MANAGEMENT AFTER INTACS EXTRUSION

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Abstract

This case report discusses a patient who presented with Intacs segment extrusion and secondary corneal ulceration. After the implant was surgically removed, the patient was left with a scar and debri in the intrastromal tunnel. Though the patient had a 6 D of corneal astigmatism, he was successfully fit into an extended range toric contact lens which provided him with excellent vision and comfort.

Introduction

Intacs corneal implants are an option for management of keratoconus that lead to a corneal flattening effect. Among the complications possible are decreasing visual acuity, segment extrusion and corneal melting or perforation. Primary management is segment removal. Visual rehabilitation is then possible, with contact lenses likely to provide the best quality of vision.

Case Report

A 30-year-old male presented with blurry vision, pain and foreign body sensation OS. He had Intacs OU placed 8 months prior by another provider. Slit lamp examination revealed a segment extrusion along with associated loose corneal sutures and subsequent corneal melting/ulceration OS. Superficial punctate keratitis in a diffuse pattern was noted OS as well (Figure 1).

The loose sutures were removed in office. Prophylactic antibiotic drops and preservative free

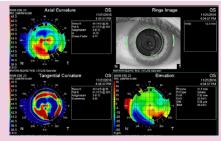


Figure 1: Topography at presentation

artificial tears were started and he was scheduled for segment removal one week later. The segment was successfully removed in the operating room. The patient was left with a paracentral corneal scar corresponding to the area of extrusion and some sterile debris remained in the intrastromal tunnel where the segment used to lay (Figure 2).



Figure 2: Photo of temporal corneal scarring after Intacs removal OS

Corneal topography showed steepening of the flat K reading, corresponding to the removal of the Intacs segment (Figure 3).

The patient had significant corneal astigmatism on

manifest refraction with a BCVA of 20/25-1 (Table 1).

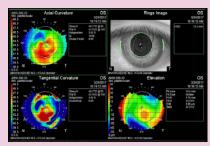


Figure 3: Topography 3 months after explantation

Refraction and Contact Lens OS	
Prior to single segment Intacs explantation	+2.75 -4.50 x 116
Following single segment Intacs explantation	-0.25 -6.00 x 110
Extended range toric contact lens 8.7 BC 14.5 diameter	-0.50 -5.25 × 110

Table I: Comparison of refraction before and after Intacs removal

This astigmatism would have caused significant visual discomfort with spectacle correction due to high astigmatism and anisometropia (OD manifest was -1.50 -2.00 x 015 with a BCVA of 20/20-1). However, visual rehabilitation was possible with extended range silicone hydrogel contact lenses OU. Though the patient demonstrated refractive shifts throughout his

recovery, in the end, best corrected visual acuity with contact lenses was 20/25 OS. The patient utilized artificial tears for transient dry eye disease that resolved after a few months. The patient was very comfortable with his new lenses and reported improved vision at work and home.

Conclusion

Though Intacs is generally regarded as safe, risks of complications exist. Complications can include decreasing visual acuity¹, corneal perforation (anterior or posterior [hydrops]) related to constant eye rubbing². Timely management of Intacs segment extrusion and corneal melting was critical to maintaining the ocular integrity. Debri in the channel where the segment used to lay and a dense paracentral corneal scar were the only lasting issues from this complication. Through extended range toric contact lenses, vision was restored to near-perfect levels. This contact lens allowed comfortable binocular vision for our patient and improved his quality of life.

Sources

- 1. Chhadva P, Yesilirmak N, Cabot F, Yoo S. Intrastromal Corneal Ring Segment Explantation in Patients With Keratoconus: Causes, Technique, and Outcomes. *J Refractive Surg.* 2015 Jun;31(6):392-397.
- 2. Moshirfar M, Bean AE, Desautels JD, Birdsong OC. Corneal Hydrops Secondary to Intrastromal Corneal Ring Intrusion into the Anterior Chamber 7 Years after Implantation: A Case Report. *Ophthalmol and Therapy*. 2017 Dec;6(2):373-379.