Murine model of Chagas' disease to investigate Galectin-3 participation on phenotypic profile of innate immune cells and apoptotic signalling during *Trypanosoma cruzi* infection.

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Introduction and Objectives: Chagas is a neglected disease caused by the *Trypanosoma cruzi* infection, an etiologic agent identified in 1909 by Carlos Chagas. The inflammatory process in the parasite infected tissues is due to cytokines that mediate a tolerogenic immune status, which favors the infection process, the parasite persistence and also trigger an autoimmune response that characterize the chronic phase. Some immune mediators like galectin-3 play pleiotropic functions associated with apoptosis, parasite recognition and immune response, modulating the cytokines secretion, migration and maturation of lymphocytes and dendritic cells. Our goal will be use a murine experimental model to investigate the Gal-3 participation on Chagas disease. **Materials and methods**: C57/BL6 and C57/BL6 Gal-3 knockout mice were infected with *T. cruzi* Y strain to investigate deeply what is current in literature: (1) the detailed profile of parasitemia in the acute phase, (2) the cytokine production and immune response during the acute phase, (3) analyze spleen cell phenotype and the innate immune response by flow cytometer. Use peritoneal macrophages obtained from C57/BL6 and C57/BL6 Gal-3 (-/-) mice to investigate ex vivo infection: (1) cell viability, inflammatory response by nitric oxide production, (2) gene expression of pro-apoptotic markers as Bax, PARP and anti-apoptotic as cIAP1, cIAP2, Survivin, XIAP, Bcl-2 by *western blot*. **Results:** Flow cytometer immune-phenotyping for splenocytes is ongoing, as well as functional analysis with macrophages to determine different levels of apoptotic proteins. **Perspectives:** Phenotypic characterization of immune cells during the first days of the acute phase will be important to understand the innate response and progression to chronic phase in wild-type and Gal-3 knockout mice. Moreover, the investigation of apoptotic pathways in macrophages can help us to understand how the parasite ensures the survival of the infected cell providing their evolutionary success.

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