

A Case of Intravitreal Dexamethasone Implant Migration Into the Anterior Chamber

İntravitreal Deksametazon İmplantının Ön Kamaraya Geçtiği Bir Vaka

 Hasan AYTOĞAN^a

^aClinic of Ophthalmology, İzmir Tepecik Training and Research Hospital, İzmir, TURKEY

ABSTRACT Corticosteroids are widely used in the treatment of various ophthalmic inflammatory diseases. Depending on the ocular pathology, corticosteroids can be used systemically, topically, via intravitreal injection, or, most recently, via an intravitreal implant. However, corticosteroids have their potential complications due to the active ingredient, and intravitreal sustained-release implants have brought up their unique complications such as migration into the anterior chamber. Corneal edema and permanent decompensation as a result of Ozurdex[®] touch to corneal endothel may result in corneal transplantation. Herein, we present a case of Ozurdex[®] implant migration into the anterior chamber to raise awareness in risk factors for the implant migration based on the recent literature.

Keywords: Intravitreal injection; corneal endothelium; corneal edema

ÖZET Kortikosteroidler, çeşitli inflamatuvar göz hastalıklarının tedavisinde kullanılmaktadır. Göz patolojisine bağlı olarak kortikosteroidler, sistemik, topikal, intravitreal enjeksiyon ve son zamanlarda intravitreal implant şeklinde kullanılabilir. Bununla birlikte, kortikosteroidlerin aktif etken maddesinden kaynaklanan potansiyel komplikasyonları bulunmaktadır ve intravitreal sürekli salınımlı implantlar, ön kamaraya göç etmek gibi kendine özgü komplikasyonlarını ortaya çıkarmıştır. Ozurdex[®] implantın kornea endoteline değmesiyle ortaya çıkan korneal ödem ve kalıcı dekompenzasyon, kornea nakli ile sonuçlanabilir. Bu noktada, son literatür bilgilerinin ışığında, implantın ön kamaraya geçişindeki risk faktörlerine farkındalığı arttırmak için, Ozurdex[®] implantın ön kamaraya geçtiği bir vaka sunulmuştur.

Anahtar Kelimeler: İntravitreal enjeksiyon; korneal endotel; korneal ödem

A 71-year-old woman visited emergency clinic with the complaint of pain, foreign body sensation, and decreased vision. Visual acuity on the left eye was 0,1 with pinhole, according to the Snellen Chart. Intraocular pressure was measured 26 mmHg. Significant corneal edema was noted, and the dexamethasone implant was observed in the anterior chamber with an endothelial touch (Figure 1). She had undergone intravitreal dexamethasone implantation (Ozurdex[®]; Allergan, Irvine, CA, USA) two weeks ago. The patient had undergone a complicated cataract surgery six months before with a scleral-fixated posterior chamber lens implant. A single corneal suture and a defec-

tive iris were present at 11 o'clock. She had not responded to the six intravitreal injections of ranibizumab and one Ozurdex[®]. The implant was injected to 3.5 mm from the limbus following topical anesthesia with proparacaine. An uneventful Ozurdex[®] implant injection was carried out. She applied to us after two weeks of implantation. The patient had intraoperative floppy iris during cataract surgery and that was resulted in capsule rupture and iris defect. Anterior vitrectomy was performed. Scleral fixated lens was implemented due to capsular support deficiency. Therefore, the implant passed through the capsule rupture and iris defect, into the anterior chamber.

Correspondence: Hasan AYTOĞAN

İzmir Tepecik Training and Research Hospital, Clinic of Ophthalmology, İzmir, TURKEY/TÜRKİYE

E-mail: hasan_aytogan@hotmail.com



Peer review under responsibility of Türkiye Klinikleri Journal of Medical Sciences.

Received: 20 Dec 2019

Received in revised form: 30 Apr 2020

Accepted: 18 May 2020

Available online: 21 May 2020

2146-9040 / Copyright © 2020 by Türkiye Klinikleri. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

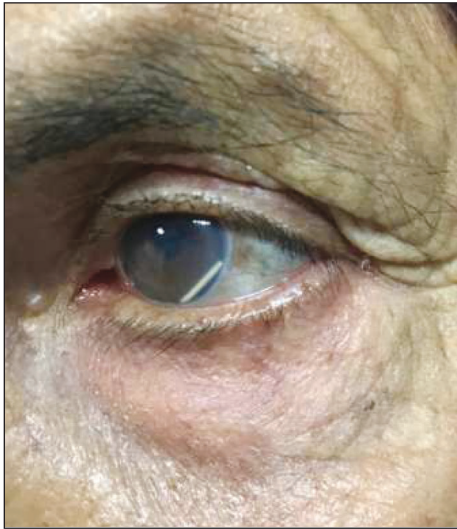


FIGURE 1: Anterior chamber migrated Ozurdex® implant.

The implant was removed surgically after 24 hours. Postoperatively at first week visit, her visual acuity was improved to 0.3 and cornea was clear. Intraocular pressure was decreased to 14 mmHg.

Ozurdex® is a 0.7 mg of preservative-free dexamethasone implant that is continuous-releasable. This implant is delivered into the vitreous cavity using a 22-gauge needle. The length of implant is 6 mm and its diameter is 0.46 mm.

Ozurdex® implants have become an efficacious treatment for macular edema secondary to diabetic retinopathy, retinal vein occlusion, and noninfectious uveitis.¹⁻³ Cataract development and steroid-induced glaucoma are well-known complications of Ozur-

dex®. However, migration of the implant into the anterior chamber is a severe complication that has recently been described in a few case reports.⁴⁻⁶ Vitrectomized eyes are under the greater risk for the implant movement than non-vitrectomized eyes, due to the lack of anterior hyaloid. Besides, zonular/capsular bag defects may result in dislocation into the anterior chamber. Corneal edema is the most severe complication which may be resulted in corneal transplantation. Therefore, it should be removed as early as possible.

Declaration of Patient Consent

Informed consent was taken in accordance with the principles of Declaration of Helsinki.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

This study is entirely author's own work and no other author contribution.

REFERENCES

1. Augustin AJ, Kuppermann BD, Lanzetta P, Loewenstein A, Li XY, Cui H, et al; Ozurdex MEAD Study Group. Dexamethasone intravitreal implant in previously treated patients with diabetic macular edema: subgroup analysis of the MEAD study. *BMC Ophthalmol.* 2015;15:150. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
2. Hu Q, Li H, Xu W, Du Y, Ma C, He J. Comparison between Ozurdex and intravitreal anti-vascular endothelial growth factor treatment for retinal vein occlusion-related macular edema: a systematic review and meta-analysis of randomized controlled trials. *Indian J Ophthalmol.* 2019;67(11):1800-9. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
3. Massa H, Georgoudis P, Panos GD. Dexamethasone intravitreal implant (OZURDEX®) for macular edema secondary to noninfectious uveitis: a review of the literature. *Ther Deliv.* 2019;10(6):343-51. [[Crossref](#)] [[PubMed](#)]
4. Madi HA, Morgan SJ, Ghosh S. Corneal graft failure due to migration of Ozurdex™ implant into the anterior chamber. *Am J Ophthalmol Case Rep.* 2017;8:25-7. [[Crossref](#)] [[PubMed](#)] [[PMC](#)]
5. Kang H, Lee MW, Byeon SH, Koh HJ, Lee SC, Kim M. The clinical outcomes of surgical management of anterior chamber migration of a dexamethasone implant (Ozurdex®). *Graefes Arch Clin Exp Ophthalmol.* 2017;255(9):1819-25. [[Crossref](#)] [[PubMed](#)]
6. Stepanov A, Codenotti M, Ramoni A, Prati M, Jiraskova N, Rozsival P, et al. Anterior chamber migration of dexamethasone intravitreal implant (Ozurdex®) through basal iridectomy (Ando) in a pseudophakic patient. *Eur J Ophthalmol.* 2016;26(3):e52-4. [[Crossref](#)] [[PubMed](#)]