Cytotoxicity and Spreading Evaluation of Macrophages Treated With Venom of *Bothrops jararacussu a*nd a Lectin Isolated From This Venom

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Macrophages are defense cells capable of performing complex functions such as destruction of microorganisms and tumor cells. However, many functions are performed only after its activation, which can occur both “in vivo” and “in vitro” from substances as plants and animals venoms, isolated components (proteins, lectins, etc.) or substances chemical. However, for a substance can be used as immune-stimulant, should be checked if it does not cause cellular cytotoxicity. This study aimed to investigate the cytotoxic activity “in vitro” of the venom from *B. jararacussu* and a lectin isolated on mice peritoneal macrophages and the effect of these substances on cell spreading. The macrophages were obtained by peritoneal lavage from Swiss albino mice females. The cells were centrifuged and plated in culture plates of cells. After adhesion, the crude venom or lectin were added to cells at concentrations of 0.01, 0.1, 1, 10, 50, 100 µg/ml, and were evaluated at different incubation times: 24, 48 and 72h for cytotoxicity, 24 and 48 for the spreading. In both tests the cells were stained with crystal violet, whereas a test of cytotoxicity, cells were lysed and the absorbance was read at 550nm. The spreading cells were counted in inverted microscope up to 100 cells, and obtained the rate of spreading (SI) in %. The crude venom and lectin showed no cytotoxicity in vitro in any conditions tested. The crude venom increase cell spreading in both times, mainly in the 24h and 50 and 100µg/ml concentrations and at 48h, there was no significant differences. This study confirmed the absence of cytotoxicity on macrophages of crude venom and a lectin isolated him, and the activation of these cells through the verification of the increase in cell spreading.

Keywords: immune activation, lectin, venoms.

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