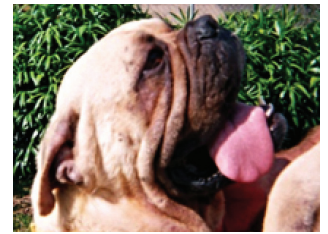


ANTIMICROBIAL THERAPY IN PYODERMA AND OTITIS IN THE TROPICAL CANINE

By: Sheila Gadloff B.V.Sc – Northside Veterinary Surgery



THE PROBLEM

Cairns is situated in tropical north Queensland. As a coastal city and a gateway to the Great Barrier Reef, for six months of the year the humidity is in excess of 70 percent and the temperature is above 28 degrees Celsius. From October to April each year otitis and dermatology features in every day practice. With the increased temperature and humidity the general health of the animal can be compromised by the rapid multiplication of bacteria and yeast. As a veterinarian who has spent most of my working life in the tropics I have found several reoccurring common problems in my patients which respond to treatment with Enrofloxacin. These are skin, respiratory and urinary tract infections.

THE CASE OF EMMA

Emma, a 31kg 3 year old Bull Mastiff was presented in early November 2008 for desexing. The previous week she had been re-homed as her former owners could not manage her size and personality. The client was concerned by the dog's appearance, hair loss and smell. Her condition was poor and she had otitis and a skin condition which involved her face, neck and abdomen.

Her neck had a pruritic condition which changed the colour of the skin. The skin was inflamed, and a skin scraping with stain showed yeasts and bacterial cocci. Her face was affected by pruritis causing alopecia below the eyes. The ventral surface of her abdomen around the front teats were also affected by pruritis and she had discolouration, pruritis and alopecia on all her feet. In general her coat had a moth-eaten appearance.

THE TREATMENT

Emma's pyoderma was subsequently managed with systemic treatment using antibiotics. I supplemented this treatment with topical therapy which involved the use of a shampoo which is ideal for tropical conditions. Emma was placed on Baytril 150mg Enrofloxacin (antibacterial tablets) for her skin – dosage 1 tablet/30kg bodyweight/day, and Baytril Otic was applied to the external auditory canal – dosage 10 drops, twice daily, which was the primary method of treatment for the pyodermas and the otitis. Secondary treatment was shampoo once a week with Dermcare Malaseb medicated shampoo which is 20g/L Chlorhexidine gluconate 20g/L Miconazole nitrate.

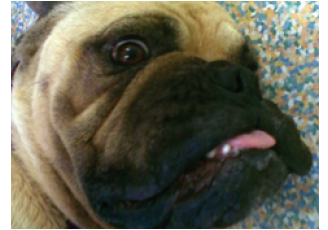


Figure 1: Emma the Bull Mastiff on first presentation.



Figure 2: Emma's neck showing pruritis and discolouration.



Figure 3: Emma's abdomen showing changes which have occurred over three years with pruritis and contact abrasion.



Figures 4 & 5: Emma's neck one week into treatment with Baytril 150mg Enrofloxacin. Note the reduction in inflammation.



Figures 6 & 7: Emma's ear and neck at two weeks into treatment with Baytril 150mg Enrofloxacin and Baytril Otic drops.



THE RESULT

Within a week Emma's face, neck and feet showed marked improvement, and her abdomen and feet showed remarkable regrowth of hair. Pruritus had disappeared. Her ears had improved, and she was maintained on Baytril 150mg Enrofloxacin and Baytril Otic for an additional seven days.

In January Emma returned to the surgery, two months after recovering from the previous skin/ear outbreak. During this time Cairns has received a record amount of rain, making conditions wet and humid. Emma's skin has maintained its integrity and she has no signs of otitis redeveloping. I would like to thank Bob Adamson for permission to use Emma as a case study.

Baytril.[®]
My answer to infections.

NOTES ON ANTIMICROBIAL THERAPY: EMMA THE BULL MASTIFF



SELECTION OF THE ANTIMICROBIAL:

Enrofloxacin (Baytril) is a concentration dependent antimicrobial with excellent activity against bacterial cocci. Efficacy depends on the **level achieved** above the Minimum Inhibitory Concentration (MIC) of the pathogen, not the **time** above the MIC.

DOSE SELECTION:

A dose rate of 5mg/kg Enrofloxacin has been selected for this case, as per the label recommendation. As the most likely pathogen in Emma's case is *Staph. intermedius*, the dose rate is appropriate when the MIC values for the pathogen are considered. Baytril is effective against more than 95% of *S. intermedius* strains at a level of ≤ 0.25 $\mu\text{g/ml}$ while C_{max} is > 2.0 $\mu\text{g/ml}$ when administered at 5mg/kg daily. So the **peak level achieved** is above the MIC required for efficacy by at least a factor of 4.

ADDITIONAL TOPICAL THERAPY:

Many cases of otitis externa are characterised by thickening of the ear canal tissue. Systemic antimicrobials may have difficulty localising out to the surface layers of the skin so the addition of topical Enrofloxacin plus Silver Sulphadiazine (Baytril Otic) ensures maximum exposure of the pathogen to the therapeutic agent.

DURATION OF THERAPY:

Chronic pyoderma and otitis externa often require an extension in the duration of therapy. In Emma's case therapy was continued for a further 7 days even after a marked improvement in clinical signs was apparent. Enrofloxacin, even at elevated dose rates for longer periods, is well tolerated in the dog.

BAYTRIL:

- Has excellent tissue penetration in skin, reaching therapeutic levels as early as 3 hours after administration
- Is highly lipophilic, allowing it to pass through fibrous tissue, scar tissue, pus and inflammatory debris to reach the site of infection
- Accumulates in white blood cells which means:
 - It's directly and selectively carried to the infection site
 - Tissue penetration is enhanced

Baytril Otic (the only fluoroquinolone approved for topical treatment of canine otitis externa):

- Is non ototoxic
- Is flexible, in that it can be used with or without a steroid
- Has broad dual antibacterial and antimycotic spectrum

Baytril and Baytril Otic – the ideal combination for the systemic and topical treatment of pyoderma and concurrent otitis externa.

