AB088. Quality of life and visual function in patients with Boston type I keratoprosthesis

Cristina Bostan[1], Marwan Elfekhfakh[2], Mona Harissi-Dagher[1]

[1]Department of Ophthalmology, University of Montreal Hospital Center, Montreal, QC, Canada; [2]Department of Family Medicine, University of Montreal, Montreal, QC, Canada

Background: To determine patient-reported vision-related quality of life (VR-QoL) following Boston type I keratoprosthesis (BI-KPro) surgery and its association with postoperative best-corrected visual acuity (BCVA).

Methods: Descriptive cross-sectional study. Consecutive consenting patients with BI-KPro were included. The French National Eye Institute Visual Function Questionnaire-25 administered at 51±18 months postoperatively measured VR-QoL. Clinical charts were reviewed for demographics, indications for BI-KPro, baseline and postoperative (at time of interview) BCVA. For patients operated unilaterally, stratification of VR-QoL scores based on BCVA in the non-operated eye was performed. Multivariate linear regression was carried out, using VR-QoL scores as dependent variables, and demographics and postoperative BCVA as covariates. For patients operated bilaterally, Spearman correlation between VR-QoL scores and BCVA was performed. P<0.05 indicated statistical significance.

Results: Sixty-four patients, aged 59±14 years, 52% male, with a follow-up of 54±19 months, were included. Postoperative BCVA increased from baseline in all operated eyes (P=0.000). In patients with unilateral BI-KPro (n=52), the VR-QoL overall score was 70.7±25.1. Scores on all questionnaire subscales were greater when BCVA in the non-operated eye was >20/200 compared to 20/200 (P=0.000). BCVA in the non-operated eye was positively associated with all subscales (P<0.01) independently of age, sex, follow-up duration and postoperative BCVA in the operated eye. In patients with bilateral BI-KPro (n=12) the VR-QoL overall score was 63.0±18.7. BCVA in the best eye positively correlated with Near/Distance activities, and social functioning subscales (P<0.05). There was no significant difference between VR-QoL scores of patients operated unilaterally *vs.* bilaterally.

Conclusions: We describe VR-QoL more than 4 years after BI-KPro surgery. Compared to data at 1 year previously reported, our results suggest that, as vision progressively deteriorates in the operated eye, patients increasingly rely on their non-operated eye. VR-QoL after bilateral BI-KPro is assessed for the first time, and appears comparable to that after unilateral surgery. Larger, prospective, long-term studies, with assessment at baseline, are warranted.

Keywords: Boston type I keratoprosthesis (BI-KPro); National Eye Institute Visual Function Questionnaire-25; vision-related quality of life (VR-QoL)

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