Studies suggest better visual outcomes after penetrating keratoplasty than after deep anterior lamellar keratoplasty

Roibeard O’Héineachain in Monte Carlo

The results of two studies presented at the 10th ESCRS W inter Refractive Surgery Meeting support the growing consensus that keratoconus patients achieve better long-term visual acuity after penetrating keratoplasty (PK) than after deep anterior lamellar keratoplasty (DALK).

The first study, presented by Kayvan Arashvand MD, Southend Hospital NHS Trust, UK, involved a review comparing the visual outcomes in 49 eyes of 49 keratoconus patients who underwent either DALK or PK. It showed that while both groups had similar results in terms of postoperative spherical equivalent and cylinder, those undergoing PK had better visual outcomes.

The study involved 25 eyes of 25 patients who underwent DALK and 24 eyes of 24 patients who underwent PK. The PK group had previous keratoplasty procedures or were considered high risk for graft rejection.

Higher proportion achieve better vision in PK group

At 36 months’ follow-up both groups achieved a median best-corrected acuity of 6/9. However, the proportion achieving 6/6 and 6/9 was higher among those in the PK group (25% and 66%, respectively) than in those in the DALK group (8% and 40%, respectively).

In addition, the proportion requiring rigid gas permeable contact lenses (RGPCLs) to achieve BCVA of 20/40 to 20/30, the percentages were slightly lower in PK than in DALK.

The first study, presented by Kayvan Arashvand MD, Southend Hospital NHS Trust, UK, involved a review comparing the visual outcomes in 49 eyes of 49 keratoconus patients who underwent either DALK or PK. It showed that while both groups had similar results in terms of postoperative spherical equivalent and cylinder, those undergoing PK had better visual outcomes.

The study involved 25 eyes of 25 patients who underwent DALK and 24 eyes of 24 patients who underwent PK. The PK group had previous keratoplasty procedures or were considered high risk for graft rejection.

Higher proportion achieve better vision in PK group

At 36 months’ follow-up both groups achieved a median best-corrected acuity of 6/9. However, the proportion achieving 6/6 and 6/9 was higher among those in the PK group (25% and 66%, respectively) than in those in the DALK group (8% and 40%, respectively).

In addition, the proportion requiring rigid gas permeable contact lenses (RGPCLs) to achieve BCVA of 20/40 to 20/30, the percentages were slightly lower in PK than in DALK.

However, like Dr Arashvand, Dr Hamada maintained that the technique might have long-term advantages in that it entails no risk of immune rejection.

“DALK is technically challenging. However, with newer techniques deep dissection to Descemet’s membrane can be accomplished safely with good visual outcomes. Visual outcomes are slightly poorer than are achieved with PK, although refractive outcomes of DALK in this series are comparable to those of penetrating keratoplasty.”

Dr Arashvand’s presentation won first prize in the Alcon/ESCRS sponsored poster competition at the ESCRS meeting in Monte Carlo and Dr Hamada’s study received an honourable mention.

k_arashvand@yahoo.com
samerhamada@yahoo.com