Chag12. **Evaluation of the response to treatment with Benznidazole of mice with triple infection with clones 0f 21SF strain (S. FELIPE-BA) of *Trypanosoma Cruzi* with different degrees of susceptibility to chemotherapy in comparison with mice with single infection**

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Introduction: People living in endemic areas of Chagas disease are submitted to multiple infections during their lives and could be infected with strains or clones with different virulence and susceptibility to chemotherapy. This is an important factor in the development and morbidity of the disease. Strains of *Trypanosoma cruzi* represent complex multiclonal populations, which can be homogeneous or heterogeneous with predominance of a principal clone. The strains are biologically classified in different Biodemes (Types I, II and III) which disclose different degrees of resistance to chemotherapy. Type I strains are very susceptible to treatment. Type II strains disclose medium susceptibility (21SF strain); strains of Type III are very resistant (Colombian strain). The clones isolated from different strains can also present different degrees of resistance. In the present study the results of treatment of mice triple infected with clones of the 21SF strain is evaluated, in comparison with the infected with the parental strain. **Materials and Methods:** 50 Swiss mice were infected with the 21SF strain (single infection).The inoculum was of 5 x 10^4 blood trypomastigotes. 100 mice were infected successively with 3 clones of the 21SF strain (C6, C7 and C8) inoculum: 1x10^4 trypomastigotes (triple infection). Single infection with each Clone was also done. The mice of both groups were divided into 2 sub-groups: treated with Benznidazole –BZ: (100mg/kg/day – 60 doses) and untreated controls. After 60 days of the end of treatment, surviving mice were killed by exsanguinations after anesthesia; the blood was collected for indirect immunofluorescence serological test; cure tests were performed (parasitaemia, xenodiagnosis and hemoculture). **Results:** Cure rates varied in each group (26.6% - 66% - single infection and 73.3%- triple infection). Serology (IIFT) titles varied from 1:20 a 1:280 for the infected with parental strain treated with BZ and from 1:640 to 1:1280 for untreated controls. Serology titles in the single infection with each clone varied from 1:10 to 1:1280 in treated mice and from 1:160 to 1:1280 in the untreated controls. **Conclusions:** In all the groups, treatment with BZ determined comparable results (parasitaemia, serology titers, mortality rates and cure rates). These data are compatible with previous studies that demonstrate a medium susceptibility of Type II strains and the predominance of a principal clone in the endemic area of S. Felipe-BA. **E-mail:** mc_reboucas@hotmail.com

T. cruzi – diversity