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Porcine Corneal Lenticular Implants In Patients With Advanced Keratoconus And Post Lasik Ectasia: 3 Years Follow Up

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Purpose: To evaluate the efficacy of implanting decellularized lenticule (XENIA Implant) in femtosecond laser assisted constructed pocket for management of Keratoconus and post LASIK ectasia with clear cornea
Setting: A prospective , non randomized, non comparative , interventional, case series on seven eyes o six patients in Roayah vision center in Alexandria, Egypt.
Methods: Seven eyes of six patients were treated.Femtolaser 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 eyes (5 patients) had Keratoconus, one eye had Post-LASIK Ectasia. At one year follow up Six of seven eyes (three females and four males) showed improvement of the BCVA (p=0.007) One patient showed opacity and wrinkling of the lenticule that was extracted and substituted by another lenticule. The mean central corneal thickness increased from 389.43 ± 45.41 to 429.33± 63.20 µm, the maximum keratometry decreased from 64.8 ±5.11 to 62.82± 6.16 D, the mean corneal resistance factor (CRT) increased from 5.67 to 8.42, and the total higher-order aberrations decreased from 1.80 to 1.16. Both changes in the CCT and CRF were statistically significant. 3 years follow up showed stability all over the follow up period.
Conclusions: Porcine corneal lenticules implantation is immunologically safe and well tolerated in patients with keratoconus and post-Lasik ectasia and may be feasible as an alternative to keratoplasty.
Do you want to apply for a Trainee Bursary?: No
I confirm that at least one of the co-authors is an ophthalmologist: Yes
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