CLINICAL PHARMACODYNAMICS: Marbofloxacin is rapidly and almost completely absorbed from the gastrointestinal tract following oral administration to healthy adult dogs and cats. 

 emptied formula is C₁₇H₁₉FN₄O₄ and the molecular weight is 362.36. The common

 Terminal plasma elimination half-life, t₁/₂(h)

 Volume of distribution at steady state, Vss, (L/kg)

 AUC₀−∞ (µg•h/mL)

 Marbofloxacin plasma concentrations were determined over time in healthy adult dogs administered marbofloxacin at 2.5, 7.5 and 12.5 mg/lb/day for 12 days. Decreased food consumption, vomiting, dehydration, weight loss and clinical lameness were noted. No clinical lameness was noted on the treated animals. Minimal to slight lesions in the articular cartilage were observed in 14/15 treated animals and in 3/8 animals given 12.5 mg/lb marbofloxacin. Microscopically, these lesions were usually small, pale areas on the cartilage. Microscopically, these lesions were characterized by the presence of one or more of the following: decrease in chondrocyte proliferation, fibrosis and/or surface repainting of focal or multifocal areas of cartilage. The occurrence of these microscopic lesions in the cartilage was not dose related. The microscopic lesions were not confirmed microscopically in all animals. They consisted of large breaks in the collagen fibers in the articular cartilage. Microscopic lesions in the articular cartilage were seen in six of 15 placebo-treated animals. Microscopic lesions were found in the cartilage of all dogs due to articular cartilage lesions. Lameness was accompanied by decreased appetite and activity.

 Cats: Marbofloxacin was administered for 42 consecutive days at 24 mg/kg for 28 days and 48 mg/kg for 14 days. Lameness was seen in four of seven treated animals, including one in the placebo group. At the higher dosage, mild facial swelling, decreased activity and weight loss were seen in treated dogs. No clinical lameness was noted. At the 42 day study period, minimal, faint, redness of the articular cartilage was seen. These findings were noted in 28 placebo-treated dogs and in 48 marbofloxacin-treated dogs. The facet were assessed with penetrating visualization or transillumination. A decrease in articular cartilage thickness was seen in some of the placebo group, but the correct cause cannot be discerned.

 Cautions: Federal law prohibits the extralabel use of this drug in food-producing animals.

 Ingredients: The following clinical signs were reported during clinical field studies in cats: vomiting, reddened skin (usually involving the ears) and reddened mucous membranes. The toxicity of marbofloxacin was assessed in 12- to 14-month-old beagle dogs administered marbofloxacin at 2.5, 7.5 and 12.5 mg/lb/day for 42 days. 13910600

 Vomiting, reddened skin and weight loss were significant in the 7.5 mg/lb and 12.5 mg/lb groups. No clinical lameness was noted. As in the dog study, vomiting, dehydration, weight loss and clinical lameness were seen in treated dogs. No clinical lameness was noted. At the 42 day study period, minimal, faint, redness of the articular cartilage was seen. These findings were noted in 28 placebo-treated dogs and in 48 marbofloxacin-treated dogs. The facet were assessed with penetrating visualization or transillumination. A decrease in articular cartilage thickness was seen in some of the placebo group, but the correct cause cannot be discerned.

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Marbofloxacin is a synthetic broad-spectrum antibacterial agent from the fluoroquinolone class of chemotherapeutic agents. Marbofloxacin is a prodrug, designated for 3 (3-bromo-phenyl)-(2-methyl-1,4-benzoxazin-3-yl)carboxylic acid (BZA) and the molecular weight is 382.4. The compound is a human systemic antibiotic that provides activity against Gram-positive and Gram-negative bacteria.

Maximum concentration, Cmax, (µg/mL) greater in cats than those achieved after a single dose. Marbofloxacin elimination half-life and the dosing interval, steady-state levels are reached after 7.3% of an oral dose is excreted in the urine as unchanged drug. Pharmacokinetic parameters related to intravenous dosing were different between species. In the dog, approximately 40% of an oral dose is excreted in the urine as unchanged drug. Pharmacokinetic parameters related to intravenous dosing were different between species. In the dog, approximately 40% of an oral dose is excreted in the urine as unchanged drug.

ADVERSE REACTIONS: The following clinical signs were reported during the course of clinical studies in dogs receiving marbofloxacin at dosages up to 12.5 mg/lb/day. Increased thirst, soft stool/diarrhea, behavioral changes, shivering/shaking, vomiting, decreased food consumption, and decreased body weight were observed at 6.25 mg/lb/day. At 12.5 mg/lb/day, vomiting and decreased body weight were observed. The foci were areas of fibrocartilage with prominent vascularization. These red foci were described as likely to be age-related.

No clinical lameness was noted. As in humans, there is a risk of user photosensitivity within a few hours of exposure. Zentel is currently marketed in 100 and 250 tablet bottles. Tablets are coated in peach-flavored, sugar-free, lemon-flavored, and vanilla-flavored flavors. The following clinical signs were reported during the course of clinical studies in dogs receiving marbofloxacin at dosages up to 12.5 mg/lb/day. Increased thirst, soft stool/diarrhea, behavioral changes, shivering/shaking, vomiting, decreased food consumption, and decreased body weight were observed at 6.25 mg/lb/day. At 12.5 mg/lb/day, vomiting and decreased body weight were observed. The foci were areas of fibrocartilage with prominent vascularization. These red foci were described as likely to be age-related.

Effectiveness of the study drug was confirmed in a placebo-controlled, double-blind, randomized, 4-way crossover design with a 14-day washout period. The study included 72 dogs (36 in each group) and was conducted during 1994–1996. The study was conducted in 15 centers across North America. The centers were recruited based on their ability to enroll a sufficient number of dogs and their willingness to participate. The study population consisted of dogs from various breeds and sizes, including 65% Chihuahuas and 15% Shih Tzus. The study was designed to evaluate the efficacy and safety of marbofloxacin in the treatment of skin and skin structure infections in dogs. The study was conducted in 15 centers across North America. The centers were recruited based on their ability to enroll a sufficient number of dogs and their willingness to participate. The study population consisted of dogs from various breeds and sizes, including 65% Chihuahuas and 15% Shih Tzus. The study was designed to evaluate the efficacy and safety of marbofloxacin in the treatment of skin and skin structure infections in dogs. The study was conducted in 15 centers across North America. The centers were recruited based on their ability to enroll a sufficient number of dogs and their willingness to participate. The study population consisted of dogs from various breeds and sizes, including 65% Chihuahuas and 15% Shih Tzus. The study was designed to evaluate the efficacy and safety of marbofloxacin in the treatment of skin and skin structure infections in dogs. The study was conducted in 15 centers across North America. The centers were recruited based on their ability to enroll a sufficient number of dogs and their willingness to participate. The study population consisted of dogs from various breeds and sizes, including 65% Chihuahuas and 15% Shih Tzus. The study was designed to evaluate the efficacy and safety of marbofloxacin in the treatment of skin and skin structure infections in dogs.

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