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Pharmacokinetics of masitinib in cats.

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Masitinib is the first veterinary drug recently approved in Europe to treat mast cell tumours in dogs (Hahn et al. JVIM, Masivet). This inhibitor is selective and highly efficient in blocking c-Kit, PDGFR, and Lyn tyrosine kinase activities. It showed good efficacy and acceptable toxicity in several animal studies such as mice, rats, rabbits and dogs (Dubreuil P, et al. submitted, and Hahn et al. (J Vet Intern Med 22(6):8, 2008)). C-kit is a tyrosine kinase receptor that plays a critical role in the biology of mast cells including differentiation, survival, migration and cytokine/mediator release. Mast cells are involved in a number of allergy-and immune-related diseases in cats such as asthma (Reinero Carol et al. Vet Immunol Immunopathol 121(3-4):9, 2008), inflammatory bowel disease, (Janeczko et al. Vet Mic 128(1-2):15, 2008), and feline mast cell tumours (Rassnick et al. J Am Vet Med Assoc 232(8):1200-1205, 2008). Therefore, there might be a strong rationale to use masitinib in these indications. Here, we report the results of a preliminary pharmacokinetic study of masitinib in cats which showed a good bioavailability of ~60% in both sexes. We propose that an oral dose of 10-15 mg/kg masitinib is appropriate to achieve adequate plasma concentrations.

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