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Case report

Ozurdex completely located inside a crystallized lens - Results of 14 months

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ABSTRACT

Purpose: To report the therapeutic efficacy and results of an accidentally injected intralenticular sustained-release dexamethasone implant (Ozurdex) in a patient with macular edema secondary to central retinal vein occlusion at 14 months after injection.

Observations: We present a 70-year-old female patient with central retinal vein occlusion who underwent an Ozurdex injection. Patient discontinued from the treatment period during the 14-month and there was no ophthalmologic examination of the patient. Detailed ophthalmological examination was performed. Ozurdex localization was determined by Pentacam rotating Scheimpflug System. The implant was accidentally injected into the crystalline lens. It did not cause a totally lens opacification but did result only in a posterior subcapsular cataract. The macular edema did not resolve, and the patient underwent phacoemulsification surgery.

Conclusions and importance: Ozurdex that totally located inside the crystallize lens may not have the therapeutic effects.

1. Introduction

The dexamethasone implant (Ozurdex®; Allergan Inc., Irvine, CA, USA) is a potent anti-inflammatory agent that reduces macula edema following retinal vein occlusion (RVO) by preventing leukocyte migration and proinflammatory cytokines, stabilizing endothelial cell tight junctions, inhibiting synthesis of vascular endothelial growth factor.[1] Ozurdex is associated with ocular side effects such as cataracts, glaucoma, endopthalmitis, conjunctival hemorrhage and retinal detachment.[2] Rarely has it been shown to be accidentally injected intralenticularly for sustained release of dexamethasone implant.

Here, we report a rare complication of Ozurdex implant that was completely embedded into the phakic lens that did not resolve macular edema.

2. Case report

A 70-year-old female patient presented with blurred vision and a shadow in front of the right eye. She had hypertension and hyperlipidemia that were medically controlled. On examination, visual acuity was finger counting at 2 m in the right eye and 20/40 in the left eye. Intraocular pressures were normal. Slit-lamp examination and pentacam showed that the implant had totally penetrated in the crystalized lens and posterior cortical cataract (Fig. 1). Dilated fundus examination revealed a hyperemic and blurred disc. There were generalized dilatation and increased tortuosity in retinal veins, multiple dot and blot hemorrhages in all four quadrants. Optical coherence tomography showed cystoid macular edema with a central retinal thickness of 810 μm (Fig. 2A).

The previous fundus fluorescein angiography showed non-ischemic CRVO and macular edema in right eye before the accidental intralenticular injection of sustained-release dexamethasone implant. Since 14 months, there was no ophthalmologic examination of the patient. There was no deformation in the length, form of the implant and also central retinal thickness was unchanged compared to measurement immediate before the injection (Fig. 2B). IOP was within normal limits. The patient underwent phacoemulsification surgery at 14 months after the injection. In the phacoemulsification Ozurdex was divided with the crystalline lens and aspirated with phacoemulsification probe. After nucleus removal, the posterior capsule rupture had occurred during surgery, and a three-piece intraocular lens (IOL)

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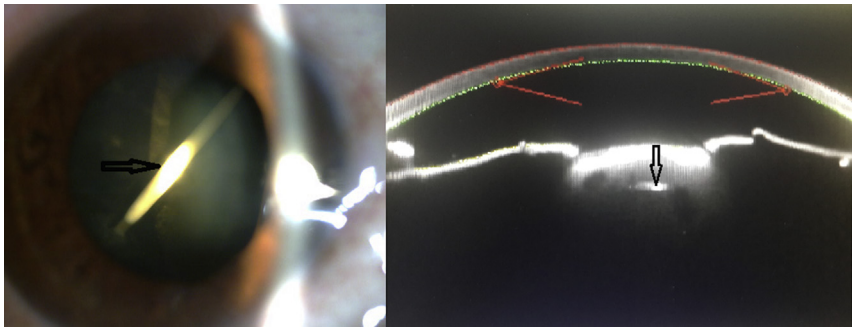

Fig. 1. Slit-lamp photograph and Pentacam scan of the crystalline lens showing Intralenticular dexamethasone implant.

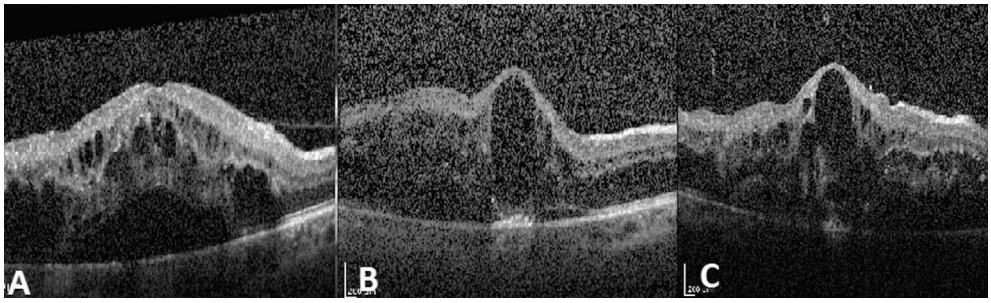

Fig. 2. Optical coherence tomography of the right eye. A. Before the injection. B. Central retinal thickness was unchanged after the 14 months. C. After 2 weeks of phacoemulsification surgery.

was placed into the sulcus. New dexamethasone implant was injected into the vitreous cavity at the end of surgery. On the first postoperative day, the IOL was well centered with a no anterior chamber reaction. Macular thickness increased in OCT that was taken after 2 weeks of phacoemulsification surgery (945 μm, Fig. 2C). We believe that this increased the macular edema caused by surgery. Visual acuity 1 month after surgery was 20/200 and decreased cystoid macular edema with a central retinal thickness of 560 μm.

3. Discussion

Accidental injection of sustained-release intravitreal dexamethasone implant into the crystalline lens is a rare complication. The therapeutic effect of intralenticular Ozurdex is controversial. There are a few case reports about this complication.[3–5] These case reports have shown that inadvertent injection of Ozurdex implant can solve macular edema. They recommend that the authors describe a positive outcome about the therapeutic efficacy of an accidentally injected intralenticular sustained-release dexamethasone implant.

Sekeroglu et al. reported one case that inadvertently injected sustained-release intravitreal dexamethasone implant into the crystalline lens. In their case, the implant was partially in the lens capsule and partially in the vitreous. The patient was underwent phacoemulsification surgery at 7 months after injection.[3] Chhabra et al. reported a case of accidental insertion of dexamethasone implant into the crystalline lens. After 3 months when there was a remarkable improvement in macular edema and visual acuity they performed phacoemulsification with removal of the implant. These case reports described that the therapeutic efficacy and resolving the macular edema of inadvertently injected intralenticular Ozurdex.[4] Chalioulias et al. described a different management scheme than Chhabra. They performed early surgical intervention because of cataract and inability to visualise the fundus.[5] Chalioulias et al. has followed the patient for two weeks and then changed the location of the implant into the vitreous.

Ozurdex implant normally dissolves completely within 6 months to release dexamethasone[5] but in our patient Ozurdex remained with minimal changes the structure for 14 months. Possibility of posterior capsular fibrosis or intralenticuler localization might affect the dissolution of Ozurdex. Furthermore inadequate contact with the vitreous of Ozurdex might lead to unsatisfactory therapeutic efficacy although subretinal fluid and total volume was nearly reduced.

Once inadvertent injection of Ozurdex into the crystalline lens occurs, the clinical management strategy might be based on directly contact with the vitreous or position of the implant into the crystalline lens. So that we recommend the clinical decision to observe or early operation of intralenticular Ozurdex should be individualized.

In conclusion, ophthalmologists should pay attention during the application of Ozurdex implant. Ozurdex that located totally inside the crystallize lens may not have the therapeutic effects.

4. Patient consent

The patient provided written consent for publication of this case report.

Including medical record details and photographs.

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