Oral presentations

The importance of antibiotic use in enucleation surgery in the cat and dog: a prospective comparative study

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OBJECTIVES

To determine the requirement for preoperative antibiotics in canine and feline enucleation surgery.

METHODS

45 eyes undergoing transconjunctival enucleation following non-infectious disease (uncontrollable painful blinding glaucoma or intraocular neoplasia) were divided into three groups: (i) those treated with antibiotic per os

for one week post-operatively (ii) those treated with a single intravenous antibiotic dose intraoperatively (iii) those not given antibiotic treatment. Surgery was performed in a sterile manner in a variety of operating theatres in general practice setting as well as the theatre of a referral centre. Animals were followed for 2 months post-operatively and incidence of infection monitored.

RESULTS

No animals from groups (i) or (ii) developed post-operative infection while in group (iii) 3 animals developed an orbital infection; swelling and purulent discharge through the surgical site was noted but the infection resolved following antibiotic treatment over 2–3 weeks. This difference in number of affected arguably of more importance it is clearly clinically significant for the affected animals and suggests that antibiotic use is required even following sterile enucleation.

STATEMENT

Concern over bacterial antibiotic resistance has led to a reduction in the use of antibiotics in surgery which, in the past, would have been followed by antibiotic cover. However infection following enucleation can result in significant morbidity. Here we show that failure to use antibiotics preoperatively can lead to orbital infection. A single preoperative administration of antibiotic appears sufficient to prevent such infection.

Extracellular matrix changes in canine chronic superficial keratitis

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OBJECTIVES

To evaluate the extracellular matrix (ECM) changes in canine chronic superficial keratitis (CSK).

METHODS

Frozen samples of cornea taken from normal dogs at post-mortem and dogs with CSK were subjected to immunohistochemistry using monoclonal antibodies against ECM molecules fibronectin and tenascin, keratin sulphate, dermatan sulphate and chondroitin sulphate. Samples preserved in glutaraldehyde were subjected to electron microscopical analysis of collagens with uranyl

acetate staining and proteoglycans by cupromeronic blue staining.

RESULTS

Immunohistochemistry of CSK corneas showed an increased density of staining for fibronectin and tenascin as might be expected in a traumatized cornea but also areas of depletion of proteoglycans, these associated with the inflammatory infiltrates in the superficial stroma. Electron microscopy showed apparent lakes consisting of aggregations of abnormally large proteoglycans of 100–400nm in length compared to those seen in the normal corneal samples where the individual proteoglycans were 30–50nm long and associated with collagen fibrils. Collagen fibril diameters were significantly larger in CSK corneas than matched normal corneal samples. It is possible that these ECM changes are associated with matrix metalloproteases known to be produced by infiltration lymphocytes but it could also be that these changes are mediated by ultraviolet light known to be an inciting factor in CSK and thus a primary alteration in CSK rather than a secondary effect of the keratitis.

STATEMENT

This study shows changes in the extracellular matrix of dogs with chronic superficial keratitis. These may occur as a primary pathology in the disease or secondary to inflammatory cell infiltration.

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