

Comparative study of epi-off and epi-on Collagen Cross-Linkage in keratoconus patients

Sumaira Amir¹, Aamir Asrar¹, Muhammad Asif¹, Maha Asrar²

ABSTRACT

Purpose: To evaluate epi-off and epi-on (trans-epi) collagen cross-linkage procedures in keratoconus patients.

Subjects and Methods: Eighty patients (102 eyes) with keratoconus were included in this prospective study from May 2014 to April 2015 in Amanat Eye Hospital, Rawalpindi. There were forty patients (51 eyes) with CXL epi-on procedure (Group I) and forty patients (51 eyes) with CXL epi-off procedure (Group II). Epi-off cxl procedure comprised isotonic riboflavin solution 0.1% with 20% dextran, whereas epi-on cxl procedure utilized hypotonic 0.25% riboflavin solution. The cornea was exposed to UVA 370 nm light for 3 minutes at an irradiance of 30mW/cm². After cxl procedure patients were then followed up at baseline, 3 months and 12 months respectively.

Results: In Group I, the mean age of patients was 21.83 years ± 3.83 SD. There were 27 (67.5%) male and 13 (32.5%) female patients. The right eye was affected in 15 (37.5%) patients and left eye was affected in 14 (35%) patients. In Group II, the mean age of patients was 20.75 years ± 4SD. There were 22 (55%) male and 18 (45%) female patients. The right eye was affected in 17 (42.5%) patients, left eye was affected in 12 (30%) patients. In both treatment groups there were insignificant difference in terms of improvement in best-corrected visual acuity and topographic parameters.

Conclusion: This study showed that there were insignificant differences between both cxl procedures. The added advantage of patient comfort, reduced post-operative infection and early visual recovery gave epi-on cxl the best treatment of choice. *Al-Shifa Journal of Ophthalmology* 2016; 12(2): 88-96. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.
