The Use of Cefovecin in the Red-Eared Slider Turtle
(*Trachemys scripta elegans*)

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The use of a long acting antibiotic for susceptible bacterial infections in exotic patients will reduce handling stress, increase compliance, and lessen morbidity and mortality. Cefovecin sodium, a broad-spectrum, third generation cephalosporin is commonly used in the treatment of bacterial infections in dogs and cats and has a 14-day dosing interval. This is due in part to its high degree of plasma protein binding. A growing body of research has evaluated the pharmacology of this antimicrobial in exotic species, including terrestrial tortoises, but no pharmacokinetic studies have been performed in freshwater turtles. The objective of this project was to evaluate the pharmacokinetics and plasma protein binding of parenteral cefovecin in red-eared slider turtles (*Trachemys scripta elegans*). Eleven healthy turtles were used in this study. A dose of 10 mg/kg of cefovecin sodium (Covenia®, 80 mg/ml) was administered subcutaneously in a forelimb. Blood samples were collected at times 0, 2, 4, 8, 12, 24, and 48 hours post-administration. High-performance liquid chromatography was utilized to determine the plasma concentration and protein binding of cefovecin. Noncompartmental pharmacokinetic analysis was performed on the resulting concentration data. Cefovecin was rapidly absorbed, with a maximal measured plasma drug concentration of 32.3 (± 23.8) µg/ml occurring at 2.4 (± 1.2) hours, and a terminal phase half-life of 6.8 (± 1.2) hours. No substantial side effects were noted in subjects following antibiotic administration. Although cefovecin was well tolerated in red-eared slider turtles, the rapid decline in plasma cefovecin concentration with the absence of plasma protein binding negates its use as a long-acting antibiotic in this species.