Int J High Dilution Res 2014; 13(47):111-113
Proceedings of the XXVIII GIRI Symposium; 2014 June 20-22; Sighisoara (Romania)

Zincum metallicum 5cH increases survival and improves clinical mice infected with *Trypanosoma cruzi*

Larissa Ciupa[1], Franciele Karina da Veiga[1], Angela Rigo Portocarrero[1], Patricia Flora Sandri[1], Fabiana Nabarro Ferraz[1], Érika Cristina Ferreira[1], Katiucha Rebeca Jennifer Lopes Lera[1], Carla Holandino[2], Leoni Villano Bonamin[3], Paolo Bellavite[4], Denise Lessa Aleixo[1], Silvana Marques de Araújo[1].

[1]Universidade Estadual de Maringá – UEM; Paraná – Brazil
[2]Universidade Federal do Rio de Janeiro – UFRJ; Rio de Janeiro – Brazil
[3]Universidade Paulista – UNIP – São Paulo, Brazil
[4]University of Verona, Verona Italy

The Multicenter International Project suggests *Zincum mettalicum* high diluted as an object of study in different experimental models. **Aim:** evaluate the effect of substance high diluted *Zincum metallicum* in murine experimental infection by *Trypanosoma cruzi*. **Metodology:** was performed a blind, controlled, randomized, using 60 *swiss* male mice, 56 days old, divided into groups: CNI - uninfected and untreated animals; CI - infected and untreated animals; infected and treated animals: ZN_{5cHTA} - Zinc 5ch and LAC_{5cHTA} - Lactose 5ch , 48 hours before and after infection, subsequently were treated 56/56 hours until 9th day of infection; ZN_{5cHTTD} - Zinc 5Ch and LAC_{5cHTTD} - Lactose 5CH everyday from the 4th of infection. Animals were inoculated with 1.400 blood trypomastigotes, strain Y-*T. cruzi*, intraperitoneally. Medicines were handled according to the Brazilian Homeopathic Pharmacopoeia[1], on separate days (first Lactose and then Zinc) and stored in different rooms. Microbiological testing (RDC n° 67MS-Brazil), *in vivo* biological test and toxicity test was performed. Treatment was diluted in water (1mL/100mL). Clinical (temperature, weight, water/foodintake and excreta)[2] and parasitological parameters (pre-patent and patent period, peak parasitemia, and parasitemia overall survival time)[3] were assessed daily. Data were compared BioEstat 5.0, significance level of 5 %. **Results**: ZN_{5cHTA} group had a higher survival time than their control LAC_{5cHTA} ($p=0.004$). ZN_{5cHTA} shows 55.7% probability of surviving to the 15th day after infection, while LAC_{5cHTA} 29.4%. ZN_{5cHTA} also provides significantly better performance ($p= 0.0206$) compared to CI, contrary to what occurs with LAC_{5cHTA} x CI ($p=0.7410$), showing once again the superiority of action ZN_{5cHTA}. There is no significant difference in survival between the different treatments schemes TA and TTD, either with ZN_{5cH} ($p=0.0754$) or LAC_{5cHTA} ($p=0.9480$), although ZN_{5cHTA} present the best trend toward benefit. Considering parasitological parameters ZN_{5cHTA} group had higher pre-patent period (PPP) meaning benefit to infected animals [4]. Although ZN_{5cHTA} present greater number of parasites in relation to LAC_{5cHTA} ($p = 0.020$) considering the 6-11th day of infection period, showing a better performance compared to the other groups as observed in other models [5]. **Conclusion**: ZN_{5cHTA} group had higher survival, greater pre-patent period and better clinical outcome compared to its LAC_{5cHTA} control and the other groups although it had higher total parasitemia, the posterior control of infection might be related to the increase of parasitemia in a previous period.

https://doi.org/10.51910/ijhdr.v13i47.726

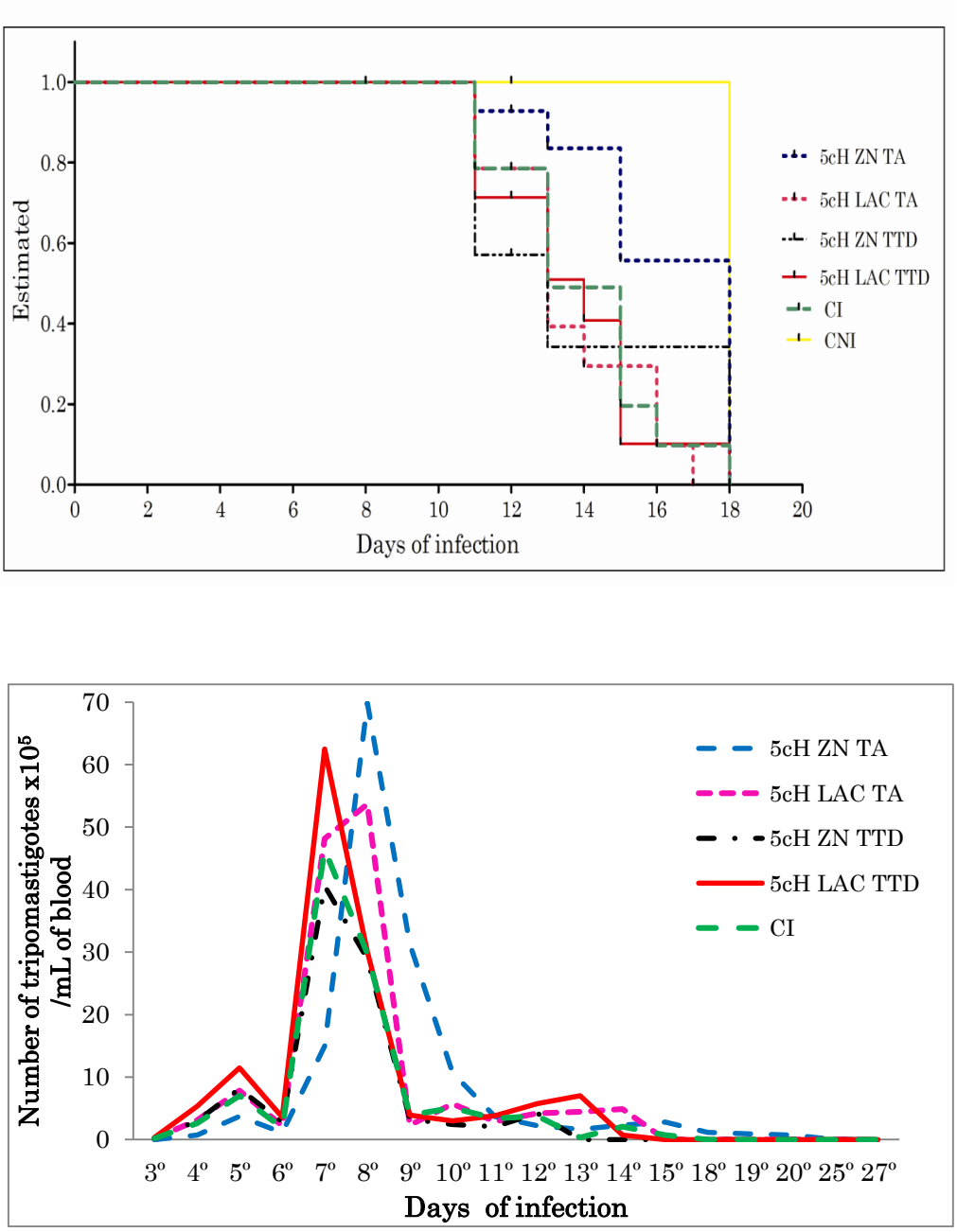

Figure 1. (A) Survival analyses and **(B)** Parasitemia curves of mice infected by *T. cruzi* and treated with *Zincum metallicum* and lactose highdiluted**.**

Keywords: *Trypanosoma cruzi*, *Zincum Metallicum*, High dilutions.

References:

https://doi.org/10.51910/ijhdr.v13i47.726

[1]Brazilian Homeopatic Pharmacopeia, 3ª ed, 2011. Avaible from: http://www.anvisa.gov.br/farmacopeiabrasileira/conteudo/3ª_ed.pdf.

[2] Falkowski GJS, Tiyo R, Aleixo DL, Sandri PF, Araújo SM. Parameters for evaluation of clinical trial in mice infected with Trypanosoma cruzi. Arq Bras Med Vet Zootec; 64 (6): 1539-1546. 2012

[3] Brener Z. Therapeutic activity and criterion of cure on mice experimentally infected with Trypanosoma cruzi. Rev Inst Med Trop São Paulo. 1962; 4: 389-96.

[4] Aleixo D, Ferraz F, Ferreira E, De Lana M, Gomes M, De Abreu Filho B, et al. Highly diluted medication reduces parasitemia and improves experimental infection evolution by Trypanosoma cruzi. BMC Research Notes, v. 5, p. 352-367, 2012.

[5] Aleixo DL, Bonamim LV, Ferraz FN, Veiga FK, Araújo SM. Homeopathy in parasitic diseases. Int J High Dilution Res, v 13 (46): 13-27. 2014.

Support: PROAP/CAPES, Fundação Araucária
Conflict of interest: authors declare there is no conflict of interest
Received: March 30th 2014; Revised: May 10th 2014; Published: June 30th 2014.
Correspondence author: Larissa Ciupa, ciupalarissa@gmail.com
How to cite this article: Ciupa L, da Veiga FK, Portocarrero AR, Sandri PF, Ferraz FN, Ferreira EC, Lera KRJL, Holandino C, Bonamin LV, Bellavite P, Aleixo DL, Araújo SM. Int J High Dilution Res [online]. 2014 [cited YYYY Month dd]; 13(47):111-113. Proceedings of the XXVIII GIRI Symposium; 2014 Jun 20-22; Sighisoara (Romania). GIRI; 2014; Available from: http://www.feg.unesp.br/~ojs/index.php/ijhdr/article/view/726/704

https://doi.org/10.51910/ijhdr.v13i47.726