

Clinical Evaluation of Corneal Thickness, Endothelium and Intraocular Pressure after Penetrating Keratoplasty in Dogs

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Purpose: The purpose of this study was to evaluate corneal thickness, intraocular pressure and endothelium after penetrating keratoplasty in dogs.

Materials and Methods: Penetrating keratoplasty was performed in the left eye in 4 mongrel dogs. Corneal thickness, intraocular pressure and corneal endothelium were measured by ultrasonic pachymeter, tonometer and specular microscopy at 12th week. Histopathologic examination with H&E and transmission electron micrography were performed at 12th week.

Results: The temporary corneal edema was disappeared within a week. And neovascularization was decreased since 6 weeks. Intraocular pressure was normalized in 4 weeks after keratoplasty. Corneal thickness was changed significantly after 3 days. Corneal cell density was decreased with time lapse. Histopathologic findings showed that the reconstituted epithelium, stroma and endothelium were apposed satisfactory from corneal graft and linear arrangement of keratocyte was observed in anterior stroma.

Conclusion: Penetrating keratoplasty was successful in this study. This study indicates that penetrating keratoplasty could be one of the useful therapeutic methods for treating corneal diseases in veterinary ophthalmology. And clinical evaluations of corneal thickness, endothelium and intraocular pressure after penetrating keratoplasty were important to determinate prognosis in postoperative periods.

Keywords: corneal thickness, endothelium, intraocular pressure, penetrating keratoplasty, dog.

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