

F-420. In Vitro Activity of Pradofloxacin and Metronidazole against Anaerobic Bacteria from Dogs and Cats.

B Stephan¹, A Pridmore², P Silley²

¹ Bayer AG, Leverkusen, Germany, ² Don Whitley Scientific, Shipley, United Kingdom.

Background: Pradofloxacin (PRA), a novel 8-cyano fluoroquinolone, is being developed for the treatment of bacterial infections in dogs and cats. In addition to the Gram-negative spectrum it shows enhanced activity against Gram-positive bacteria. This study determined the *in vitro* activity of PRA and metronidazole (MTR) against veterinary anaerobes. **Methods:** A total of 178 obligate anaerobes were isolated from canine and feline clinical cases (wound infections and dental abscesses) and healthy carriers (faecal samples and oral swabs). Predominant genera were *Clostridium* (n = 39), *Bacteroides* (n = 37), *Prevotella* (n = 25) and *Fusobacterium* (n = 24). The MIC of each antimicrobial was determined by agar dilution methodology (NCCLS document M11-A5, 2001) in a GLP-compliant study, which included *Bacteroides fragilis* ATCC 25285 and *Eubacterium lentum* ATCC 43055 as quality control strains. Results were expressed as MIC₅₀, MIC₉₀ and geometric mean MIC (GMIC) in [µg/ml]. **Results:** Antibacterial activities of PRA and MTR are compared in the table below:

| Bacterial Genus | MIC parameters (µg/ml) | | | |
|-----------------------|------------------------|------|-------------------|------|
| | Pradofloxacin | | Metronidazole | |
| | MIC ₉₀ | GMIC | MIC ₉₀ | GMIC |
| <i>Clostridium</i> | 2 | 0.48 | 256 | 1.38 |
| <i>Bacteroides</i> | 2 | 0.37 | 4 | 0.70 |
| <i>Prevotella</i> | 1 | 0.18 | 2 | 0.42 |
| <i>Fusobacterium</i> | 1 | 0.46 | 2 | 0.49 |
| All strains (n = 178) | 4 | 0.36 | 8 | 0.73 |

For the total panel of 178 anaerobes, the MIC range was 0.016-16 for PRA and 0.031-256 for MTR. The MIC₅₀ values of PRA/MTR were 0.5/0.5 for *Clostridium*, 0.25/0.5 for *Bacteroides*, 0.125/0.5 for *Prevotella* and 0.5/0.25 for *Fusobacterium*. The MIC₅₀ of PRA against oral *Porphyromonas* strains (n = 8) was 0.062, the GMIC 0.09. The comparative values for MTR were 0.125 and 0.25. **Conclusions:** Pradofloxacin and metronidazole exhibited comparable *in vitro* activity against anaerobic bacteria with a tendency for pradofloxacin to be more active.