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Deep Anterior Lamellar Keratoplasty in Macular Corneal Dystrophy

To the Editor:

We read with great interest the article titled "Clinical outcomes and risk factors for graft failure after deep anterior lamellar keratoplasty and penetrating keratoplasty for macular corneal dystrophy" by Reddy et al.[1] The authors demonstrated the comparable visual outcomes with varying complication profiles with both techniques. Although the authors used the technique for deep anterior lamellar keratoplasty (DALK) published by Vajpayee et al,[2] the use of peribulbar anesthesia as compared with general anesthesia may be one of the factors for the higher rate of microperforations. Vajpayee et al[2] showed that in cases with macular corneal dystrophies, adhesions were encountered intraoperatively between deeper stromal opacities and Descemet membrane, which could be successfully separated by gentle blunt dissection. The authors[1] agree that the higher rates of postoperative double anterior chamber (43%) as compared with those reported in the literature (3.5%)[3] can be attributed to the longer learning curve of DALK, but they do not mention the number and experience of surgeons involved in the study.

Although in the discussion section, the authors[1] mention the longer use of topical steroids and their role in increased incidence of postoperative glaucoma[4] in penetrating keratoplasty, they do not mention the exact regimen of steroid therapy in either group in the methodology section. Also, in the discussion section, the authors[1] agree to the fact that the suture removal was definitely earlier in cases with DALK; the methodology section does not provide a clear picture of the protocol for initiation of suture removal. The reason for the higher rate of suture-related microbial keratitis in the DALK group (9.5%) as compared with the penetrating keratoplasty group (3.7%) when earlier suture removal has been performed should be discussed. No mention of any evidence of recurrence of macular corneal dystrophies in either group has been made at final follow-up.

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Tarun Arora, MD, DNB, FICO*
Supriya Arora, MS, DNB†
Vijay Sharma, MS*

*Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, India
†Guru Nanak Eye Centre, Maulana Azad Medical College, New Delhi, India

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Reply:

First, I would like to thank Arora et al for showing interest in our article. We did not find any literature reporting the effect of anesthesia in achieving a big bubble during deep anterior lamellar keratoplasty (DALK). Properly achieved peribulbar anesthesia and a cooperative patient are sufficient for completion of DALK without any hassle. We agree that Vajpayee et al[1] have shown adhesions in a couple of their patients during DALK for macular corneal dystrophy, but we did not encounter any adhesions in our patients. It has been shown that the DALK procedure has a learning curve, and this has a bearing on the successful completion of the surgery. The duration of our study spanned from 2001 to 2009, which includes the period of introduction of the DALK procedure. At the inception of the study, we did not intend to analyze the complication rates based on the surgeons' experience, and hence could not provide the details. These surgeries were performed by multiple surgeons with different surgical experience.

The steroid regimen that we followed after penetrating keratoplasty included prednisolone acetate 1% eye drops 6 times a day for 1 week, 4 times a day for 1 month, 3 times a day for 6 to 9 months, and later tapered further depending on the course, whereas after DALK, prednisolone acetate 1% eye drops 6 times a day for 1 week, 4 times a day for 1 month, 3 times a day for 2 months, 2 times a day for 4 to 6 months, and continued once a day medication for 1 year.

Suture removal in the penetrating keratoplasty group commenced from 4 to 6 months and after DALK as early as 3 months after the surgery, thereafter the number of sutures removed was based on astigmatism and integrity. Although the initiation of suture removal was early in the DALK group, some sutures were