Abstract

Define an experimental model by evaluating quantitative and morphometric changes in myenteric neurons of the colon of mice infected with Trypanosoma cruzi. Twenty-eight Swiss male mice were distributed into groups: control (CG, n=9) and inoculated with 100 (IG100, n=9) and 1000 (IG1000, n=10) blood trypomastigotes, Y strain-T. cruzi II. Parasitemia was evaluated from 3-25 days post inoculation (dpi) with parasites peak of 7.7 × 10(6) and 8.4 × 10(6) trypomastigotes/mL at 8th dpi (p>0.05) in IG100 and IG1000, respectively. Chronic phase of the infection was obtained with two doses of 100mg/Kg/weight and one dose of 250mg/Kg/weight of Benznidazole on 11, 16 and 18 dpi. Three animals from each group were euthanized at 18, 30 and 75 dpi. The colon was stained with Giemsa. The quantitative and morphometric analysis of neurons revealed that the infection caused a decrease of neuronal density on 30th dpi (p<0.05) and 75 dpi (p<0.05) in IG100 and IG1000, respectively. Chronic phase of the infection was obtained with two doses of 100mg/Kg/weight and one dose of 250mg/Kg/weight of Benznidazole on 11, 16 and 18 dpi. Three animals from each group were euthanized at 18, 30 and 75 dpi. The colon was stained with Giemsa. The quantitative and morphometric analysis of neurons revealed that the infection caused a decrease of neuronal density on 30th dpi (p<0.05) and 75 dpi (p<0.05) in IG100 and IG1000. Infection caused death and neuronal hypertrophy in the 75th dpi in IG100 and IG1000 (p<0.05, p<0.01). The changes observed in myenteric neurons were directly related to the inoculate and the time of infection.

Keywords

Chagas disease, colon, enteric nervous system, Giemsa, Trypanosoma cruzi.