

## Summary:

**Title:** Evaluation of changes in corneal densitometry after cross-linking in keratoconus patients and compared the effects of cross-linking on corneal densitometry in Accelerated and conventional methods

**purpose:** The aim of this study is to compare the corneal densitometry before and after cross-linking procedure and comparison of corneal densitometry after cross-linking in Accelerated and conventional methods materials and methods: The Samples of this study selected between patients with progressive keratoconus that candidated cross-linking with Accelerated and conventional methods. The Samples were divided into two groups with 23 patients. Also we calculated Total corneal densitometry and in different zones and layers of the cornea separately before and after the cross-linking with Pentacam densitometry map . the patients were visited in 1<sup>th</sup> & 7<sup>th</sup> & 30<sup>th</sup> days after cosslinking and they were visited again after six month. Also we requested Pentacam densitometry map .the raw data were analyzed with SPSS soft ware.

**Resultes:** in evaluation of patients without surgical method differentiation, we observed statically significant increasing in corneal densitometry in anterior & central corneal layer and in 2 mm central & 2 to 6 mm zone and total densitometry after crosslinking. (A P value <0.05). In conventional method increase in corneal densitometry in anterior corneal layer and in 2 mm central & 2 to 6 mm zone and total densitometry was statically significant (A P value <0.05) . In Accelerated method increase in corneal densitometry in anterior and Central corneal layer and in 2 mm central & 2 to 6 mm zone and total densitometry was statically significant. (A P value <0.05) in comparison the densitometry in both groups (Accelerated and conventional method)

after cross-linking , increase in corneal Densitometry after crosslinking only in 6 to 10 mm zone and posterior corneal layer in accelerated group was statically significant.

**conclusion:** both the conventional & Accelerated Cross-linking method increase the cornea densitometry. increase in corneal densitometry in anterior & central corneal layer and in 2 mm central & 2 to 6 mm zone and total densitometry was statically significant. in comparison the densitometry in both groups ( Accelerated and conventional method)

after cross-linking, increased in corneal Densitometry after crosslinking only in 6 to 10 mm zone and posterior corneal layer in accelerated group was statically significant.