Antinociceptive and Anti-inflammatory Effects of p-Chloro-Selenosteroid in the Mouse Formalin Test

Sari, M. H. M.,1; Souza, A. C. G.,1; Rosa, S. G.,1; Souza, D.,2; Rodrigues, O. D. E.,2; Nogueira, C.W.,1

1Laboratório de Síntese, Reatividade e Avaliação Farmacológica e Toxicológica de Organocalcogênios, UFSM, Santa Maria, RS, Brazil.
2LabSelen-NanoBio, UFSM, Santa Maria, RS, Brazil.

Pain is one of the most important health problems because of its prevalence and the disabilities it can induce. The purpose of this study was to investigate the antinociceptive effect of p-chloro-selenosteroid (PCS) in the formalin test in mice. Female Swiss mice (25-35g) were pretreated with PCS (1-10 mg/kg, p.o.) or vehicle (control) 5 to 180 minutes before the intraplantar injection of 2.5 % formalin solution (20 µl/paw) in the ventral right hind paw. The time spent licking or biting the injected paw was recorded from 0–5 min (neurogenic phase) and 15–30 min (inflammatory phase). Paw edema was measured for screening anti-inflammatory activity of PCS in mice, comparing the weight of the injected paw with that of the opposite paw on the same animal. PCS caused a dose- and time-dependent effect in the formalin-induced licking/biting. A dose- and time-dependent effect was found in the formalin-induced edema. PCS effects in the paw edema and neurogenic phase persisted for 120 minutes and in the inflammatory phase for 60 minutes. The results indicate that PCS showed antinociceptive and anti-inflammatory activities in the mouse formalin test.

Keywords: selenium, antinociceptive, edema, formalin.

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