

COMBINED ANALYSIS OF CROSS-REACTING ANTIBODIES ANTI- β 1AR AND ANTI-B13 IN ADVANCED STAGES OF CHAGAS HEART DISEASE

RODELES LM, VICCO MH, BONTEMPI I, SIANO A, TONARELLI G, BOTTASSO OA, ARIAS P, MARCIPAR IS.

Objective: Autoantibodies cross-reacting with the β 1 adrenergic receptor (anti- β 1AR and anti-p2 β) and cardiac myosin antigens (anti-B13), have been related to the pathogenesis of chronic Chagas heart disease (CCHD). Studies exploring their levels in different stages are scarce. We aimed to evaluate the relationship of these autoantibodies with the clinical profile of chronic patients, especially regarding their classificatory accuracy in severe presentation with heart failure. **Methods and results:** We conducted a cross-sectional study of 155 T. cruzi-seropositive patients and 26 age- and gender-matched healthy controls. They were categorized in three stages of CCHD. Serum antibodies were measured by specific immunoassays. Symptomatic individuals showed increased levels of anti- β 1AR and anti-B13, while anti-p2 β antibodies were similar between groups. A composite logistic regression model

including anti-B13, anti- β 1AR antibody levels and age, was able to predict systolic heart failure yielding an area under the curve of 83% (sensitivity of 67% and specificity of 89%).

Conclusions: In our study, anti- β 1AR and anti-B13 antibodies were higher in individuals with chronic Chagas heart disease stage III, mainly in those with dilated cardiomyopathy associated with systolic heart failure. Logistic regression analysis showed that both antibodies were good predictors of severe CCHD. As well as being involved in disease progression, anti- β 1AR and anti-B13 antibodies may be used as a serum marker of poor prognosis in terms of heart compromise.

Trop Med Int Health 21: 1545-51, 2016.