



Iluvien Implant for the Treatment of Cystoid Macular Edema Following Vitrectomy and Epiretinal Membrane Peel

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Abstract

In the present report, we present a unique case of a 65-year-old male patient who underwent bilateral vitrectomy and epiretinal membrane (ERM) peel, complicated by resistant cystoid macular edema (CME). Subsequent treatment with bilateral Fluocinolone implants (Iluvien) resulted in resolution of CME, which was maintained beyond 3 years of follow-up as well as a reduction in the need for IOP lowering medications. Visual acuity improved and there was a reduction in eyelid congestion, redness and discomfort.

Keywords: Cystoid Macular Edema; Vitrectomy; Fluocinolone Implant; Iluvien

Introduction

Cystoid macular edema (CME) is a well-defined cause of poor visual outcome after intraocular surgery including pars plana vitrectomy (PPV).

We report a 65-year-old male who presented to his local retina specialist ten years ago with reduced visual acuities measured at 0.7 Log Mar in the right eye and 0.6 Log Mar in the left eye. Intraocular pressures (IOPs) were measured at 14mmHg in each eye. Bilateral PPV and epiretinal membrane (ERM) peel surgery and subsequent phacoemulsification cataract surgery and intraocular lens implantation were performed. CME was first noted in the right eye 4 weeks following cataract surgery with little response to a combination of Dexamethasone and Ketorolac. The left eye had a post-operative fibrinous uveitis following phacoemulsification

cataract surgery with a partial recovery of vision to 0.5 Log Mar at 3 months and was further complicated by recurrent CME.

Subsequent repeated intravitreal treatment with Triamcinolone (Kenalog Bristol-Myers Squibb pharmaceuticals limited, UK) was administered (IVTA) with complete resolution of CME and improved visual acuity in each eye with a total of 24 IVTA injections over a period of 6 years. Secondary IOP rise in the right eye was managed with a combination of Travoprost/Timoptol from a maximum of 30 mmHg and 21 mmHg in the right and left eyes respectively and further treatment with Brinzolamide was administered to the right eye. The patient sustained marked redness and crusting of the eyelids as well as periocular discomfort as a result of chronic topical medication use.

A trial of the Dexamethasone implant (700 micrograms; Ozurdex) showed successful resolution of CME. Subsequent treatment with bilateral intravitreal Fluocinolone implants (190 micrograms; Iluvien) resulted in successful resolution of CME and improved IOP control on a single topical IOP lowering agent. Visual acuity recordings were 0.1 Log Mar and 0.2 Log Mar in the right and left eyes respectively at 2 years after Iluvien implantation and IOP measurements were 13 and 14 mmHg in the right and left eyes respectively. Visual acuities remained fairly stable at 3 years at 0.12 Log Mar and 0.3 Log Mar and IOP measurements were 12 and 11 mmHg in the right and left eyes respectively. Optical coherence tomography (OCT) and central retinal thickness (CRT) measurements were consistent with a good response to treatment (Figure) and there was significant resolution of all peri-ocular side-effects of topical antiglaucoma medications. Final review at 46 months following implantation shows minor cystic change noted on OCT and measured visual acuities at right 0.24 Log Mar and left 0.2 Log Mar.

intraretinal cysts that can disrupt the photoreceptor layer and inner segment-outer segment junctions. Others propose that inflammatory processes drive a breakdown in the blood-retinal barrier, leading to the accumulation of fluid [2,3]. Most treatment options aim to quell the inflammatory drive, but the use of intravitreal steroids are probably the most potent agents [4].

The Fluocinolone Iluvien implant has been approved for the treatment of chronic diabetic macular edema (DME) and is reported to have a long-term efficacy of 36 months [5]. In the present report, we document a patient with a successful response to bilateral Fluocinolone implant administration for chronic CME complicating PPV and ERM peel surgery followed by phacoemulsification cataract surgery.

Statement of Ethics

The authors have no ethical conflicts to disclose.

Disclosures

The authors have no conflicts of interest to declare.

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Patient Consent

Consent to publish was obtained from the patients in this case series.

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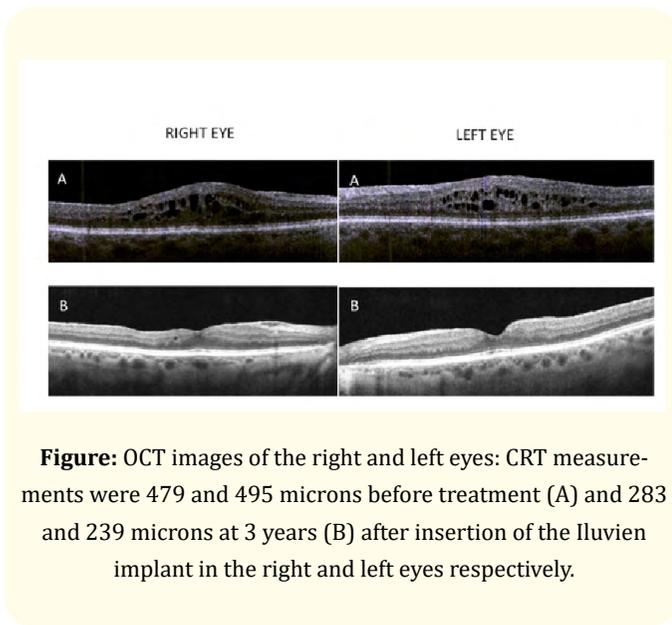


Figure: OCT images of the right and left eyes: CRT measurements were 479 and 495 microns before treatment (A) and 283 and 239 microns at 3 years (B) after insertion of the Iluvien implant in the right and left eyes respectively.

Discussion and Conclusion

CME post PPV and ERM peel are not well documented in the literature with reported rates of 12% in one study [1]. The pathogenesis of CME has been hypothesized to be secondary to structural changes or inflammation. Some propose that iatrogenic damage of the Muller cells after membrane peeling leads to the formation of

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