

Z-034. Bactericidal Activity of Pradofloxacin (PRA) against Aerobic and Anaerobic Bacteria

P Silley^{1,2}, B Stephan³, H A Greife³, A Pridmore²

MB Consult Limited, Bingley United Kingdom, Don Whitley Scientific Limited, Shipley, United Kingdom. Bayer HealthCare AG, Leverkusen, Germany.

Background: Pradofloxacin is a novel fluoroquinolone developed for veterinary medicine with enhanced activity against Gram-positive bacteria and excellent activity against anaerobes. Studies were carried out to quantify the extent of bactericidal activity of PRA. **Methods:** (1) MBCs, defined as $\geq 99.9\%$ reduction in viable bacterial count after 24h incubation were determined for 5 strains each of *Staphylococcus intermedius*, *Staphylococcus aureus*, *Escherichia coli*, *Pasteurella multocida*, *Streptococcus canis*, *Proteus* spp, *Pseudomonas* Spp, *Fusobacterium* spp, all considered important in infections of dogs and cats, using standard NCCLS methods. (2) Kill kinetic studies (KKS) against aerobes and anaerobes, isolated from cases of clinical disease are reported. Detailed kinetic data has been generated by sampling hourly over a 12 hour period, allowing the pharmacodynamic profile of PRA to be clearly defined. Concentrations of PRA (1-16xMIC) were evaluated using a standardised time-kill protocol (NCCLS M26-A, 1999). **Results:** (1) For 29 of 35 tested aerobic strains the PRA MBC was within two doubling dilutions of the MIC. For the remaining strains, the MIC and MBC were within three (n=3) to four (n=3) doubling dilutions. For the anaerobes MBC was equal to MIC for 4 strains, within 1 doubling dilution for 3 strains, 2 dilutions for 3 strains and 3 dilutions for the remaining 5 strains with the smallest differences between MIC and MBC for *Fusobacterium* spp. (2) In the KKS PRA exerted bactericidal activity ($\mu\text{g/ml}$) against *Staph. intermedius* (0.125), *Strep. canis* (0.25), *E. coli* (0.062), *Pr. mirabilis* (0.25), *Past. multocida* (0.062), *Ps. aeruginosa* (4), *Porph. gingivalis* (0.125) and *Porphyromonas macacae* (0.5). As PRA concentration increased, a faster rate of killing was observed; bactericidal effects were seen in all cases. Bactericidal activity against anaerobes was marked, of particular note was the absence of grow back even at 48 hours, at concentrations as low as 2xMIC. **Conclusion:** Pradofloxacin exhibits concentration-dependent, bactericidal activity against aerobes and anaerobes.