

## **Preliminary results of intrastromal corneal ring segment implantation to treat moderate to severe keratoconus.**

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### **Source**

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### **Abstract**

#### **PURPOSE:**

To present our preliminary experience with implantation of Ferrara intrastromal corneal ring segments (ICRS) in keratoconus patients.

#### **SETTING:**

Magrabi Eye and Ear Center, Jeddah, Saudi Arabia.

#### **DESIGN:**

Case series.

#### **METHODS:**

This study comprised patients diagnosed with primary keratoconus who had ICRS implantation. Uncorrected (UDVA) and corrected (CDVA) distance visual acuities were recorded. The change in manifest refraction spherical equivalent (MRSE), mean refractive cylinder, average simulated keratometry (K), and topographic cylinder from preoperatively to 6 months postoperatively was analyzed, and complications were noted. The t test was used to compare 2 independent means and the Wilcoxon signed-rank test, to compare nonparametric data.

## **RESULTS:**

By 6 months postoperatively, the CDVA was unchanged in 27% of cases and had improved between 1 line and 6 lines in 64% of cases; 9% of cases lost 1 or 2 lines. There was a decrease in the following mean values: MRSE (-3.60 diopters [D]  $\pm$  3.10 [SD] to -2.52  $\pm$  3.10 D; P=.209); refractive cylinder (5.18  $\pm$  2.10 D to 2.90  $\pm$  2.50 D; P=.000); simulated K (51.16  $\pm$  5.60 D to 48.11  $\pm$  3.60 D; P=.000); topographic cylinder (5.30  $\pm$  2.80 D to 3.80  $\pm$  3.20 D; P=.000). For cases with a 24-month follow-up, stability was similar for all parameters. Intraoperative or postoperative complications occurred in 13% of cases; all were managed without clinically significant visual loss.

## **CONCLUSION:**

Implantation of ICRS resulted in reasonable refractive and visual outcomes in a wide spectrum of keratoconus cases.

## **FINANCIAL DISCLOSURE:**

The author has no financial or proprietary interest in any material or method mentioned. Additional disclosure is found in the footnotes.

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