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Descemet Stripping Automated Endothelial Keratoplasty for Bullous Keratopathy After Anterior-Posterior Radial Keratotomy

(佐藤式近視手術後の水疱性角膜症に対する角膜内皮移植術)

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Abstract

The clinical records of patients who had Descemet stripping automated endothelial keratoplasty (DSAEK) surgery for bullous keratopathy after Sato anterior-posterior radial keratotomy (APRK) were reviewed. Five eyes of 4 patients (4 men) were included. The mean age at DSAEK surgery was 81.8 ± 7.1 years (range, 73-90 years), and the mean follow-up period after the surgery was 19.8 ± 16.9 months (range, 6-48 months). The mean preoperative logarithm of the minimum angle of resolution-corrected visual acuity was 1.96 ± 0.50 (range, 1.2 to counting fingers), and this improved to 0.49 ± 0.43 (range, 0.05-1.2) at the final follow-up. The mean preoperative donor cornea central endothelial cell density was 2826.0 ± 335.7 cells per square millimeter (range, 2352-3150 cells/mm²), and this declined to 863.5 ± 501.7 cells per square millimeter (range, 500-1255 cells/mm²) at the final follow up, a mean reduction of 68.2%. The mean graft size was 8.2 ± 0.21 mm (range, 8.0-8.5mm). Postoperative complications included early graft dislocation in 3 eyes (60.0%), with successful repositioning by a single rebubbling in all cases. There was no graft rejection, and no patient required repeat DSAEK or penetrating keratoplasty for graft failure. This small series suggests that DSAEK is an effective surgical option after APRK. Although there was a high rate of graft dislocation, this was successfully managed by rebubbling. Subsequently, the attachment of each graft improved gradually over time. DSAEK seems to be a reasonable alternative to penetrating keratoplasty for patients with bullous keratopathy after APRK.