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POTENTIAL ROLE OF CROSS-REACTIVITY IN THE PATHOGENESIS OF CHAGASIC MYOCARDITIS: REGULATION BY INTERLEUKIN-4. Soares, M.B.P.; Lima, R.S.; Silva-Mota, K.N.; Bellintani, M.C.; Pontes de Carvalho, L.C.; Ribeiro dos Santos, R. Centro de Pesquisas Gonçalo Moniz, FIOCRUZ-BA

Objective: To investigate a possible contribution on of cross-reactivity between *Trypanosoma cruzi* and heart antigens.

Methods: Wild-type and IL-4 -/- BALB/c mice were hiperimmunized with syngeneic heart antigen 8 times by weekly subcutaneous injection. Heart inflammation and anti-*T. cruzi* immune response were investigated.

Results: Repeated immunization induces myocarditis in IL-4 -/-, but not in wild-type mice. Challenge of the later mice with Y strain *T. cruzi* induces a strong myocardial inflammatory response 30 and 60 days post-infection. Sera from heart antigen hyperimmunized BALB/c mice reacted with *T.cruzi* antigens by ELISA. Anti-*T.cruzi* antibody titers and reactivity against various *T.cruzi* antigens greatly increased upon challenge of hyperimmunized mice with 100 Y strain trypomastigotes. Hyperimmunized mice also had cellular responses against *T.cruzi* antigen, as shown by proliferation, Delayed type hypersensitivity (DTH) reaction and interferon-gamma (IFN-gamma) production. Stimulation of splenocytes from hyperimmunized mice with *T.cruzi* antigen induced a proliferative response 2-4 fold higher compared to the response of normal mice, and similar to that of infected mice. The *T.cruzi*-induced proliferative response, DTH-reaction and IFN-gamma production was conspicuously larger in infected hyperimmunized animals in relation to hyperimmunized or infected animals.

Conclusion: Cross-reactive responses between *T.cruzi* and heart antigen may contribute to break the tolerance to heart antigens and are modulated by IL-4.