

ABSTRACT

The Change of Tissue Inhibitor Metalloprotein-1 in Patient with Mild Moderate Astigmatism Before and After Collagen Cross Linking Therapy

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Purpose

To determine the change of Tissue Inhibitor Metalloprotein-1 (TIMP-1) before and after Collagen Cross Linking Therapy (CXL) in patient with mild moderate astigmatism.

Methods

This was one group pre and post test examination. A Total 10 patients were enrolled in this study and were examined astigmatism status and eye anatomy. The TIMP-1 was extracted from tears before CXL, 7th day after therapy, 30th day after therapy and 90 day after therapy, then examined using ELISA.

Results

All samples showed decrease of TIMP-1 expression 90 day after CXL ($p=0,00$). There were improvement of manifest refraction spherical equivalent ($p=0,00$), improvement of UCVA ($p=0,00$), increase central corneal thickness ($p=0,00$) and no change in posterior anatomy of the eye.

Conclusions

There was decreasing expression of TIMP-1 in patient with mild moderate astigmatism with improvement of clinical condition after CXL.

Keywords

TIMP-1, Collagen Cross Linking, CXL

INTISARI

Perubahan Kadar Tissue Inhibitor Metalloproteinase-1 pada Pasien Astigmatisme Ringan-Sedang Sebelum dan Setelah Dilakukan Terapi *Collagen Cross-Linking* Kornea

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Latar Belakang

Untuk mengetahui perubahan kadar Tissue Inhibitor Metalloproteinase-1 (TIMP-1) sebelum dan setelah terapi *Collagen Cross-Linking* (CXL) pada pasien astigmatisme ringan-sedang.

Metode

Penelitian ini merupakan *one group pre and post test*. Total 10 pasien diperiksa status astigmat dan kondisi anatomi mata. Kadar TIMP-1 diambil dari air mata sebelum CXL, 7 hari, 30 hari dan 90 hari setelah terapi lalu diperiksa menggunakan metode ELISA.

Hasil

Semua sampel menunjukkan penurunan kadar TIMP-1 dalam 90 hari *follow up* setelah CXL ($p=0,00$). Ditemukan perbaikan *manifest refraction spherical equivalent* ($p=0,00$), perbaikan UCVA ($p=0,00$), peningkatan *central corneal thickness* ($p=0,00$) dan tidak ditemukan perubahan anatomi pada mata.

Kesimpulan

Pada penelitian ini didapatkan adanya penurunan kadar TIMP-1 pada pasien dengan astigmatisme ringan sedang disertai perbaikan kondisi klinis setelah CXL.

Kata Kunci

TIMP-1, Collagen Cross Linking, CXL