Management of a dexamethasone implant in Berger space

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We present a case in which a dexamethasone implant (Ozurdex) was situated in Berger space in contact with the crystalline lens after injection. Because of the development of cataract and visual complaints of the patient, cataract surgery was performed and the implant was pushed into the vitreous. We describe our approach to this complication.

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CASE REPORT

The intravitreal dexamethasone implant (Ozurdex) is a biodegradable implant that provides sustained-release delivery of 0.7 mg of dexamethasone to the retina and vitreous. The implant, which can be placed in the vitreous cavity through a pars plana puncture using a custom applicator system, has been approved by the U.S. Food and Drug Administration for the treatment of macular edema following retinal vein occlusion and noninfectious posterior uveitis.1

The Berger space is the potential space between the posterior capsule and the anterior hyaloid. Various complications associated with the increased use of the dexamethasone implant have been reported.2–7 In this case, we report an approach to an implant that was in Berger space after implantation.

The cardiovascular and hematological examinations were normal. A dexamethasone implant with its special cartridge was injected under sterile conditions from the pars plana through the right vitreous cavity to alleviate the CRVO-related concomitant macular edema. Topical antibiotic drops 5 times a day were prescribed after injection.

At the 1-day postoperative examination, the implant was seen in contact with the crystalline lens in Berger space (Figure 1). At the 1-week examination, it was still in Berger space and a cataract was diagnosed. At the 2-week examination, visual complaints arose and cataract surgery was planned with the objective of pushing the implant into the vitreous.

Phacoemulsification was performed after capsulorhexis under topical anesthesia. At the end of surgery, a posterior capsulorhexis was performed, the anterior hyaloid was removed, and the implant was pushed into the vitreous using a 30-gauge needle. An intraocular lens (IOL) was implanted.

CASE REPORT

A 54-year-old woman presented to our clinic with a decrease in vision in her right eye. The corrected distance visual acuity was 0.05 in the right eye and 1.0 in the left eye (Snellen decimal). Slitlamp examination of the anterior segment was unremarkable in both eyes. Fundoscopy showed central retinal vein occlusion (CRVO) and macular edema in the right eye and normal fundus findings in the left eye. The cardiovascular and hematological examinations were normal. A dexamethasone implant with its special cartridge was injected under sterile conditions from the pars plana through the right vitreous cavity to alleviate the CRVO-related concomitant macular edema. Topical antibiotic drops 5 times a day were prescribed after injection.

At the 1-day postoperative examination, the implant was seen in contact with the crystalline lens in Berger space (Figure 1). At the 1-week examination, it was still in Berger space and a cataract was diagnosed. At the 2-week examination, visual complaints arose and cataract surgery was planned with the objective of pushing the implant into the vitreous.

Phacoemulsification was performed after capsulorhexis under topical anesthesia. At the end of surgery, a posterior capsulorhexis was performed, the anterior hyaloid was removed, and the implant was pushed into the vitreous using a 30-gauge needle. An intraocular lens (IOL) was implanted.

Figure 1. First-day examination after implantation of a dexamethasone implant. The implant is in contact with the crystalline lens in Berger space.
in the capsular bag (Video 1, available at http://jcrsjournal.org). On the first day after surgery, the implant was in the vitreous space and the IOL was centered (Figure 2).

**DISCUSSION**

There have been several reports of anterior chamber migration of the intravitreal dexamethasone implant.3–5 There have also been a few reports of accidental intralenticular injection of the implant.2,6 Chhabra et al.6 performed cataract surgery 3 months after accidental intralenticular implantation of a dexamethasone implant.6 In our case, unlike in earlier reports, the implant was in Berger space in contact with the crystalline lens. Because of the development of cataract and the visual complaints of the patient, cataract surgery was performed and the implant was pushed into the vitreous. To prevent the increase in macular edema due to the inflammatory process caused by cataract surgery, the surgery was performed after the macular thickness had been adequately decreased.

Munteanu and Rosca2 also performed cataract surgery after an accidental intralenticular dexamethasone implantation. They split the implant into 2 parts and pushed the parts into the vitreous. In our case, the implant was pushed into the vitreous as a whole and a possible decrease in the influence of the implant was prevented.5 Chalioulias and Muqit7 performed vitreoretinal surgery in a case with inadvertent intralenticular application of a dexamethasone implant. In our case, the implant could be repositioned while performing cataract surgery and vitreoretinal surgery was not needed. The posterior capsulotomy aperture was smaller than the optical diameter of the IOL so the IOL could be implanted in the capsular bag.

To our knowledge, this is the first report of a dexamethasone implant situated in Berger space that was repositioned in the vitreous cavity during cataract surgery.

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**Figure 2.** After successful cataract surgery and repositioning of the implant, the implant is in the pupillary space and the IOL is centered.