

Oral tolerance induction by brown spider recombinant toxins (wild-type and mutated) and its effects on immune response

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Oral tolerance refers to physiologic induction of tolerance that occurs in the gut associated lymphoid tissues (GALT) and more broadly at other mucosal surfaces such as the respiratory tract. In the present work we proposed an oral tolerance protocol in adult Swiss mice by oral administration of a recombinant dermonecrotic toxin of brown spider *Loxosceles intermedia* (LiRecDT1) and its mutated form (LiRecDT1H12A) for three weeks. At the end of protocol, animals were immunized with mutated toxin and mineral oil as adjuvant. At the fourteenth day, animals were boosted with mutated toxin and serum was collected seven days later. To access the induction of oral tolerance, specific levels of IgG anti-dermonecrotic toxin were measured via Enzyme linked immunosorbent assay (ELISA) in tolerized and immunized animals. Paw edema was performed in tolerized and control groups by injecting 6 µg of dermonecrotic toxin subcutaneously in the plantar surface. After ten minutes, paw edema was measured with micrometer and result was expressed in millimeter. Mice mortality study was developed by injecting 50 µg of dermonecrotic toxin intraperitoneally in control group and tolerized animals. Mice were observed for 8, 16 and 24h after injection. Our results demonstrated evidences of tolerance induction through decrease in IgG anti-dermonecrotic toxin levels, paw edema reduction and increased survival in 24h after challenge. All statistical analysis was performed using ANOVA following Bonferroni's post hoc test. The study was sponsored by grants of Fundação Araucária, CAPES and CNPq.

Biography

The characteristic of the research group is multidisciplinary. The group has carried out research in the area of pathophysiology, pharmacology, involving principally immunology. Most of researchers involved have a consistent publication of papers in international journals and project approvals in Funding Agencies. Giovani Marino Favero was selected for presentation of this work.

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