

Outcome of intracorneal rings segment insertion in keratoconus patients

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Statement of Problem: Keratoconus (KC) is a progressive distortion of the cornea and patients used to ultimately end with corneal transplant. With the advent of corneal collagen cross-linking (CXL), the progress of KC was delayed in most patients. In addition, insertion of Intracorneal Ring (ICR) segments has assisted in improving best corrected visual acuity (BCVA). Sometimes, if the BCVA is not improved, treatment of the cornea by refractive surgery could be considered. Our purpose of this study is to report the outcomes of insertion ICR in KC patients.

Methods: This is a retrospective study of 143 eyes who had undergone ICR insertion between January 2013 to May 2021. We implanted intracorneal rings by one manufacturer (Keraring by Mediphacos). The patients underwent ICR insertion by a single surgeon under local anaesthesia. Though manual insertions was available, it was convenient to use Visumax femtosecond laser (Carl Zeiss, Germany) to create the tunnels of 75-80% corneal depth. Periods of examination of these patients were pre-operatively, 1-, 3- and 6-months post operatively. We examined the patients under slit-lamp and used their BCVA, corneal astigmatism from Galilei topography (Ziemer) and anterior segment optical coherence tomography (VISANTE, Carl Zeiss, Germany) to monitor their progress and the depth of the ICR in the stroma.

Results: Out of the 143 eyes, 73% of them had improvement in the BCVA and 89% of patients showed improvement of astigmatism on corneal topography at 6 months after insertion of ICR. 18.9% of the 143 eyes had prior CXL.

Conclusion: Instead of patients ending up with corneal transplant in advanced cases, patients have the option of improving their visual acuity with ICR.

Biography

Veera Ramani is a renowned doctor at Tun Hussein Onn National Eye Hospital, Malaysia. She published many articles in reputed Journals.