

Comparative study between long term outcomes of accelerated and conventional corneal collagen crosslinking for progressive keratoconus

PURPOSE:

To compare long term results of accelerated corneal collagen crosslinking (CXL) to conventional corneal CXL for progressive keratoconus.

METHODS:

Thirty keratoconic eyes underwent accelerated CXL (Innocross system; 30 minutes riboflavin [Opto-Ribolink] presoak; 8 minutes, 9 mW/cm² ultraviolet-A light) and were compared to 30 eyes that had conventional CXL (Innocross system; 30 minutes riboflavin [Innocross RTM] presoak; 30 minutes 370 nm, 3 mW/cm² ultraviolet-A light)

Eyes with minimum 6 months follow up after crosslinking were included (range 6 to 24 months). Post-procedure changes in best spectacle corrected visual acuity (BSCVA), manifest refraction spherical equivalent (MRSE), keratometry and corneal thickness readings were compared. All eyes were imaged using a scheinpflug camera.

RESULTS:

The accelerated CXL group was followed up for mean 12.07 ± 7.74 months whereas the conventional CXL group was followed up for mean 12.63 ± 6.41 months. Both groups exhibited statistically significant reductions in keratometry readings in the steep meridian with no significant differences between them. There was an improvement in BSCVA and MRSE after both accelerated and conventional CXL procedures, however the improvement was not statistically significant in either group. The post- procedure change in corneal thickness did not differ significantly between both groups.

CONCLUSIONS:

Both accelerated and conventional CXL were effective procedures for the management of progressive keratoconus. Accelerated CXL, being a quicker procedure appears to be more beneficial for patients.

FINANCIAL DISCLOSURE: Nil