Effect of *Baccharis trimera* on the Production of Reactive Oxygen Species in Neutrophils of Fisher Rats Stimulated with Particles of Zimosan.

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Baccharis trimera (Asteraceae) is a plant known in Brazil as “carqueja”. Studies describe hepatoprotective, antioxidant and anti-inflammatory activities of the species. In order to verify the potential anti-inflammatory effect, we used polymorphonuclear leukocytes, as they are capable of producing reactive oxygen species (ROS) inducing oxidative stress and tissue injury in response to inflammatory and infectious processes. The aim of this study was to evaluate the effect of *Baccharis trimera* on the production of ROS in neutrophils of Fisher rats stimulated with particles of zimosan. The aerial parts of the plant were dried, powdered and subjected to an hydroalcoholic extraction resulting in a crude extract which was redissolve in PBS at concentrations of 0.5, 0.05 and 0005 mg/0.1mL. The blood of the animals was collected and the granulocytes isolated with double density gradient. The cells were incubated with particles opsonized with zimosan (ZC3b), extract of “carqueja” or both for the estimation of ROS by chemiluminescence. The extract inhibited production of ROS when compared to the basal metabolism of granulocytes. The granulocytes incubated with ZC3b activated the production of ROS, however, the ones pre-incubated with “carqueja” and then with ZC3b reduced production of these species. In these tests, the viability of granulocytes was maintained above 85% after the exclusion of trypan blue test. Results suggest that the antioxidant properties of “carqueja” may reduce oxidative stress during an inflammatory process.

Key words: carqueja, inflammatory, neutrophils.

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