Pharmacokinetics of Metronidazole Administered as a Single Oral Bolus to Corn Snakes, *Elaphe guttata*

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Abstract: The pharmacokinetics of metronidazole were evaluated in 16 corn snakes, *Elaphe guttata*, after a single oral dose of 50mg/kg or 150mg/kg. Blood samples were collected at predetermined intervals over a 48hr period. Plasma concentrations of metronidazole were measured using high performance liquid chromatography (HPLC). Metronidazole was eliminated with a half-life of 11.1hr. The apparent volume of distribution (steady state) was 0.053 L/kg, the apparent oral clearance was 3.04ml/hr, and the mean residence time was 18.5hr. The plasma concentration of metronidazole exceeded the recommended minimum inhibitory concentration (MIC) in both treatment groups at all time points for at least 48hr. Based on this study, it can be concluded that oral administration of 50mg/kg of metronidazole to corn snakes every 48hr would maintain appropriate plasma concentrations against susceptible anaerobic bacteria and protozoa.

Key Words: *Elaphe guttata*, high performance liquid chromatography, metronidazole, pharmacokinetics, plasma concentrations, corn snake.

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ADDITIONAL REFERENCES


