RESÚMENES DE PUBLICACIONES

T. CRUZI INFECTION INTERFERES WITH THYMIC REGULATORY T CELL HOMEOSTASIS

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The dynamics of regulatory T cells in the course of *Trypanosoma cruzi* infection is still debated. We previously demonstrated that acute murine T. cruzi infection results in an impaired peripheral CD4+Foxp3+ T cell differentiation due to the acquisition of an abnormal Th1-like phenotype and altered functional features, negatively impacting on the course of infection. Moreover, T. cruzi infection induces an intense thymic atrophy. As known, the thymus is the primary lymphoid organ in which thymic-derived regulatory T cells, known as tTregs, differentiate. Considering the lack of available data about the effect of T. cruzi infection upon tTregs, we examined tTreg dynamics during the course of disease. We confirmed that T. cruzi infection induces a marked loss of tTreg cell number associated to cell precursor exhaustion, partially avoided by glucocorticoid ablation- and IL-2 survival factor depletion. At the same time, tTregs accumulate within the CD4 single-positive compartment, exhibiting an increased Ki-67/Annexin V ratio compared to controls. Moreover, tTregs enhance after the infection the expression of signature markers (CD25, CD62L and GITR) and they also display alterations in the expression of migration-associated molecules (α chains of VLAs and chemokine receptors) such as functional fibronectin-driven migratory disturbance. Taken together, we provide data demonstrating profound alterations in tTreg compartment during acute murine T. cruzi infection, denoting that their homeostasis is significantly affected. The evident loss of tTreg cell number may compromise the composition of tTreg peripheral pool, and such sustained alteration over time may be partially related to the immune dysregulation observed in the chronic phase of the disease.

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