

TECHNICAL UPDATE – BAYTRIL



INTRODUCTION:

In 2009, Muller *et al* published the results of a large study that examined the susceptibility of bacterial isolates from dogs and cats to the fluoroquinolone antimicrobials Enrofloxacin (Baytril) and Marbofloxacin. This Technical Update examines the study, the results and the implications for the use of these important therapeutic agents in clinical practice.

STUDY RATIONALE:

Fluoroquinolones have a broad spectrum of activity and are a valuable part of the range of treatments available for the control of bacterial infections. To date, the majority of studies into the resistance situation have been restricted to pathogens in food-producing animals. Muller *et al* investigated the current situation relevant to Small Animal Veterinary Practice and produced data on companion animals.

STUDY DESIGN:

Samples sent for routine diagnosis from pets in Germany between July 2006 and June 2007 were examined. These samples were from: skin/hair, urogenital tract/urine, respiratory tract/nose or throat swabs, eye, ear, wounds/pus, joints/aspiration fluid. In total 5,152 isolates from dogs and 1,966 from cats were included in the study.

Susceptibility testing of the isolates with regard to enrofloxacin and marbofloxacin was carried out using a standardised, commercial broth micro-dilution process.

STUDY RESULTS:

Results *in vitro* showed the same efficacy against all pathogens isolated

Dog Pathogens – enro(marbo)

No. of Isolates	Sensitive(%)	Intermediate(%)	Resistant(%)
5,152	81(82)	3	15

Cat Pathogens – enro(marbo)

No. of Isolates	Sensitive(%)	Intermediate(%)	Resistant(%)
1,966	84(83)	3	14

CONCLUSIONS FOR PRACTICE:

The FQ antimicrobial enrofloxacin is a particularly suitable antimicrobial for the treatment of infections caused by most small animal pathogens including *E. coli*, *Pasteurella multocida*, *Proteus* spp. and *P. aeruginosa*.

In vivo, enrofloxacin may be even more effective than the *in vitro* data would suggest as metabolism of the parent drug produces ciprofloxacin, another potent FQ antimicrobial.



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References:

1. Boeckh A et al. Suppl Compen Contin Educ Pract Vet, Vol 21, No 12, pp 40-43, 1999.
2. Hawkins EC et al. J Vet Pharmacol Therap, Vol 21, pp 18-23, 1998.
3. King LG, Boothe DM. Bacterial infections of the respiratory tract, veterinary learning systems, pp 65-85, 1997.
4. Monolouis JD et al. J Vet Pharmacol Therap, 20 (Suppl 1), pp 21-86, 1997.

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Baytril® is a registered trademark of Bayer AG, Leverkusen, Germany. Contains enrofloxacin. For the treatment of bacterial infections in dogs and cats. Indicated for infections with susceptible Gram-positive and Gram-negative microorganisms. Not for use on dogs less than one year of age, or less than 18 months of age in exceptionally large breeds of dogs with a longer growth period, as articular cartilage damage may occur with fluoroquinolone use during the rapid growth phase. Do not exceed the recommended dose in cats; retinal damage has been reported with use of enrofloxacin at high dosages. Normal sterile precautions should be taken.

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