

**Sir,
Response to O'Brart: 'Is accelerated cross-linking the way forward? Yes or No'**

We welcome the comments of O'Brart¹ regarding our controversy articles 'Is Accelerated cross-linking the way forward? Yes or No'.^{2,3}

We agree that the presence of a demarcation line cannot be taken in isolation as a measure of treated *versus* untreated cornea; however, there is substantial microscopic, biomechanical and clinical evidence⁴⁻⁶ to support the hypothesis that this line described by Seiler and Hafezi⁷ does indeed demarcate between cross-linked and uncross-linked cornea. Further work is clearly warranted.

Although Reinstein *et al*⁸ have published elegant work demonstrating the epithelial changes in early keratoconus, this work is yet to be widely reproduced. For the large majority of workers in the field, changes in posterior corneal elevation detected using slit scanning or Scheimpflug imaging remains the mainstay of early diagnosis and is still considered to be the principle area of initial morphological change.⁹⁻¹²

Conflict of interest

The authors declare no conflict of interest.

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**Sir,
Intrastromal corneal rings and corneal collagen crosslinking for progressive keratoconus: comparison of two sequences**

Keratoconus is a progressive corneal ectasia with an estimated prevalence of 1 in 2000.¹ Crosslinking (CXL) is used to stop the progression of keratoconus, whereas intrastromal corneal ring segment (ICRS) is used to improve functional vision.

Case report

We compared two sequences of combined ICRS implantation and CXL in progressive keratoconus. In this retrospective study, CXL was followed by ICRS implantation (group A) or ICRS implantation was followed by CXL (group B). Uncorrected (UDVA) and corrected (CDVA) distance visual acuities, spherical equivalent (SE), manifest cylinder, mean keratometry (K), and maximum K were compared preoperatively and postoperatively. In all, 17 eyes of 10 patients with progressive keratoconus were included in this study, 11 eyes in group A and 6 in group B. The mean interval between treatments was 4.3 months in group A and 5 months in group B. The mean age was 27.6 in group A and 28.4 years in group B. The two groups were equivalent preoperatively. The mean UDVA and CDVA improved in both the groups (UDVA: 0.50 ± 0.22 to 0.60 ± 0.20 in group A and 0.28 ± 0.19 to 0.62 ± 0.22 in group B ($P < 0.05$); CDVA: 0.64 ± 0.15 to 0.70 ± 0.14 and 0.70 ± 0.14 to 0.88 ± 0.17, respectively). The cylinder, mean K, and maximum K values decreased in both the groups (cylinder: -3.63 ± 1.27 to -1.14 ± 0.1 D ($P < 0.05$)).

group A and -3.60 ± 1.85 to -2.80 ± 2.19 D group B; mean K: 44.80 to 42.50 D ($P < 0.05$) and 43.98 to 43.90 D; maximum K: 51.52 ± 2.39 to 50.10 ± 0.9 and 51.76 ± 2.55 to 49.50 ± 1 , respectively). SE values decreased in group A (-3.4 to -0.50 D ($P < 0.05$)), whereas it increased in group B (-1.10 to -1.70 D).

Comment

ICRS have been used to correct ectatic corneal diseases by reducing corneal steepening. CXL with riboflavin and ultraviolet A is a technique to increase corneal rigidity. Several studies showed that the association of CXL with ICRS led to better results.^{2–5} In our study, there is no statistical difference between the two sequences: ICRS implantation followed by CXL or CXL followed by ICRS implantation. Overall, the two sequences show an improvement in UDVA, CDVA, cylinder, mean K, and maximum K.

Conflict of interest

The authors declare no conflict of interest.

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Sir, Efficacy and safety of patching vs bandage lens on postoperative pain following pterygium surgery

Pterygium surgery is typically performed in an outpatient setting with subconjunctival anesthesia.¹ Owing to the short duration of action of local anesthesia, patients may experience considerable pain and discomfort following surgery once anesthesia has worn

off. Wishaw *et al*² showed that clinically significant postoperative pain (conjunctival and corneal origin) is reportedly experienced in 60% of patients undergoing pterygium surgery.

The purpose of this prospective randomized study was to compare the postoperative pain, and symptoms of photophobia, epiphora, and foreign body sensation, with overnight patching vs placement of a bandage lens for the management of postoperative pain following pterygium surgery.

Results

Of 30 eyes in each group, 15/30 in the patching group and 17/30 in the bandage lens group were male. All but one case in each group had nasal pterygia. The mean age of patients was 50.1 ± 10.6 years in the patching group and 49.0 ± 16.9 years in the bandage lens group. No statistically significant differences existed between the two groups with respect to age, laterality, pterygium location, gender, size of pterygium, size of conjunctival autograft required, or preoperative visual acuity (Table 1).

Comment

Figure 1 summarizes the results of the primary and secondary end points of the study. There was no statistically significant difference in VAS pain score or amount of pain medication taken between groups during the first week. Significantly more eyes were reported to be photophobic on POD 0 in the bandage lens group ($P = 0.01$; odds ratio = 4.0). Using linear logistic regression analysis, VAS pain score predicted the amount of pain medication taken on the same day ($P < 0.0001$; no significant difference between groups). On POD 0 only, VAS pain score was statistically significantly related to the graft area required ($P = 0.023$). Age was noted to be inversely correlated to the amount of pain medication taken; for every additional year of age, a given patient would have taken 0.13 less tablets ($P = 0.0009$). None of the clinical symptoms (photophobia, epiphora, and foreign body sensation) were predicted by any of the baseline characteristic of the groups.

Interestingly, postoperative pain and requirement for pain medication (acetaminophen with codeine tablets) was similar after POD 1, when the patch was removed. The bandage lens during the first postoperative week did not appear to improve comfort. These results suggest that both modalities help in reducing the postoperative

Table 1 Clinical characteristics in patients with primary pterygium undergoing excision followed by patching or bandage lens

	Patching	Bandage lens	P-value
No. of eyes	30	30	
Laterality (right:left)	13:17	16:14	0.45
Pterygium Location (nasal:temporal)	29:1	29:1	1
Age (years)	50.1 ± 10.6	49.0 ± 16.9	0.77
Gender (male:female)	15:15	17:13	0.60
Size of pterygium (mm ²)	12.29 ± 7.65	15.9 ± 12.76	0.19
Size of CAU required	43.83 ± 16.86	49.67 ± 24.48	0.29
Preoperative visual acuity (logMAR)	0.157 ± 0.168	0.17 ± 0.166	0.76

Abbreviation: CAU, conjunctival autograft.