

Chag13. **Biological and molecular characterization of clonal populations of *Trypanosoma cruzi* strains: 21SF – Biodeme Type II and Colombian strain – Biodeme Type III, isolated from infected mice, treated with Benznidazole and not cured**

Brito de Moraes, IR¹, Guerreiro, ML¹, Patriota, GSQ¹, Santos, C V², Macedo, AM², Andrade, SG¹ ¹Laboratório de Chagas Experimental Autoimunidade e Imunologia Celular - Centro de Pesquisas Gonçalo Moniz, FIOCRUZ, Salvador, Bahia; ²Departamento de Bioquímica e Imunologia Universidade Federal de MG, Belo Horizonte, MG

Introduction: Different strains and clones of *Trypanosoma cruzi* present different degrees of susceptibility to treatment with chemotherapeutic drugs. Several studies have been developed to evaluate the response to different drugs concerning the strains prototypes of Biodemes Types I, II and III according to the biological characterization. Results have shown that the strains prototypes of the Biodeme Type I (Y and Peruvian strains) disclosed a high susceptibility to treatment with Benznidazole and Nifurtimox; strains of the Biodeme Type II (prototype: the 21SF strain) showed a medium susceptibility; the strains of the Biodeme Type III (Colombian strain) were highly resistant. Considering that *T. cruzi* strains represent complex multiclonal populations, differing in their genetic and biological characteristics, clones of two *T. cruzi* strains were analyzed with the objective of to investigate if the treatment with chemotherapeutics anti-*T. cruzi* could conduct to the selection of resistant clones differing or not in their biological and molecular characteristics. **Objective:** In the present study we investigate the biological and molecular characters of clones of the 21SF strain (Biodeme Type II) and of the Colombian strain (Biodeme Type III) isolated from mice treated with Benznidazole, but not cured, in comparison with clones isolated from untreated mice, with the objective of to investigate possible differences in the biological and molecular characteristics of these resistant clones. **Material and methods:** 18 clones were isolated from mice infected with the Colombian strain and 08 clones isolated from those infected with the 21SF strain, treated and uncured. The clones were characterized according to biological behavior (parasitaemia, mortality, virulence, histotropism) and molecular characters, evaluated through the restriction fragment length polymorphism (RFLP) of the k DNA for each isolated clone, using restriction enzymes RSA I, HINF I and ECO RI. With the intent to distinguish between individual clones of the 21 SF and Colombian strains we made a microsatellite characterization, a very sensitive technique. Here were chosen five *loci* which are very polymorphic: TcTAT20, TcAAAT6, SCLE11, SCLE10 and MCLF10. We observed that the microsatellite profiles between the strains and their clones were very similar, showing that these populations are probably monoclonal and the treatment with Benznidazole did not alter their molecular structure. **E-mail:** sgandrade@bahia.fiocruz.br