps during protein synthesis being abundant in prokaryotic and eukaryotic cells and highly conserved during evolution. Both the bacteria and mammalian hsp60 are the major targets for the immune response against infectious agents and they had been implicated in autoimmune diseases and chronic inflammation. Mutagenesis studies showed that the putative catalytic site at the C-domain of *M. leprae* hsp65 (Thr375Lys409Ser502) carries out the main proteolytic activity of this molecule. In the present study the putative pathophysiological role of wild type (WT) and K409A mutant recombinant hsp65 of *M. leprae* in autoimmune diseases was under evaluation. Spontaneous Systemic Lupus Erythematosus [SLE] developed by the [NZB/NZW] F1 hybrids was the model choose. The individual anti-DNA and anti-hsp65 antibody titers were determined until 1 year. The results showed that the treatment with the hspWT abbreviate the mean survival time of the animals in 46% when compared to control ($p<0,001$) and there is no ascite development; these mice presented more precocious anti-DNA antibodies than the control ones ($p< 0, 001$), suggesting the possible role of hsp increasing the exposition/expression of nuclear antigens. Moreover, the involvement of WT rhsp65 correlates to the age of administration and is dose-dependent. Groups treated with the K409A mutant behaved as the control mice. These data clearly indicate the role for hsp65 in the phisiopathogenesis of this autoimmune disease.

KEY WORDS: hsp65, proteolytic activity, *Mycobacterium leprae*, autoimmune diseases, systemic lupus erythematosus.

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EFFECTS OF RAT AIRWAYS EXPOSITION TO STAPHYLOCOCCAL ENTEROTOXIN TYPE A (SEA) ON EXACERBATION OF PULMONARY ALLERGIC INFLAMMATION

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We previously showed that rat airways exposition to SEA evoke a large influx of neutrophils in bronchoalveolar lavage fluid (BAL) by mechanisms involving over-expression of cytokine-induced neutrophil chemoattractant (CINC-2), inducible nitric oxide synthase (iNOS) and cyclooxygenase-2 (COX-2), as well as enhanced production of TNF-α and IL-6. Clinical evidences have been suggesting a link between bacterial organisms and pathogenesis and/or exacerbation of human upper airway disease. Therefore, this study aimed to investigate the effect of sensitized rat pre-exposition with SEA on OVA-induced allergic pulmonary inflammation. Male Wistar rats were sensitized by subcutaneous injection of OVA. Fourteen days later, sensitized rats were submitted to intranasal administration of SEA (3 ng) or sterile PBS buffer. OVA challenge was performed 4 h after the SEA (or PBS) intranasal administration and BAL was obtained at 12, 24 or 48 h after. Our results showed that the eosinophil counts on BAL from rat submitted to airways pre-exposition with SEA was significantly enhanced (358%) 24 h after OVA-challenge when compared with the group pre-exposed to PBS (PBS+OVA: 0.46±0.12 eosinophils/ml x 106; SEA+OVA: 2.11±0.70 eosinophils/ml x 106). No further increase was observed on eosinophlis counts 12 and 48 h after OVA- challenge. Our findings indicated that the airways pre-exposition to SEs leads to exacerbation of allergic pulmonary inflammation, which can be useful for further therapeutic alternatives for airways disease after Staphylococcus aureus infections.

KEY WORDS: Staphylococcal enterotoxin type A (SEA), pulmonary allergic inflammation

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