

Corneal lenticule implantation in keratoconus disease with relex smile surgery

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Abstract

Purpose: The aim of our study is to investigate the feasibility and effect of fresh lenticule implantation as allogenic graft that will be taken from myopic patients to implant in patients with keratoconus disease using VisuMax Femtosecond laser- Smile module surgery with primary objective to increase central corneal thickness and secondary to improve visual acuity and reduces K-values.

Methods: All the patients were clinically diagnosed with progressive keratoconus. Twenty patients underwent SMILE surgery (first group), and 20 patients underwent lenticule implantation (lenticule group). Visual acuity, corneal topography, anterior segment optical coherence tomography, were analyzed.

Results: Central corneal thickness were improved at the same day of surgery and vision started to improve at first week postoperatively in the lenticule implant group. Corneal topography showed a statistically significant decrease in the anterior K1 and K2. All the grafts from both groups were clearly visible by anterior segment optical coherence tomography observation. The central corneal thickness was stable during the 6-month study period. No complications were observed during short term follow-up.

Conclusion: In conclusion, the present study may suggest that this procedure using fresh lenticule with stromal stem cells and live keratocytes is safely, reliably, and effectively increase corneal thickness and improves visual acuity with no adverse effects, which may provide new avenues in the treatment of corneal ectasia.

Biography

Dr. Faruk Semiz is a Medical Doctor at, Eye Hospital Prishtina, Kosova.

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