Miotoxic and Inflammatory Properties of *Porthidium hyoprora* Venom Fraction

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**INTRODUCTION:** In Latin America, envenomation is still considered a relevant problem because of lethality and its effects in the victims. The fosfolipases A\(_2\) (PLA\(_2\)) are one of the most active biomolecules amongst venom proteins, responsible for several pharmacological effects, such as miotoxicity, neurotoxicity, cardiotoxicity, anti-coagulant and inflammatory effects. The work proposed to evaluate the miotoxicity and some of the inflammatory effects of a fraction extracted of the *P. hyoprora* venom.

**MATERIAL AND METHODS:** *P. hyoprora* crude venom was separated in three fractions using Sephadex\textsuperscript{\textregistered} G-75 column. The fraction containing PLA\(_2\) was evaluated to its miotoxicity by dosing blood levels of creatine kinase (CK) at different times after venom fraction injection in the muscle (local miotoxicity) and in the caudal vein (systemic miotoxicity). The proinflammatory cytokines IL-1, IL-6 and TNF-\(\alpha\) were dosed after venom fraction injection.

**RESULTS AND DISCUSSION:** Phospholipolytic activity of *P. hyoprora* venom was found mostly in fraction II. Fractions I and III presented a small amount of activity probably due to sample contamination. Fraction II was thus used in the miotoxicity and inflammatory assays; it presented high level of local miotoxicity, with a CK peak of 1293 U/ml at two hours after injection. Nevertheless systemic miotoxicity was not detected, without increase of CK levels during the 24 hours of experiment. The cytokines tested demonstrated a great increase after toxins injection. IL-6 and TNF-\(\alpha\) demonstrated a slightly increase after 30 minutes with peaks of several times the basal levels at three and one hour respectively. Significantly IL-1 increased could be detected only after one hour, with a peak at six hours and the activity remained very high at the twelfth hour of the experiment.

**CONCLUSION:** The PLA\(_2\) containing fraction of *P. hyoprora* venom presents elevated local miotoxicity and increase of some inflammatory mediators but no systemic miotoxicity.

Keywords: *Porthidium hyoprora*, PLA\(_2\), miotoxicity, inflammation.

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