

[Predictive factors for successful Ferrara intracorneal ring segment implantation in keratoconus.]

[Article in French]

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Source

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Abstract

OBJECTIVE:

To define predictive factors after manual implantation of intrastromal corneal ring segments (Ferrara ring) for the management of keratoconus.

PATIENTS AND METHODS:

Twenty-five eyes of 25 patients with keratoconus were implanted with Ferrara intracorneal ring segments using a mechanical procedure. We measured corneal ring implantation depth, best spectacle-corrected visual acuity (BSCVA), as well as refractive and keratometric outcomes. Patients were separated into two groups according to the gain of at least two lines of BSCVA ("good response") or the gain of only one line of BSCVA, no change, or the loss of lines of BSCVA ("poor response").

RESULTS:

After a 6-month follow-up, 41% patients experienced a gain of at least two lines of BSCVA, 31.8% a gain of only one line, 13.6% no change, and 13.6% a loss of BSCVA. The sphere reduced from 4.39 to 2.34D ($p<0.01$), the cylinder from 4.19 to 2.77D ($p<0.01$), and the mean keratometry from 51.44 to 48.74D ($p<0.02$). As successful predictive factors, we found the asymmetry of keratoconus ($p<0.01$) in relation to the steepest meridian and patients implanted with a single ring ($p<0.02$).

CONCLUSION:

Defining preoperative successful predictive factors for Ferrara intracorneal ring segments is essential to enhance postoperative outcomes.

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