

Comparison of the Neurotoxic Activity of *Bothriopsis taeniata* and *Bothriopsis bilineata* Whole Venoms on Isolated Chick Biventer Cervicis Nerve-Muscle Preparations.

¹Romero-Vargas, F.F., ¹²Ponce-Soto, L.A., ¹Huacahuire-Vega, S., ¹Vilca-Quispe, A., ¹Marangoni, S.

¹ Department of Biochemistry, Institute of Biology, State University of Campinas, Campinas, São Paulo, Brazil.; ² Department of Pharmacology, Faculty of Medical Sciences, State University of Campinas, Campinas, São Paulo, Brazil.

Email: frejromerovargas@yahoo.com.br

We have compared the effects of *Bothriopsis taeniata* and *Bothriopsis bilineata* snake venoms on neurotransmission on isolated chick biventer cervicis nerve-muscle preparations. Indirectly stimulated (4 x threshold, 0.1 Hz, 0.2 ms) in isolated chick biventer cervicis nerve-muscle preparations suspended in Tyrode solution were incubated with venoms for up to 120 min. At 1 µg/ml, *Bothriopsis taeniata* and *Bothriopsis bilineata* venoms blockage the twitch-tension amplitude ($34.7 \pm 5.0\%$ and $47.7 \pm 12.6\%$, respectively, $p < 0.05$). This was followed by progressive, irreversible blockade (50% in 92.2 ± 8.0 min and 89.7 ± 09 min, respectively). At 10 µg/ml, *Bothriopsis taeniata* and *Bothriopsis bilineata* venoms produced an initial increase in twitch-tension amplitude ($83.4 \pm 9.0\%$ and $39.3 \pm 8.3\%$, respectively, $p < 0.05$) after 10 min, to reach a maximum of $145.3 \pm 12.3\%$ and $103.6 \pm 08.5\%$ ($p < 0.05$) respectively. As with the lower concentration this was followed by progressive irreversible blockade (50% in 63.4 ± 7.1 min and 71.5 ± 5.3 min respectively). The pharmacological effects of both venoms were not significantly different from those obtained with the other two concentrations.

These results indicate that the neuromuscular action of *Bothriopsis taeniata* venom in chick biventer cervicis nerve-muscle preparations is similar to that of *Bothriopsis bilineata* venom.

Keywords: Neurotoxicity, Chick biventer cervicis, *Bothriopsis taeniata*, *Bothriopsis bilineata*.

Financial support: Capes