

The use of bovine amniotic membrane for repair deep stromal ulceration in 4 dogs

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Signalment. Four dogs were presented with acute onset of severe ocular pain, blepharospasm, ocular discharge, and lacrimation. All dogs were small breed and middle age dogs (3~6 years old), and they had history of trauma before a few days of visiting. At ophthalmic examination, they were diagnosed as deep stromal ulceration with descemetocoele.

Results. They were treated by transplantation of bovine amniotic membrane. After sterilization of ocular and periocular region, a frozen bovine amniotic membranes (Amnisite-BA, Bioland, Korea) were transplanted to cover fully the lesion and sutured on bulbar conjunctiva (3 cases) or cornea around the lesion (1 case). And then, a third-eyelid flap was applied. As the pre- and post-operative care, several topical solutions including antibiotics, 1% atropine, and anticollagenase were instilled. After 14 days of surgery, a third-eyelid flap was removed. The transplanted amniotic membrane was absorbing on the corneal lesion without corneal edema and vascularization. After 30 days, corneal architectures were fully restored with no fluorescein retention in all dogs, and there were no evidence of corneal scarring (in 3 cases) or only a little corneal scarring (in 1 case).

Clinical relevance. Amniotic membrane transplantation is more potent surgical treatment with minimal invasiveness to repair the corneal structure than established methods using conjunctival flap. Therefore, it could be lead to successful outcomes more rapidly and decrease the complications in case of deep and large stromal ulcerations in dogs.

Keyword: amniotic membrane, stromal ulcer, descemetocoele, dog