Local anti-microbial delivery systems for therapy of orthopaedic infection in the horse

Dr Peter G Harding BVSC (Hons)
MACVSc

This thesis is presented for the degree of Research Masters with Training at Murdoch University

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I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution.

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Dr Peter G Harding BVSC (Hons) MACVSc
I would like to dedicate this document to my family, particularly my parents, Alan and Jane, who without their love, support and encouragement I would not have achieved as highly as I have today.
Abstract:

Orthopaedic disease makes up a significant proportion of the caseload for the equine veterinary surgeon. Presentation of a patient with a septic synovial structure or osteomyelitis is one of the most serious disease processes in the spectrum of orthopaedic disease in the equine patient. The complexities of achieving effective and successful therapy and minimising the long term complications are not only challenging but stressful for the attending clinicians.

Traditional therapy of such conditions has involved surgical debridement of devitalised and infected tissue along with systemic antibiotic therapy. More recently improved outcomes have been achieved with the addition of local antimicrobial therapy to treatment regimes.

Newer modes of antimicrobial delivery are currently sought after; ideally implants which will sustain local antimicrobial at therapeutic concentrations; are biodegradable; do not incite host inflammation; and do not inactivate antimicrobials during assembly. This manuscript reviews orthopaedic infections in the horse, the modalities of therapy available the equine veterinarian, specifically newer modes of providing antimicrobial therapy, and efficacy of their use. Currently the ideal method of local antimicrobial delivery for orthopaedic infection in the horse has not been developed.
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