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COMMENT

'On the capability and nomenclature of the Boston Keratoprosthesis type II'

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An article entitled 'Long-term Visual Outcomes and Complications of Boston Keratoprosthesis Type II Implantation' evaluated outcomes of the Boston Type II KPro in the largest single device case series with longest follow-up in the literature, providing invaluable information about clinical use and performance of this keratoprosthesis.[1] There are areas which need clarification.

The statement 'Half of eye retained their initial keratoprosthesis at the last follow-up (50%, 24 of 48 eyes)' may mislead. Although the follow-up time was 5.9 ± 5.2 years, some of the patients had less than 1-year follow-up time. The usual 5-year survival rate, which is the accepted way to report long-term success of any kind of keratoplasty, was not mentioned. By studying the Kaplan–Meier curve provided in the article, the figure should be ~35% at 5 years dropping to 30% before 6 years, 20% at 8 years, and 10% at 15 years. These figures are far below the survival rates of the Osteo-odonto-keratoprosthesis (OOKP) when deployed in similar patients with severe end stage ocular surface disease.[2–4] It follows that formal study comparing the two devices in patients with suitable dentition available need not take place. There may however be a case for comparison of OOKP allografts and the Type II Boston KPro for those without suitable dentition. Thus where there is a suitable tooth, the OOKP is clearly the device of choice in this group of patients. This is not only for better retention but also visual results.[2–4]

Glaucoma is one of the commonest and most difficult to manage complications after both Boston KPros and OOKP. The type of glaucoma shunt tube used was not reported. The authors reported that some patients needed topical anti-glaucoma drugs for controlling IOP after KPro surgery. According to our experience in OOKP patients, topical medication has no role in the management of postoperative glaucoma owing to lack of absorption through thick oral mucosal graft. With Boston KPro Type II the barrier (the skin) will be resistant to intraocular penetration of topical medications. Moreover, there is no fornix in these patients to act as drug reservoir. We occasionally use sublingual timolol eye drops in our OOKP patients.

Finally, except to aficionados, even corneal surgeons may be misled by the very different uses and performance of the Boston Type I and Type II KPros. The good results of Type 1 KPro surgery simply cannot be extrapolated for the Type II. As the unqualified terms Boston KPro or even just KPro is taken to refer to the Type I device, there may be a case for giving a different name altogether to the Type II device.

Conflict of interest

The authors declare no conflict of interest.

References

1 Lee R, Khoueir Z, Tsikata E, Chodosh J, Dohlman CH, Chen TC. Long-term visual outcomes and complications of Boston Keratoprosthesis Type II implantation. *Ophthalmology* 2017; **124**(1): 27–35.
2 Falcinelli G. Modified osteo-odonto-keratoprosthesis for treatment of corneal blindness: long-term anatomical and functional outcomes in 181 cases. *Arch Ophthalmol* 2005; **123**: 1319–1329.
3 Liu C, Okera S, Tandon R, Herold J, Hull C, Thorp S. Visual rehabilitation in end-stage inflammatory ocular surface disease with the osteo-odonto-keratoprosthesis: results from the UK. *Br J Ophthalmol* 2008; **92**(9): 1211–1217.
4 Tan A, Tan DT, Tan XW, Mehta JS. Osteo-odonto-keratoprosthesis: systematic review of surgical outcomes and complication rates. *Ocul Surf* 2012; **10**: 15–25.

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