

EFFICACY of EPI-ON CROSS-LINKING in ACUTE KERATOCONUS ASSOCIATED with DOWN'S SYNDROME

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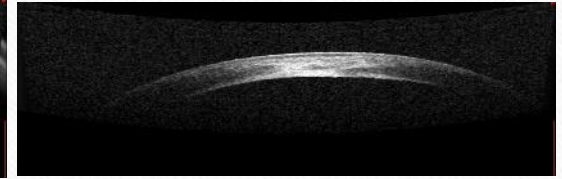
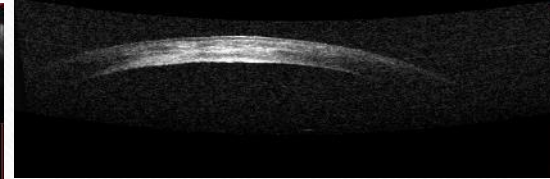
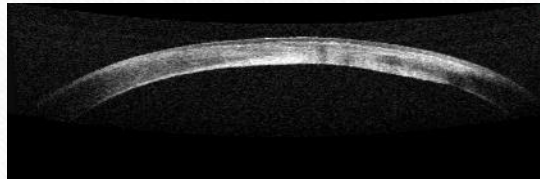
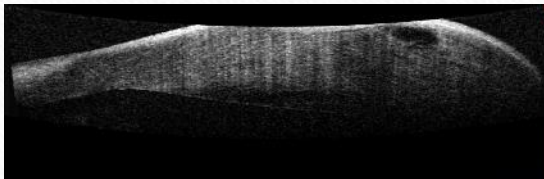
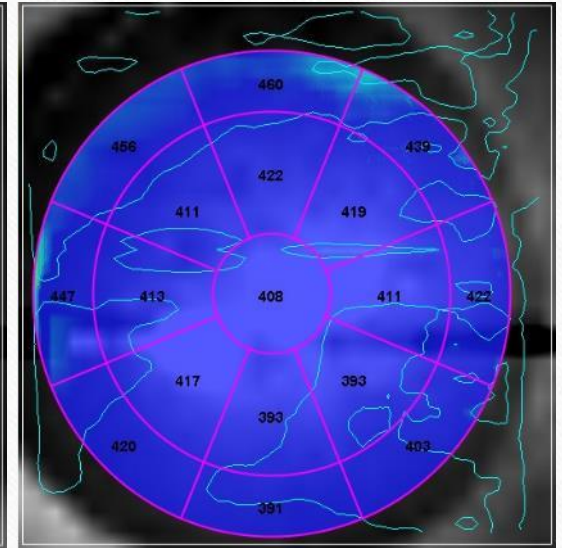
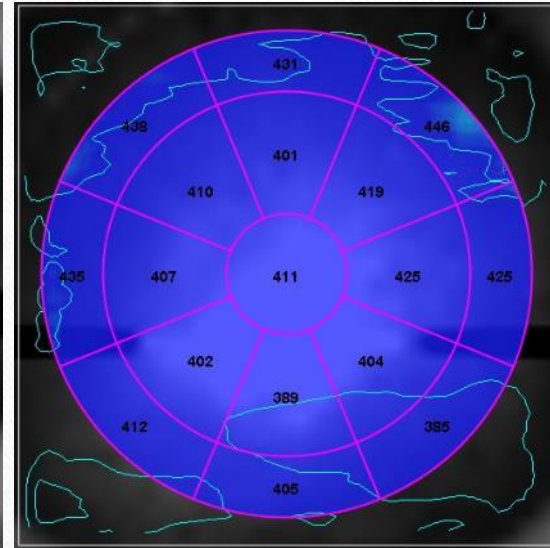
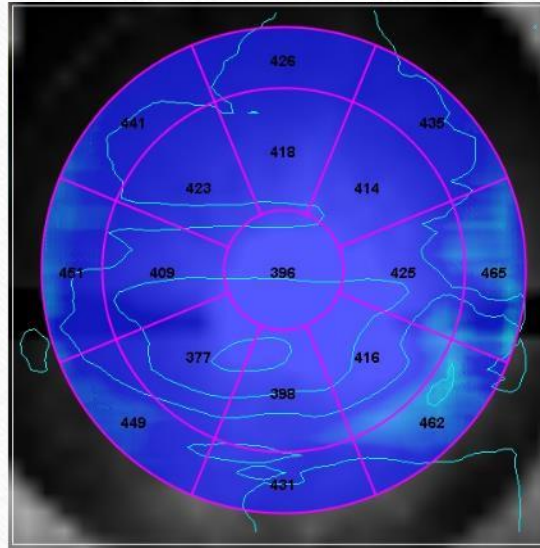


- PURPOSE:** to evaluate an 8 months efficacy of epi-on cross-linking in acute keratoconus associated with Down's syndrome
- MATERIALS and METHODS:** A 22-year old female patient with acute keratoconus of the left eye associated with Down's syndrome underwent an epi-on cross-linking as keratoplasty was not available at that moment due to a lot of reasons
- The patient was assessed preoperatively and respectively 1 day, 1 week, 1, 3, 5 and 8 months after the procedure
- UCVA, BSCVA, pachymetry, central keratometry, optical coherent tomography (OCT) were performed at these stages

The dynamics of OCT data (OS)

Patient I., ♀, 22 years old. Diagnosis: Acute keratoconus OS. Keratoconus II OD. Downs syndrome

The test couldn't be performed due to excessive corneal edema



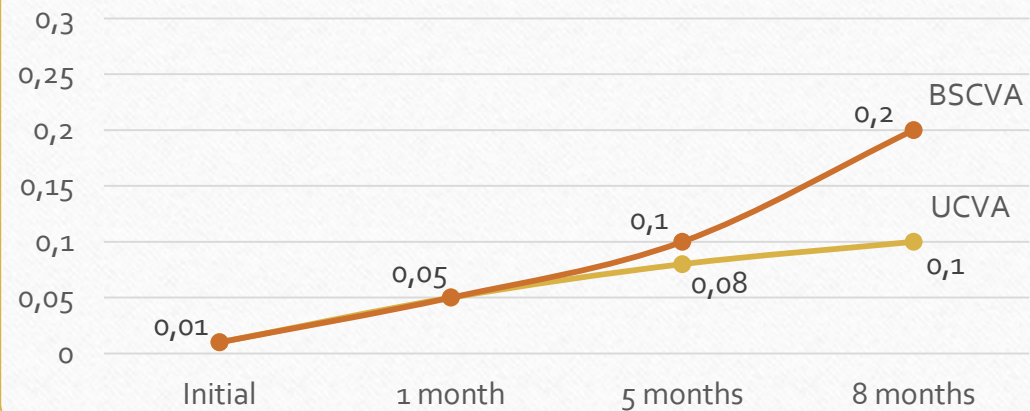
Initial

1 month after
treatment

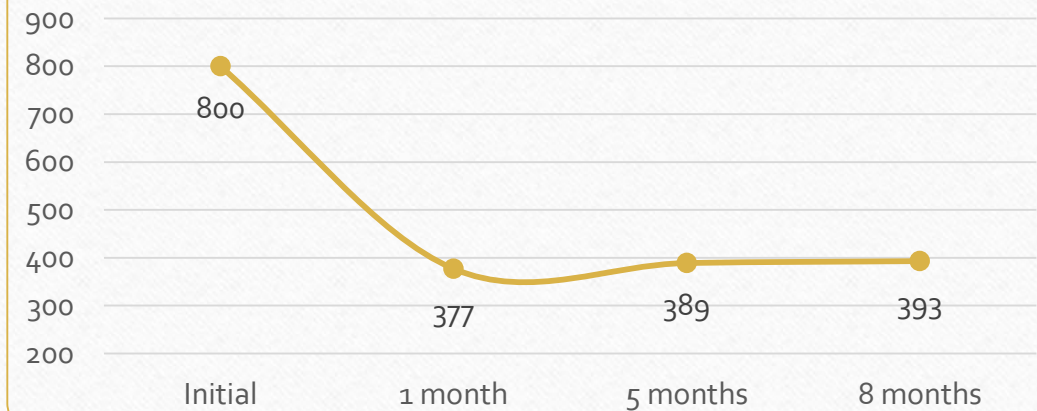
5 months

8 months

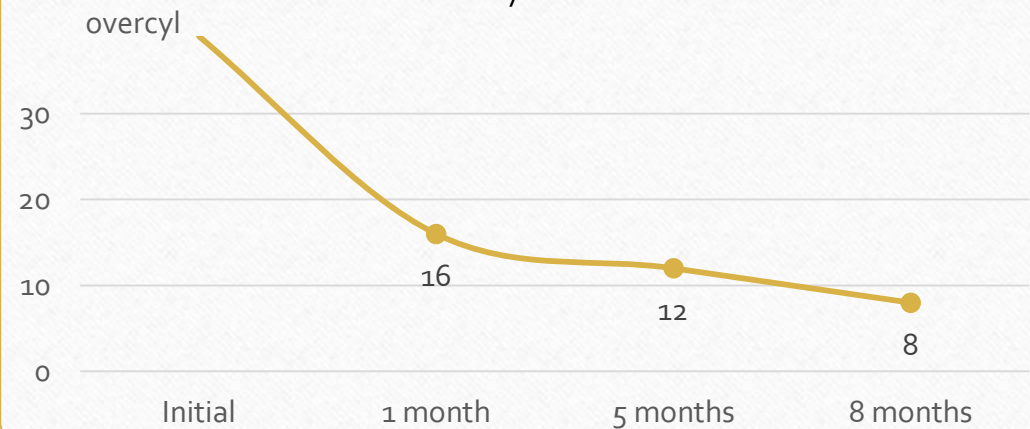
Visual acuity



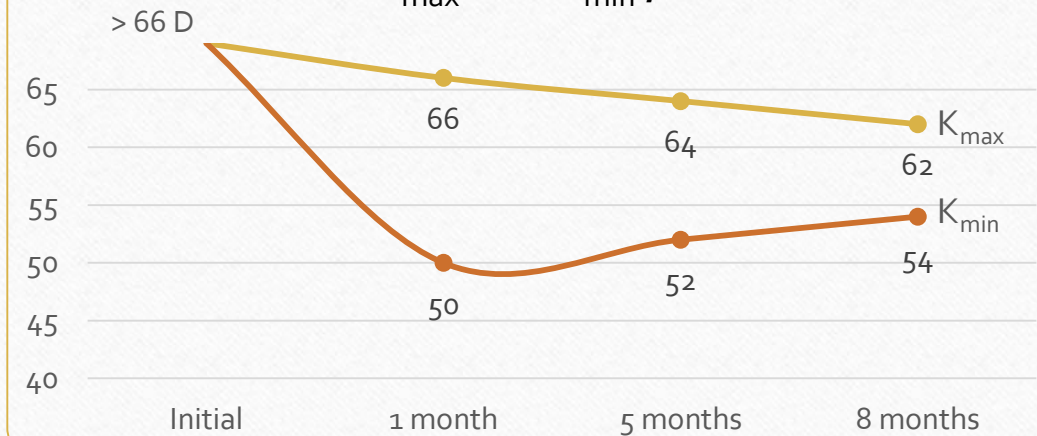
Thinnest point of cornea, μm



K_{cyl} , D



K_{max} and K_{min} , D



Results:

- No side effects were observed during the follow-up period
- Clinical improvement was noted from the first days after the epi-on CXL: photophobia disappeared, the cornea partially regained its transparency, the eye calmed
- UCVA improved from 0,01 to 0,05 in 1 month and to 0,1 in 8 months
- The keratometric cylinder decreased from 16 to 8 D from 1 to 8 months
- In 1 month corneal thickness was 396 μm in optical zone and 377 μm in the thinnest point, in 8 months pachymetry showed 408 μm value in the center and 393 μm in the thinnest area
- OCT of the cornea showed decreasing of corneal oedema in 1 month and structural integrity of the stroma in combination with a more regular shape of the cornea five months after the treatment

Conclusion:

- Epi-on cross-linking proved to be a safe and effective therapeutic option in treating acute keratoconus associated with Down's syndrome