

Comment on the Article: Management of Upside-Down Descemet Membrane Endothelial Keratoplasty: A Case Series

Dear Editor,

I have read with interest the article by Bardan *et al.* on “Management of upside-down Descemet membrane endothelial keratoplasty: A case series”.¹

I would like to add a few relevant points pertaining to this article. The authors have reported upside-down Descemet membrane endothelial keratoplasty (DMEK) grafts to be 5 out of 37 eyes (13%), which is in concurrence to the reported incidence of 0–18%. In case 1, the graft detachment was confirmed on the postoperative day 5, but the subsequent intervention was not taken up until day 20. The reasons for the delay in the intervention were not specified. Grafts detached for a prolonged period are known to show fibrosis and graft shrinkage, which do not allow late successful management.²

In addition, it would have been more informative if the type of tissue preservation (organ culture vs. cold preservation) and the relationship between descemetorhexis and graft sizes were mentioned in the article. This is of more relevance as these factors can influence the attachment of the graft. Furthermore, the donor age should have been mentioned in all five cases.³

Apart from the methods described in the article to identify DMEK scroll orientation like Moutsouris sign, peripheral marks, “S” or “F” stamps, the use of slit beam, and the use of intraoperative optical coherence tomography, we can also use an endoilluminator-assisted transcorneal illumination at the limbus.⁴ By holding the endoilluminator tip tangentially at the limbus, this helps to identify the correct graft orientation, especially in edematous, hazy corneas where a DMEK is performed. The tangential light provided by the endoilluminator highlights the details of the graft, such as graft position, folds, and the orientation of the Descemet membrane in relation to the corneal stroma. The tip of the light probe is moved around the limbus while it is focused tangentially to allow a good visualization and have a three-dimensional perception. A graft with its edges scrolling toward the recipient stroma (upward) is an important sign to know that the tissue is oriented the “right way up”. Visualization can be further enhanced by switching off the room and microscope lights. Using endoilluminator, the graft is seen to be oriented the right way up, so the edges curl upward and then centered under the stripped recipient site, after which an air bubble is injected under the graft to float it up against the overlying stroma. This also aids the surgeon in reducing the operating time considerably, thereby decreasing the graft manipulation and subsequent endothelial damage. Thus, this simple technique also helps in preventing upside-down DMEK grafts during the surgery.

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Conflicts of interest

There are no conflicts of interest.

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