

RESUMO SIMPLES - CBIO - CIÊNCIAS BIOLÓGICAS

**ACUTE TOXICITY ASSESSMENT OF ANOMALOCARDIA BRASILIANA
EXTRACT IN ARTEMIA SALINA AND WISTAR RATS**

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Anomalocardia brasiliana is a bivalve mollusk widely distributed along the Brazilian coast and recognized for its biotechnological potential due to the presence of bioactive compounds. However, the use of natural products for therapeutic purposes requires prior assessment of their biological safety. Thus, the present study aimed to evaluate the acute toxicity of the hydroethanolic extract of A. brasiliana using Artemia salina and Wistar rats as experimental models. Its toxicity was first assessed in Artemia salina by exposing the organisms to different concentrations of the extract; total mortality was observed in the treated individuals after six hours of exposure, while the control group

showed complete survival throughout the entire experimental period (24 h). For the mammalian assessment, Wistar rats (21 males and 21 females) were divided into 7 experimental groups treated with different concentrations of the extract (T0 - control; T1 - 30 mg/kg; T2 - 60 mg/kg; T3 - 100 mg/kg; T4 - 140 mg/kg; T5 - 200 mg/kg; and T6 - 240 mg/kg) and monitored for 48 hours. The animals were monitored for physiological parameters (blood glucose, body temperature, water and feed intake), and after the observation period, they were euthanized by anesthetic saturation with xylazine and ketamine; their organs were then collected, weighed, and processed for biometric, histological, and morphometric evaluation (liver and kidney). The results showed significant changes in blood glucose levels between groups T1 and T6 after 1.5 hours, and between groups T2 and T5, T2 and T6, and T3 and T5 after 3 hours of exposure. Body temperature showed a significant difference between groups T2 and T3 after 24 hours of exposure. Water intake was significantly higher in groups T3 and T4 after 48 hours, while feed intake varied over time without significant differences among the experimental groups. Additionally, changes were observed in renal morphometric parameters (nuclear shape factor in groups T5 and T6 significantly higher than in T0) and hepatic parameters (nuclear area and perimeter in groups T1 and T2 were significantly larger than in T0), as well as in relative prostate weight, with groups T2, T3, and T4 exhibiting significantly lower weights compared to T0, indicating a biological response to the extract. Despite these changes, no evident clinical signs of severe acute toxicity were observed during the experimental period. Thus, the *A. brasiliana* extract exhibited high toxicity in the *Artemia salina* model but induced mild physiological and morphometric changes in male and female Wistar rats under the conditions evaluated. The results contribute to our understanding of the species' toxicological profile and provide a basis for future investigations into its safety and potential biotechnological and pharmacological applications.

Palavras-chave: karyometric analysis; stereological analysis; morphometric analysis; histopathology.