Anterior migration of a dexamethasone intravitreal implant
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Abstract:
A patient presents with sudden decrease in vision in the left eye, without pain, photopsia, or diplopia. Examination reveals severe corneal edema with migration of dexamethasone intravitreal implant (Ozurdex®) into the anterior chamber angle.

I. Case History:
An 86-year-old white male presented to clinic complaining of a sudden decrease in vision in the left eye. His ocular history was significant for central retinal vein occlusion with macular edema OS, exudative macular degeneration OU, posterior uveitis OS, epiretinal membrane OU, hypertensive retinopathy OU, posterior vitreous detachment OD, and choroidal nevus OD. Past ocular surgeries include multiple previous Ozurdex® implants OU (four in the involved eye), intravitreal bevacizumab injections OS, cataract extraction OU with PC IOL OD and AC IOL OS, focal laser OS, and a pars plana vitrectomy with internal limiting membrane peel OS. His medical history was significant for hypertension, heart disease, high cholesterol, gallstones, kidney stones, appendicitis, and benign prostatic hyperplasia. He reported his current medications as aspirin 81mg, atorvastatin 40mg, clopidogrel 75mg, and finasteride 5mg.

II. Pertinent findings:
The patient’s visual acuity at this visit was 20/25 OD and 20/200 OS (PH 20/150 OS), with correction, down from 20/60 OS at the last exam. Intraocular pressure was 11mmHg OD and 18mmHg OS. Slit lamp examination of the left eye revealed 2-3+ corneal edema, with folds in Decemet’s membrane, along with a barely visible foreign object in the inferior anterior chamber. With gonioscopy, the Ozurdex® implant was clearly visible in the inferior angle. Anterior segment photos of the implant were taken through the gonioscopy lens.

III. Differential diagnoses:
Primary differential diagnosis for the etiology of sudden vision loss in this patient was corneal edema secondary to migration of the patient’s Ozurdex® implant. Other differential diagnoses included retinal detachment, transient ischemic attack, optic neuritis, vitreous hemorrhage, and further vascular occlusion of the retina.

IV. Diagnosis and discussion:
Ozurdex® is a corticosteroid indicated for macular edema (secondary to retinal vein occlusion and diabetes) and non-infectious posterior uveitis. Current literature describes the rare anterior migration of Ozurdex® as an increased risk in patients without a posterior lens capsule, patients with AC IOLs, and those with a history of vitrectomy (Univ. of Iowa EyeRounds). An AC IOL was present in the involved eye of this patient, as well as a history of vitrectomy. In other cases of migration, patients have presented approximately 1-3 weeks after injection (S. Cal. Permanente Medical Group, N. Cal. Retina Vitreous Assoc.). This patient presented at nearly 3 weeks following injection. Researchers (J. of French Ophth., Univ. of Iowa EyeRounds) have noted that prompt removal is necessary to prevent corneal endothelial toxicity. Since the corneal endothelium is responsible for maintaining stromal deturgescence, as well as providing nutrients, its integrity is vital for clear vision.
V. Treatment, management:
Treatment for this patient involved surgical removal of the Ozurdex® implant from the anterior chamber. The patient was instructed to begin difluprednate QID OS and besifloxacin TID OS. One-day and five-day post-operative visits revealed microcystic corneal edema and 2+ cell in the anterior chamber, but no other complications. At this point besifloxacin was discontinued, difluprednate reduced to BID OS, and NaCl hypertonicity solution added BID OS. Two weeks post-operatively, the patient demonstrated no improvement in visual acuity. The cornea continued to exhibit severe microcystic edema, with 2-3+ folds in Decemet’s membrane. Intraocular pressure was 11mmHG OD and 16mmHg OS, demonstrating no spike. At one month post-operatively, after similar presentation, the patient was scheduled for an endothelial transplant. Pachymetry at this visit was 531µm OD and 635µm OS, indicating significant corneal swelling, due to endothelial pump damage.

VI. Conclusion:
Anterior migration of intravitreal implants, such as Ozurdex® is rare. However, when it does occur, it can cause significant anterior segment complications, such as the damage to corneal endothelium seen in this patient.