TREATMENT OF DEEP CORNEAL LESIONS IN DOGS WITH THE USE OF RENAL CAPSULE

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Purpose

The purpose of this study was to evaluate the usefulness of renal capsule preserved in 98% glycerine to repair corneal lesion in dogs.

Methods

Ten dogs of various breeds (6 males and 4 females), aged from 3 months to 10 years were included in the study.

Renal capsule transplantation was performed due to following corneal lesions:
- deep corneal ulcer - 3 cases
- melting ulcer - 1 case
- descemetocele - 2 cases
- descemetocele and KCS - 1 case
- indolent epithelial erosion - 1 case
- corneal perforation - 2 cases.

The canine renal capsule was harvested from dogs that were euthanized for untreatable spinal diseases but were otherwise healthy. The biological materials were preserved with 98% glycerine in a refrigerator at 5 °C for a maximum for 14 days. Prior to surgery, the renal capsule was rinsed with sterile saline. The renal capsule graft the size of corneal lesions was attached to the donor “bed” using single interrupted suture from absorbable material 10 - 0. The sutures were removed after 2 weeks.

Results

The corneal lesions of all patients healed up and epithelialisation occurred within 8 weeks. Corneal vascularization disappeared in 8 cases 8 to 24 weeks after operation. Absolute corneal transparency with the exception of scar was observed in 5 patients during 24 weeks. Poor transparency due to corneal oedema occurred in 2 dogs, additionally pigmentation appeared in 3 cases. Oedema and corneal pigmentation occurred in the following cases: corneal perforation, descemetocele and KCS as well as melting ulcer. Physiological corneal curvature was observed in all cases.

Conclusions

The preserved renal capsule graft may be use to treatment deep corneal lesions, in particular descemetocele in dogs.