Etanercept treatment improves acute chagas disease outcome but alters cardiac conduction and repolarization parameters

1. Purpose

Chagas disease is a tropical illness caused by the intracellular protozoan *Trypanosoma cruzi*. The role of Tumoral necrosis factor (TNF-α) in the pathogenesis is still matter of discussion. In this sense, the aim of this work is evaluate the effect of the TNF-α blocker Etanercept on survival, sickness behavior and ECG parameters during acute phase of mice infected with a venezuelan *T. cruzi* isolated.

2. Methods

2.1 Infection and Etanercept administration.

30 g male NMRI

30,000 tripomastogotes/mouse (intraperitoneally)

7 days post-infection

0.83 mg/Kg etanercept (infected and treated)

100 μL saline (infected and untreated)

2.2 ACUTE PHASE PARAMETERS

Weekly ECG

Motility measurement

Time of paw withdrawal

3. Results

3.1 Survival and inflammation

3.2 ECG parameters

4. Conclusion

Etanercept was able to improve acute Chagas outcome increasing survival and reducing inflammation and sickness behavior parameters in acutely infected mice. However, was observed an alteration of ECG parameters that could be associated with myocarditis and dyxaustonomia, which suggest a role of TNF-α in cardiac regional response.

5. Declaration of interest: The authors declare that does not exist conflict of interest.