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Prognosis factors associated with early graft failure after Descemet's stripping automated endothelial keratoplasty in long-term follow up

Mihyun Choi, Young-sik yoo and Choun-ki joo

Seoul St. Mary Hospital, Catholic University of Korea, Seoul, Korea

Statement of the Problem: After successful endothelial keratoplasty, endothelial cell survival cannot be guaranteed.

Purpose: To identify clinical factors affecting graft survival and early graft failure after Descemet's stripping automated endothelial keratoplasty (DSAEK).

Methods: A total of 69 patients (71 eyes) who underwent DSAEK were parted to early graft failure group (graft failure within 2years) and others. Two groups were analysed using Multiple binary logistic regression model and Cox proportional hazard regression. Not only preoperative recipient characteristics (Age, sex, underlying disease, ocular measurements, indication, previous surgical history, iris damage score) but also donor (Donor age, endothelial cell density, diameter, graft thickness) and intra- and postoperative characteristics (simultaneous lens surgery, Complications) were included in clinical factors.

Results: Patient who underwent DSAEK after graft failure of previous penetrating keratoplasty, and higher pre-existing iris damage score had a significantly higher risk of early graft failure (OR = 2.33; P = 0.031, and OR = 4.37; P = 0.030, respectively). And simultaneous anterior chamber lens removal surgery, experience of graft rejection, graft thickness at 2months postoperatively over >120 µm also showed higher risk of early graft failure. (OR = 6.45; P = 0.018, and OR = 2.50; P = 0.012, and OR = 2.37; P = 0.014, respectively)

Conclusion: Graft failure history before DSAEK, pre-existing iris damage and graft rejection event can be useful prognosis predicting factor in DSAEK. Avoiding simultaneous complicated surgery with DSAEK and making thinner DSAEK graft can change the prognosis of DSAEK.

Recent Publications

1. Choi M, Joo CK., et al. Correlation Between Corneal Button Size and Intraocular Pressure During Femtosecond Laser-Assisted Keratoplasty, Cornea, 2016
2. Mihyun Choi, MD, Su-Young Kim, MD, PhD, Comparison of Nd:YAG Capsulotomy Rates between Hydrophobic and Hydrophilic Intraocular Lenses, JKOS 2016 Jul;57(7):1063-70
3. Shin HY, Choi M, Kim SY, et al. Biometric and refractive changes in a patient with persistent traumatic hypotony., Clin Exp Ophthalmol. 2015

Biography

Mihyun Choi, MD. Clinical Fellow of Cornea and External Eye Disease, Seoul St. Mary Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea. He experimental attempts have been made in the field of cornea transplantation and it is thought that there will be a great use clinical field through such attempts.

mnyoung23@gmail.com

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