

To remove or not to remove (the AC-IOL)? This is the question

M. Tsatsos · I. Athanasiadis · N. Ziakas

Received: 12 May 2018 / Accepted: 11 September 2018 / Published online: 22 October 2018
© Springer Nature B.V. 2018

Dear Editor,

We read with great interest the article by Droutsas et al. [1], and we would like to share our own experience and opinion with the authors and readers. Despite the promising results reported, we believe that there may be an alternative method in cases similar to those described; this entails the exchange of the existing intraocular lens with a posterior chamber type which would minimise endothelial damage and maximise the graft survival as already well described by Droutsas et al. [1] in the Discussion section.

Descemet stripping endothelial keratoplasty (DSEK) and Descemet membrane endothelial keratoplasty (DMEK) are two techniques that have revolutionised the treatment of endothelial failure or dysfunction having largely replaced Penetrating keratoplasty (PK) for the management of these pathologies. Although surgery in cases of Anterior chamber Intraocular lens (AC-IOL) removal and replacement with a Posterior chamber intraocular lens (PC-IOL) can prove labour-intensive and difficult, especially in combination with DMEK or Pre-Descemet's endothelial keratoplasty (PDEK) [2], newer advancements in PC-IOL secure placement (IOL gluing through scleral

flaps) in the absence of posterior capsular support [3] with or without minimal iridoplasty allow combination with either DS(A)EK [4] or DMEK (and PDEK) surgery.

We retrospectively reviewed our DSEK, DMEK and PDEK cases associated with the presence of an AC-IOL over a period of 18 months. During this time, there were four eyes undergoing DSEK with a retained AC-IOL (stable but with variable anterior chamber depths) as well as three DSEK and PDEK cases combined with removal of the AC-IOL and posterior placement of a PC-IOL through scleral flaps with and without iridoplasty. In the retained AC-IOL DSEK patients, there was a 25% secondary failure (one in four cases which was associated with shallow AC) over a period of 18 months, whereas in the AC-IOL exchange and replacement with PC-IOL group no secondary failures were noted over the same period for both two PDEK and one DSEK cases.

Similarly, Wylegala et al. [5] showed no DSAEK primary or secondary failures when DSAEK surgery is combined with AC-IOL exchange and PC-IOL implantation over a period of 19.3 months, whereas Esquenazi et al. [6] suggested DSAEK to be safe and effective in cases of retained well-positioned and stable AC-IOLs in eyes with an AC depth of 3 mm or more. Another point that should be taken into account is that at least in conventional DS(A)EKs, the endothelial graft of 150–180 µm would further shallow the AC, thus making patient selection with deeper

M. Tsatsos (✉) · I. Athanasiadis · N. Ziakas
Department of Ophthalmology, Aristotelian University of
Thessaloniki, 54124 Thessaloniki, Greece
e-mail: michaeltsatsos@gmail.com

AC depths essential when DS(A)EK is being considered.

Although AC-IOL exchange and PC-IOL scleral fixation combined with DS(A)EK/DMEK or PDEK is a lot more labour-intensive in comparison with endothelial keratoplasty in retained AC-IOL, it may still be a more viable option in terms of graft survival. Regardless of the approach chosen by the surgeon, careful assessment of the AC depth and an individualised patient approach are necessary in order to ensure the best possible outcome. Further reporting of similar cases will increase the number of patients' follow-up over longer periods of time and give us a better insight into the optimal approach in similar situations.

References

1. Droutsas K, Lazaridis A, Kymionis G, Chatzistefanou K, Papaconstantinou D, Sekundo W, Koutsandrea C (2018) Endothelial keratoplasty in eyes with a retained angle-supported intraocular lens. *Int Ophthalmol*. <https://doi.org/10.1007/s10792-018-0899-x>
2. Tsatsos M, Liarakos VS, MacGregor C, Athanasiadis I, Detorakis ET, Moschos MM, Hossain P, Anderson DF (2017) Endothelial keratoplasty: is Descemet membrane endothelial keratoplasty the Holy Grail of lamellar surgery? *No. Eye (London)* 31(9):1333–1336
3. Narang P, Agarwal A, Dua HS, Kumar DA, Jacob S, Agarwal A (2015) Glued intrascleral fixation of intraocular lens with pupilloplasty and pre-descemet endothelial keratoplasty: a triple procedure. *Cornea* 34(12):1627–1631
4. Tsatsos M, Konstantopoulos A, Hossain P, Anderson D (2014) Presoaking with BSS used for thin manually dissected DSEK (TMDSEK): a viable option for thin DSEK. *Eye (London)* 28(6):701–704
5. Wylegała E, Tarnawska D (2008) Management of pseudophakic bullous keratopathy by combined Descemet-stripping endothelial keratoplasty and intraocular lens exchange. *J Cataract Refract Surg* 34(10):1708–1714
6. Esquenazi S, Esquenazi K (2010) Endothelial cell survival after descemet stripping with automated endothelial keratoplasty with retained anterior chamber intraocular lens. *Cornea* 29(12):1368–1372