PROTECTIVE EFFECT OF PROTEINS DERIVED FROM *CALOTROPIS PROCERA* LATEX AGAINST ACUTE INFLAMMATION IN RAT

Oliveira, R. S.B.¹; Ramos, M.V.²

¹Centro Universitário Estácio do Ceará, Via Corpvs, Ceará, Brazil
²Departamento de Bioquímica e Biologia Molecular, UFC, Ceará, Brazil

**Introduction:** The non-dialysable proteins present in the latex of plant *Calotropis procera* possess anti-inflammatory and analgesic properties. **Objectives:** The aim of this study was to evaluate the effect of latex proteins (LP) on the level of inflammatory mediators, oxidative stress markers and tissue histology in the rat model of carrageenan-induced acute inflammation. This study also aimed at evaluating the anti-inflammatory efficacy of LP against different mediators and comparing it with their respective antagonists. **Material and Methods:** Paw inflammation was induced by subplantar injection of carrageenan, and the effect of LP was evaluated on oedema volume, level of TNF-α, PGE₂, myeloperoxidase, nitric oxide, reduced glutathione, thiobarbituric acid-reactive substances and tissue histology at the time of peak inflammation. Paw inflammation was also induced by histamine, serotonin, bradykinin and PGE₂, and the inhibitory effect of LP against these mediators was compared with their respective antagonists at the time of peak effect. **Results and Discussion:** Treatment with LP produced a dose-dependent inhibition of oedema formation, and its anti-inflammatory effect against carrageenan-induced paw inflammation was accompanied by reduction in the levels of inflammatory mediators, oxidative stress markers and normalization of tissue architecture. LP also produced a dose-dependent inhibition of oedema formation induced by different inflammatory mediators, and its efficacy was comparable to their respective antagonists and more pronounced than that of diclofenac. **Conclusions:** Thus, our study shows that LP has a potential to be used for the treatment of various inflammatory conditions where the role of these mediators is well established.

**Key Words:** *Calotropis procera*, inflammation, mediators, latex proteins