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# Pharmacokinetics of florfenicol following intravenous and intramuscular administration in dogs

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[ fulltext ]

Florfenicol is a synthetic broad-spectrum antibiotic used to treat infectious diseases in veterinary medicine. Limited information is available on the pharmacokinetics and bioavailability of florfenicol in dogs. This study was conducted in six healthy dogs to determine the bioavailability and pharmacokinetics of florfenicol following a single intravenous (*i.v.*) and intramuscular (*i.m.*) dose of 30 mg/kg body weight (b.w.). Blood samples were taken over the course of 24 h post-treatment and the recovered plasma was extracted and analysed using high-performance liquid chromatography

(HPLC). Pharmacokinetic analysis was performed using a two-compartment open model. After *i.v*. administration of florfenicol, elimination half-life ($t_{½b}$), volume of distribution at steady state ($V_{dss}$), total body clearance ($Cl_T$) and area under curve ($AUC_{0–24}$) were 3.09 ± 0.13 h, 1.19 ± 0.15 l/kg, 0.37 ± 0.04 l/h/kg, and 59.44 ± 5.27 µg/h/ml, respectively. The peak plasma concentration ($C_{max}$), time to maximum concentration ($t_{max}$) and bioavailability (*F*) were 3.05 ± 0.43 µg/ml, 1.50 ± 0.35 h, and 44.70 ± 6.75%, respectively, following *i.m*. administration. In this study the time that plasma concentration exceed the concentration of 1 µg/ml was approximately 8 h. Therefore, florfenicol should be given twice daily at a dosage of 30 mg/kg b.w. to maintain therapeutic concentration. The pharmacokinetic profile of florfenicol in dogs reveals that it may be therapeutically useful against susceptible microorganisms involved in most common infections in dogs.

**Keywords:**
pharmacokinetics; florfenicol;

bioavailability; dogs

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