

## Research in the genes polymorphisms of eNOS and Arginase-1 in patients with Chagas disease

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**INTRODUCTION:** The human infection by *Trypanosoma cruzi* still shows a high prevalence in Rio Grande do Norte state. Our research group has been documented various areas which predominance the cardiac clinic form of Chagas disease. The literature describes an association of polymorphisms in the gene of eNOS (endothelial nitric oxide) and Arginase-1 with lot of cardiovascular diseases. **OBJECTIVES:** This study intends to investigate the polymorphisms in gene of eNOS and Arginase-1 present in patients in the chronic phase of Chagas disease. **MATERIAL AND METHODS:** Research will be performed in a total of 80 patients from endemic areas RN state with the cardiac form of the disease. The seroreactivity will be search by serological methods of hemagglutination, ELISA and indirect immunofluorescence. Through the technique of PCR-RFLP (Restriction Fragment Length Polymorphism) will be researched some variants to eNOS and Arginase-1. Next, analysis of correlation between the genetics findings and the phenotypic pattern of the disease will be investigated. **RESULTS AND DISCUSSION:** The identification of polymorphism in genes related to production of NO (nitric oxide) in the study population will allowed the understanding about some metabolic ways of cellular response against infection by *T. cruzi*. Establish genetic markers, presents in the parasite or in the host may be the key to support the prognostic of severe forms of the disease. **CONCLUSIONS:** Variations in these genes points to a decrease of NO. The association with the patients positive to *T. cruzi* infection will allow a better comprehension of possible symptoms that establish with the development of chronic Chagas disease.

**Key words:** Chagas Cardiomyopathy, Polimorphysm, Mollecular Marker.

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