

TOXICOLOGY STUDY ON USAGE OF DORAMECTIN IN RED-EARED SLIDERS (*TRACHEMYS SCRIPTA ELEGANS*)

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Abstract

Ivermectin has been widely acknowledged to cause neurotoxicity in chelonians even at a dose of 50 µg/kg body weight. Interestingly, another member of the macrocyclic lactone family namely milbemycin, did not induce any observable toxic effects when administered to chelonians at therapeutic doses. However, injectable milbemycin is currently not available in the market and has to be prepared from technical grade materials. There is a need for injectable endo- and ecto-parasiticides that can be used safely in chelonians, which have a unique anatomy that makes it difficult to administer oral medication. The objective of this study was to determine whether or not doramectin given at twice the usual therapeutic dose (600 µg/kg body weight) will result in toxicity in the red-eared sliders. For this study, the sliders were distributed into 4 groups and doramectin was administered intramuscularly to the sliders according to dose group; low dose group (100 µg/kg body weight, n=4), medium dose group (300 µg/kg body weight, n=4), and a high dose group (600 µg/kg body weight, n=4), while the control group (n=4) was given 0.9% NaCl injections. They were monitored for signs of neurotoxicity, particularly paresis and paralysis for 4 weeks following doramectin administration. Blood samples were taken before treatment and at the conclusion of the study. The red-eared sliders were then humanely euthanised and samples of the liver and brain examined histopathologically. No clinical sign was observed throughout the 4-week study, and the blood results and histopathology did show significant findings. This indicates that doramectin can be used with no obvious adverse effects in red-eared sliders even at a high dose of 600 µg/kg body weight.

Keywords: doramectin, red-eared slider