Action of Jararhagin-C on Endothelial Cell Proliferation and Migration in Specific Substrates.

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Introduction: Disintegrins are molecules isolated from snake venoms capable to bind to integrins. They are involved in various cellular events since its binding to an integrin receptor may interfere with the processing of information necessary for the migration, differentiation, cell survival and proliferation. Objectives: Study the effects of jararhagin-C, isolated from Bothrops jararaca venom, on human vascular endothelial cells (HUVECs) in the proliferation and migration considering different substrates: collagen type I, type IV, fibronectin and gelatin. Methods: The effect of different doses of jararhagin-C on proliferation was evaluated using collagen and fibronectin coated-plates containing HUVECs in monolayer, followed by the treatment with 0.5, 5 and 50nM of jararhagin-C. After 48 and 72 hours viable cells were quantified by MTT method. The cell migration assay was performed on HUVECs cultured on gelatin coated-plate. The monolayer was line scraped in each well before jararhagin-C treatment (100 and 10nM). After 24 hours the cells were stained and analyzed in the optical microscope. Results and Discussion: Our results showed that jararhagin-C was not efficient to induce cell proliferation but inhibited the normal growth of HUVECs independent of the substrate. By the other side Jar-C was effective to induce HUVEC migration in gelatin substrate. In the future experiments we intend to compare the protein binding capacity of jararhagin-C on endothelial cells surface.

Password: disintegrin, migration, proliferation and endothelial cells.

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