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Six months follow-up of lenticular implants in advanced keratoconus

Free Paper Details

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Abstract Details

Purpose:

To evaluate the efficacy of implanting decellularized xenogenic lenticules (XENIA Implants) in femtolasers constructed pockets for management of advanced Keratoconus with clear cornea with six months follow up after Corneal cross linking

Setting:

A prospective , non randomized, non comparative , interventional, case series on seven eyes of six patients in Roayah Vision Center in Alexandria, Egypt. The study started in July 2019 and currently has follow up of at least six months .

Methods:

Seven eyes of six patients were treated. Six eyes were advanced Keratoconus, one eye was advanced Post-LASIK Ectasia. Femtolasers pocket creation using Visumax Zeiss Meditec 500 megahertz machine for all eyes. The XENIA lenticules are produced by Gebauer Medical in the following manner: Lenticules are extracted from Porcine tissue, subjected to a decellularization process, and intensely cross linked. XENIA Lenticule dimensions: Clear 7 mm diameter, thickness is between 100 and 120 microns. Implantation of tissue in the femtosecond laser pocket with 100 micron cap, on -0.75 D. the diameter of pocket was 7.5 mm, incision was 6.5 mm.

Results:

Six of seven eyes (three females and four males) showed improvement of the BCVA, from counting fingers to 0.1 to 0.5 with glasses after six months. One patient showed opacity and wrinkling of the lenticule that was extracted and substituted by another lenticule, then showing improvement of BCVA to 0.20 after six months .Electron Microscopy was done for this lenticule and compared to SMILE lenticule showing thin layers of tissues covering the lenticule. Six months follow up showed stability and clear lenticules all over the follow up period. All eyes were cross linked after three months of the procedurs except the eye of Post-LASIK Ectasia patient reached BCVA 0.5 with -9.0 D/-2.5 x 160 glasses .

Conclusions:

Tissue augmentation with decellularized xenogenic lenticules (XENIA Implants) and Corneal cross linking ; seems to be an effective way to avoid corneal transplantation (DALK) in patients with advanced Keratoconus after six months follow up.

Financial Disclosure:

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