# HISTOPATHOLOGICAL EVALUATION FOLLOWING EXPOSURE TO A TOXIC COCKTAIL IN A COELOMATE, "Aporrectodea Caliginosa (Savigny, 1826)

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| **ABSTRACT**  The primary objective of this study was to investigate the effects of a toxic cocktail composed of cadmium chlorite (CdCl₂) and the herbicide 2,4-dichlorophenoxyacetic acid (2,4-D) on the histological structure of earthworms of the species "Aporrectodea caliginosa," which play a predominant role in the Annaba region. To achieve this goal, we organized four groups of earthworms, each subjected to a different treatment. The first group served as a control, while the others were exposed to cadmium, pesticides, or the combination of both for a duration of 14 days.  We conducted histological sections to perform a qualitative and quantitative analysis of tissue damage resulting from these treatments. The results revealed tissue lesions, necrosis, and the presence of vacuoles in the form of clusters. These observations suggest the development of a non-specific defense mechanism, resulting in the accumulation of minerals. Additionally, the rates of intestinal and gonadal lesions were significantly higher compared to the control groups, regardless of the treatment. This underscores the detrimental effects that these foreign chemicals, or xenobiotics, can have on the growth and reproduction of earthworms. |

# Keywords: Aporrectodea caliginosa, cocktail toxicity, histology

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