Efficacy of Florfenicol for the Treatment of Naturally Occurring Infectious Bovine Keratoconjunctivitis (Pinkeye)

J.A. Angelos, E.L. Dueger, L.W. George, T.Carrier, J. Mihalyi, S. Cosgrove, J. Johnson

A randomized double blind controlled clinical field trial was conducted to determine the efficacy of florfenicol for the treatment of naturally occurring infectious bovine keratoconjunctivitis (IBK; pinkeye). One-hundred and forty-four calves between 4 and 12 months of age at four field locations were evaluated from June through August 1997. On day 0 all calves were evaluated for the presence of corneal ulcers and microbiologic cultures of both eyes were obtained. All eyes with ulcers were photographed and scored according to maximal diameter of the ulcer (0 if no ulcer; 1 if ulcer ≤0.5 cm; 2 if ulcer > 0.5 cm; 3 if perforating corneal ulcer). Calves were assigned to one of three treatment groups: a single subcutaneous dose of florfenicol (40 mg/kg) on day 0 (SC group); two intramuscular injections of florfenicol (20 mg/kg) on days 0 and 2 (IM group); two intramuscular injections of saline (volume equivalent to florfenicol dosed at 20 mg/kg) on days 0 and 2 (CTRL group). Corneal ulcer scores (CUS), clinical signs, and corneal ulcer surface area measurements were determined thereafter every 48 hours through day 20. Calves that developed corneal perforations following day 0 were removed from the study and treated with a single intramuscular injection of oxytetracycline (20 mg/kg). Treatment was considered successful and further observations were discontinued if a corneal ulcer healed (no fluorescein dye uptake) after day 0. Failures were designated in cases of corneal perforation or if an ulcer was still present on day 20.

Of 144 calves evaluated in the study, treatment was successful in 98% (48 calves; n=49) and 93% (40 calves; n=43) of IM and SC groups, respectively. Treatment was successful in 63.5% (33 calves; n = 52) of CTRL group animals. A Cox regression model of corneal ulcer healing time indicated that following adjustment for initial corneal ulcer size, the corneal ulcer cure rate was 3.2 and 2.5 times greater in the IM and SC groups, respectively, compared to controls. Florfenicol administered as either a single subcutaneous dose or as two intramuscular doses, 48 hours apart, is an effective treatment for IBK.