

A comparative study of stromal reaction in Epi-on & Epi-off techniques post-C3R in Keratoconus patients with OCT.

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ABSTRACT

TITLE: A patient study of Stromal Reaction after C3R with OCT and comparing Epi-On & Epi-Off techniques in Keratoconus patients.

PURPOSE: To report a study of 20 patients of keratoconus showing the effect on the corneal structure and stromal reaction in post Corneal Collagen Cross Linking (C3R), through the Anterior Segment imaging technique- OCT

METHODS: A Study was done from 15.7.2014 to 30.9.2014 of 20 patients having keratoconus, progressive type, where Collagen Cross linking was decided as the method of management (10 each of Epi-on and Epi-off technique).

In the Epi-off technique, the epithelium was removed prior to corneal soakage of a dextran-based 0.1% photo sensitizer riboflavin solution for 30 minutes, followed by exposure of ultraviolet-A (typically 365-370 μm) light for 30 min with an intensity of 3 mW/cm^2 and 5.4 J/cm^2 of energy.

In the Epi-on technique, a special dextran-trometamol EDTA based 0.1% riboflavin solution is used without scrapping the cornea, rest of the method is same.

One week after the C3R procedure, the anterior segment OCT was done.

RESULTS: In the first few weeks after cross-linking, a faint hyper reflectivity is noted in the anterior stroma, a distinct demarcation between the cross-linked and non-cross-linked areas of the cornea, the depth of demarcation line and the change in the corneal thickness was noted.

CONCLUSION: In both the Epi-on and Epi-off technique, the change in the stromal thickness and demarcation line is same. Hence we conclude that both the techniques are equally effective.

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