TNF BLOCKERS ALONE AND ASSOCIATED WITH BENZNIDAZOLE IMPACT *IN VITRO* CYTOKINE DYNAMICS IN CHRONIC CHAGAS DISEASE

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Studies involving the immune response in Chagas disease suggest an imbalance in the immune response of symptomatic patients, with an inflammatory profile dominating in Chagas heart disease, mainly by tumour necrosis factor (TNF). TNF is considered a key cytokine in immunopathology in chronic carriers in several processes during the immune response. Our work aimed to evaluate regulatory (interleukin [IL]-4 and IL-10) and inflammatory (TNF, interferon-gamma [IFN-γ], IL-2 and IL-6) cytokines in peripheral blood mononuclear cells culture supernatants. of affected patients with undetermined clinical forms—IND (n = 13) mild heart form—CARD1 (n = 13) and severe cardiac form—CARD2 (n = 16), treated in vitro with two TNF blockers, Adalimumab (ADA) and Etanercept (ETA) alone or in association with Benznidazole (BZ). The results indicate that ADA was more competent in blocking TNF (compared to ETA) in all groups but with much lower levels in the CARD2 group. ETA statistically decreased TNF levels only in the CARD2 group. IFN-γ increased in the CARD2 group after treatment with ETA relative to ADA. IL-4 had its levels decreased when treated by both drugs. IL-2 was detected in cells from CARD2 carriers compared to the NEG group after treatment with both drugs. The association with BZ decreased levels of IL-2/TNF and increased IL-4. These data reinforce the participation of TNF in severe Chagas heart disease and bring perspectives on using these blockers in the immunological treatment of Chagas disease since the use of BZ is extremely limited in these patients.

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