



Posters

Tissue augmentation for management of advanced keratoconus

Poster Details

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Abstract Details

Purpose:

To evaluate the efficacy of implanting decellularized xenogenic lenticules (XENIA Implants) in femtolaser constructed pockets for management of advanced Keratoconus with clear cornea

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 three months

Methods:

Seven eyes of six patients were treated. Six of them were advanced Keratoconus, and one eye was advanced Post-LASIK Ectasia. Keratoconus patients were subjected to femtolaser pocket creation using Visumax Zeiss Meditec machine . 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 tissue with thickness between 100 to 120 microns . Implantation of tissue in femtolaser pocket with 100 micron cap, -0.75 D. and diameter of the pocket 7.25 mm, incision size was 6 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. One patient showed opacity and wrinkling of the lenticule that was extracted and substituted by another lenticule, then showing improvement of BCVA to 0.2. Electron Microscopy was done for this lenticule and compared to SMILE lenticule showing thin layers of tissues covering the lenticule. Three months follow up showed stability and clear lenticules all over the follow up period. The eye of the 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) seems to be an effective way to avoid corneal transplantation (DALK) in patients with advanced Keratoconus .Longer follow up period is needed.

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