RESUMO

Trypanosoma cruzi is mainly transmitted by the bite of blood-sucking triatomine bugs. Other routes also have epidemiological importance, such as blood transfusion, transplacental and oral transmission. The possibility of T. cruzi sexual transmission is raised by several authors, but still needs to be evaluated. Previous studies conducted in lab showed that mice infected with Berenice strain, can transmit the parasite by the coitus during acute and chronic Chagas disease. Thus, it is essential to expand experimental research and epidemiological studies to define the real importance of this pathway, and that will favor the development of more efficient strategies to prevent T. cruzi transmission. Twenty mice (10 males and 10 females) were infected intraperitoneally with 103 trypomastigotes Colombian strain. Infected mice were placed to mate with their healthy sexual partners 30 (acute phase) or 90 (chronic phase) days post-infection. After gestation and weaning of the pups, blood was collected from all couples for parasitological, serological and molecular tests. The same investigation was conducted in the initially healthy female progeny to confirm the sexual transmission. Specific anti-T. cruzi antibodies were assessed by Indirect Immunofluorescence and ELISA. The parasitemia was determined by microscopically examination of fresh blood smear, blood culture and qPCR. Serological and molecular tests showed T. cruzi sexual transmission in all couples. However, parasitological examination identified the parasite in the blood culture of only 5% of mice and fresh blood smear was negative. Immunodiagnostic and qPCR also confirmed the infection of the progeny. Interestingly, intraperitoneally and sexually infected females showed reduced fertility during acute phase: just one 30% of the couples had puppies. In contrast, 80% of chronically infected couples had puppies, however with large amount of stillborn and deaths in the first days of life. In conclusion, the results show the sexual transmission of T. cruzi Colombian strain during acute and chronic phase of the infection and a gestational commitment of the animals.