Evaluation of effects of inert vehicles proceeding from homeopathic preparation in mice's experimental infection by *Trypanosoma cruzi*

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Background: In experiments with homeopathic medicines is important to test the inert vehicle from succussed preparations for the treatment control. **Aim:** To evaluate the effect of hydro-alcoholic solutions 1cH, 6cH and 30cH in mice's experimental infection with *Trypanosoma cruzi*. **Methodology:** In a blind, randomized, controlled test, two independent experiments with 34 and 51 swiss male mice, 8 weeks old, kept in cages micro acclimated, infected with 1400 blood trypomastigotes of the Y strain of *T. cruzi* (via IP), were divided: **IC**-untreated control; **G1cH**-received hydro-alcoholic solution dynamized 1cH; **G6cH**-received hydro-alcoholic solution dynamized 6cH and **G30cH**-received hydro-alcoholic solution dynamized 30cH. The solutions were prepared according to Brazilian Homeopathic Pharmacopoeia¹ with alcohol 70 ° GL. Final preparations (1cH, 6cH and 30cH) were manipulated with water (Sigma-SP-Brazil). The treatment was offered diluted with water (1/100mL) *ad libitum* 48 hours before infection, available for 16h. After infection, the animals were treated 56h/56h for 16h until the 9th day of infection. The parasitological parameters were analyzed: Curve of Parasitemia, Total Parasitemia (TP), Peak Maximum of Parasites (PMP), Pre-Patent Period (PPP), Patent Period (PP) and Survival. The experiment was approved by the UEM's Ethical Committee. **Results:** **G1cH** showed a higher survival (p=0.044) with a life expectancy of 2.58 times larger than the control group (Figure 1.A), as well as lower TP (p=0.002) and PMP (p = 0.018). PPP and PP showed no statistical difference, although in **G1cH** it was observed an increasing trend of PPP (p=0.065). These results are related to host's benefit. The **G6cH** group presented a longer survival (p=0,045), with a life expectancy 1.94 times larger than the control group (Figure 1.B). Although no difference to TP, PMP, PP and PPP has been observed, the alcohol 6cH performed protecting animals against infection. The **G30cH** displayed an increasing trend of PMP (p=0.066) compared to the control group. Effects of inert vehicle succussed have been reported in studies *in vitro*². However, no effects had been reported *in vivo* studies yet^{2,3}. The hydro-alcoholic solution 7% 13CH, tested under the same conditions and animal model, did not change the natural evolution of the infection². **Conclusion:** The hydro-alcoholic solutions 1cH and 6cH altered the course of experimental infection by *T. cruzi*, reducing the parasitemia and/or increasing the survival time, and can not be considered as inert vehicle in the high diluted compounds preparation.

Figure 1.: Survival analysis of mice infected by *T. cruzi* and treated with hydro-alcoholic solution 70% dynamized. (A) Groups IC (Infection Control) and 1cH (hydro-alcoholic solution dynamized 1cH) and (B) Groups IC (Infection Control), 6cH (hydro-alcoholic solution dynamized 6cH) and 30cH (hydro-alcoholic solution dynamized 30cH).

Keywords: *Trypanosoma cruzi*, homeopathy, inert vehicle, parasitemia.

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