

Commentary: Dye-based identification of the orientation of tissue for Descemet stripping automated endothelial keratoplasty: A laboratory-based study

We read with great interest, the article titled "Dye-Based Identification of the Orientation of Tissue for Descemet Stripping Automated Endothelial Keratoplasty: A Lab-Based Study."^[1] The authors found that using vital dyes could increase the accuracy of predicting the correct orientation of graft during Descemet stripping automated endothelial keratoplasty (DSAEK). Although the study is interesting, we would like to share few concerns.

First, is staining, indeed, required for the correct identification of DSAEK lenticule? In our experience, graft orientation can be easily made by examining it under a microscope, if not dipped in excess fluid. As the authors have correctly found, granularity is the best sign to identify the stromal side of the lenticule. Besides this, the shiny surface of the endothelium makes its identification easy. In case of difficulty, the surgeon can use a Merocel sponge and dry the edges of the graft, making the different surfaces well apparent.

Second, is there a need for staining in difficult cases? The authors have pointed out that staining may help in difficult situations like in ultrathin grafts where the lenticule is extremely thin and has a tendency to fold over itself, especially after insertion into the anterior chamber. This further gets complicated when there is associated stromal haze. Various methods have been described to identify the correct orientation of graft in difficult cases,^[2] the use of vital stains being one of them.

It has been reported that among the various dyes, the blue dyes are the safest ones.^[3] The authors found trypan blue (TB) to be the best option for staining DSAEK lenticules. We also believe the same. However, our observation is from years of experience of using TB in cataract surgery and its proven safety profile. Data provided by the authors, however, lack reliability, probably because of the small sample size in the individual groups. We believe that this study could stimulate further research on this topic in the coming years.

The most precious part of the success of DSAEK is the viability of endothelial cells. We believe that unless the situation demands, every effort should be made to avoid the use of any chemical

over the endothelium. To conclude, although the use of vital dyes is a must in Descemet membrane endothelial keratoplasty, it is not universally required in DSAEK. A careful microscopic examination is sufficient in most cases. In difficult situations, however, staining of the lenticule proves to be extremely helpful.

Ritu Nagpal, Prafulla K Maharana, Namrata Sharma

Cataract, Cataract and Refractive Surgery Services,
Dr. Rajendra Prasad Centre for Ophthalmic Sciences,
All India Institute of Medical Sciences, New Delhi, India

Correspondence to: Prof. Namrata Sharma,
Cataract, Cornea and Refractive Surgery Services,
Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India
Institute of Medical Sciences, New Delhi - 110 029, India.
E-mail: namrata.sharma@gmail.com

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