Effect of trabeculectomy on corneal endothelial cell loss

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AIM: To investigate changes in corneal endothelial cell density (CECD) after trabeculectomy.

METHODS: This prospective, observational study followed 117 eyes of 117 patients for 2 years after trabeculectomy. The central cornea was examined by corneal specular microscopy prior to and at every 6 months after the surgery. Survival analysis of patients who exhibited a 10% or less reduction of the postoperative CECD compared with preoperative levels was assessed using the Kaplan-Meier survival curve. A Cox proportional hazards model was used to evaluate prognostic factors for decreasing CECD.

RESULTS: At baseline, the mean CECD was 2420±357 cells/mm², while at 6, 12, 18 and 24 months after surgery, the mean CECD was 2324±373 cells/mm² (p<0.001), 2276±400 cells/mm² (p<0.001), 2290±398 cells/mm² (p<0.001) and 2267±446 cells/mm² (p<0.001), respectively. At 6, 12, 18 and 24 months after surgery, the results of the Kaplan-Meier survival analysis of the 10% loss of CECD from baseline were 91%, 85%, 83% and 77%, respectively. Uveitic glaucoma was a significant prognostic factor for decreasing CECD (p=0.041).

CONCLUSIONS: CECD significantly and continuously decreased after trabeculectomy.

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