Providing Inflammatory Control of Chronic Idiopathic Noninfectious Posterior Uveitis in a Patient With Associated Retinal Vasculitis

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Posterior uveitis is a serious, sight-threatening inflammatory eye condition that can involve the retinal vasculature (ie, retinal vasculitis).[1] The following case study describes a patient with long-standing idiopathic noninfectious uveitis with concomitant retinal vasculitis affecting the posterior segment of the eye. This patient was initially managed with systemic medications, but long-term control of ocular inflammation was not achieved. Upon receiving bilateral RETISERT (fluocinolone acetonide intravitreal implant) 0.59 mg implants, the patient's uveitic disease was adequately controlled. However, due to the chronic nature of the patient's disease, RETISERT reimplantation procedures were subsequently performed, following depletion of fluocinolone acetonide. This case highlights the importance of implementing RETISERT reimplantation procedures when such procedures are deemed clinically warranted.

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Case Report: Chronic Idiopathic Noninfectious Posterior Uveitis With Associated Retinal Vasculitis

BACKGROUND: A 53-year-old male presented with a long-standing history of retinal vasculitis in both eyes, suggestive of chronic, bilateral noninfectious uveitis of the posterior segment.

DIAGNOSIS: After the patient's medical history was examined, he was subjected to a battery of laboratory tests for various infectious agents, including purified protein derivative and syphilis tests. These yielded negative results, minimizing the possibility of infectious uveitis.[2] Additionally, the patient did not exhibit signs of nonocular systemic inflammatory disease that could underlie the uveitis.[2] Angiotensin-converting enzyme test, antineutrophil cytoplasmic antibody test, antinuclear antibody test, chest X-ray, and urinalysis results were all negative. Based on the patient's full clinical workup, he was diagnosed with idiopathic noninfectious posterior uveitis with retinal vasculitis.

TREATMENT: For initial management of the patient's noninfectious posterior uveitis, multiple therapies were attempted, including oral prednisone and intravitreal triamcinolone acetonide injections. However, the patient's ocular inflammation did not adequately respond to these therapies. The patient required a therapy that would deliver long-term inflammatory control. The risks and benefits of RETISERT were reviewed with the patient, and he elected to receive a RETISERT implant in each eye shortly thereafter. In the weeks following RETISERT implantation, the patient experienced a temporary decrease in VA to 20/60 in both eyes, and in the months following, the patient was tapered off systemic therapy, and his VA had stabilized to 20/20 in both eyes.

Indication

RETISERT® (fluocinolone acetonide intravitreal implant) 0.59 mg is a corticosteroid indicated for the treatment of chronic noninfectious uveitis affecting the posterior segment of the eye.

Important Safety Information

- Surgical placement of RETISERT® (fluocinolone acetonide intravitreal implant) 0.59 mg is contraindicated in active viral, bacterial, mycobacterial or fungal infections of the eye.

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TREATMENT (CONT'D): Four years following his first RETISERT implantation, the patient returned to the clinic with complaints of vision changes. The VA in his right eye remained at 20/20, but the VA in his left eye had decreased to 20/50. An examination of color fundus photos revealed that the right eye appeared normal, without any vitreous haze or retinal vascular lesions (Figure 1A). However, vitreous haze and retinal vascular sheathing were present in the left eye , indicative of inflammation (Figure 1B). Fluorescein angiography (FA) of the right eye revealed normal perfusion with no leakage detectable (Figure 1C), but FA of the left eye revealed leakage and retinal vascular sheathing, indicating active inflammatory disease in that eye (Figure 1D).

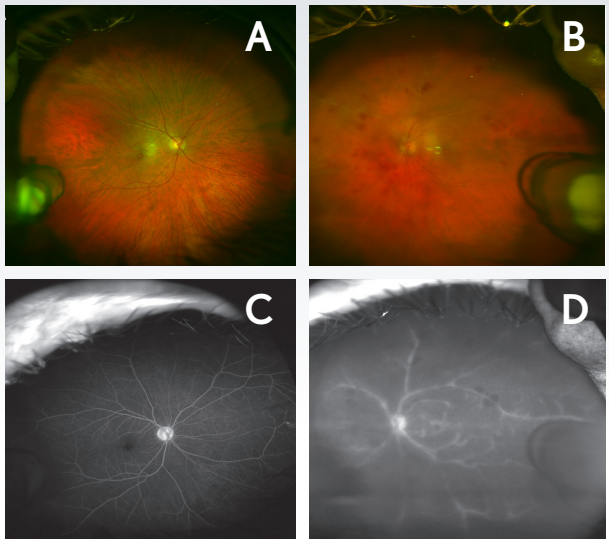

Figure 1. Signs of active uveitic disease in the left eye 4 years following the first RETISERT implantation. Color fundus photo of the right eye (A) revealed no vitreous haze or vascular lesions. Color fundus photo of the left eye (B) revealed some vitreous haze and the presence of retinal vascular lesions. Bilateral RETISERT implants are visible in the inferior temporal quadrant of each eye. FA of the right eye (C) revealed normal perfusion and no vascular lesions, whereas FA of the left eye (D) demonstrated signs of inflammation, including leakage and vascular sheathing.

RETISERT is designed to release fluocinolone acetonide to the posterior segment of the eye to deliver corticosteroid therapy for approximately 2.5 years where it is needed.[3] In an effort to control the inflammation, the patient was placed on oral prednisone 60 mg once daily, and a RETISERT replacement surgery was scheduled. After initial management with oral prednisone, the patient's VA in the left eye had improved back to 20/20. The patient received a second RETISERT implant in his left eye while having the first implant removed, and he was tapered off systemic corticosteroid therapy. He planned to also have the RETISERT in his right eye replaced at a later date.

Approximately 4.5 years following the first RETISERT implantation in his right eye, the patient experienced a sudden loss of vision. At this point, his VA was 20/60 in the right eye and 20/25 in the left eye. Optical coherence tomography (OCT) examination of the right eye revealed retinal edema and shadowing with inner retinal hyperreflectance consistent with ischemia (Figure 2A). OCT examination of the left eye revealed a normal contour of the retina (Figure 2B). A color fundus photo of the right eye revealed hemorrhage, sheathing, and whitening in the macula (Figure 3A), while the left eye appeared clear and normal (Figure 3B). FA of the right eye revealed diffuse retinal vascular leakage, indicative of ocular inflammation (Figure 3C), whereas no abnormalities were visible in the left eye (Figure 3D). The patient was prescribed oral prednisone 60 mg once daily, which improved his vision, but left a central retinal defect. The patient received a second RETISERT implant in his right eye to replace the first one and was tapered off his oral corticosteroid therapy.

Four months after the RETISERT replacement, FA of the right eye demonstrated vascular remodeling in the macular area and periphery (Figure 4). The patient's VA at this time was 20/40. After the second RETISERT reimplantation, the patient's uveitis activity in both eyes was quiescent.

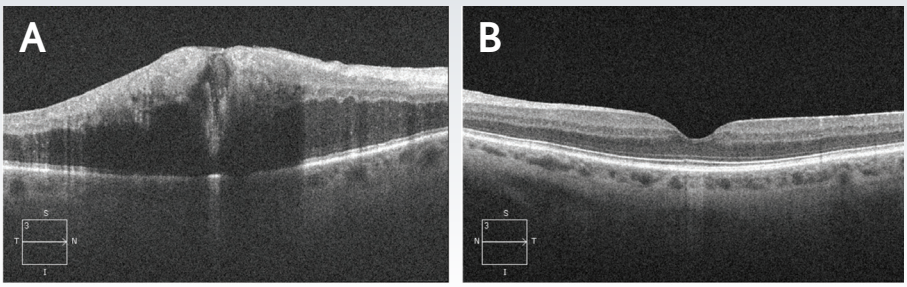

Figure 2. Retinal edema in the right eye prior to reimplantation. OCT imaging of the right eye (A) demonstrated retinal edema and shadowing with inner retinal hyperreflectance consistent with ischemia, whereas the left eye (B) had normal retinal contour.

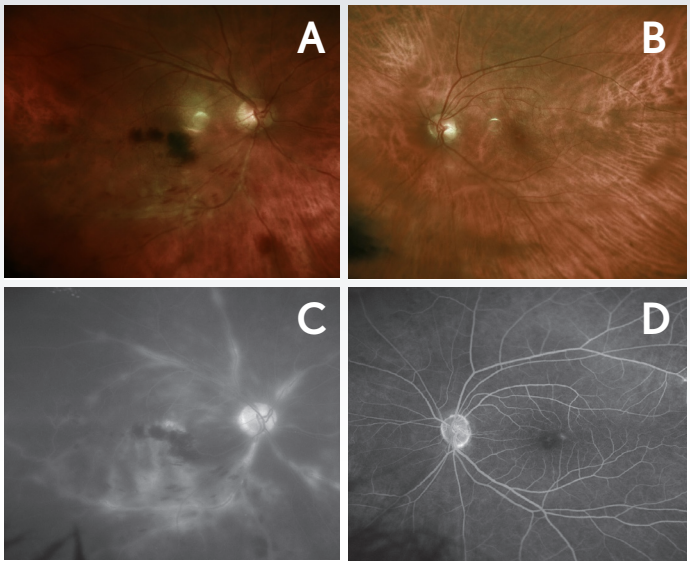

Figure 3. Anatomical signs of active disease in the right eye prior to reimplantation. Color fundus photo of the right eye (A) revealed hemorrhage, sheathing, and whitening in the macula, whereas the left eye appeared normal and clear (B). FA of the right eye (C) demonstrated signs of inflammation, including diffuse retinal vascular leakage, whereas FA of the left eye (D) appeared normal.

WHY RETISERT? The patient was able to achieve adequate control with bilateral RETISERT implants. Although RETISERT is expected to deliver corticosteroid for 2.5 years, it may need to be replaced following depletion of fluocinolone acetonide.[3] In this case, the patient waited 4 years before electing to receive a RETISERT exchange, and, due to an absence of inflammatory control, he experienced uveitic flares in each eye that adversely affected his vision.

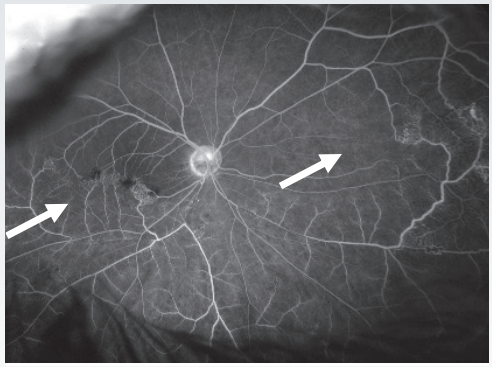

Figure 4. Retinal vascular remodeling following reimplantation. FA of the right eye revealed vascular remodeling in the macular area, as well as in the periphery (arrows).

PATIENT FOLLOW-UP: RETISERT is designed to release fluocinolone acetonide at a steady state over approximately 30 months. RETISERT may be replaced upon depletion of fluocinolone acetonide as evidenced by recurrence of uveitis.[3] In this case, the patient's uveitic disease remained controlled after RETISERT reimplantation. Therefore, in order to maintain quiescence, the patient elected to have both RETISERT implants replaced 3 years following the second implantation.

After receiving RETISERT, the patient underwent bilateral cataract extraction, as well as bilateral tube shunt implantation to manage ocular hypertension. Based on clinical trials with RETISERT, during the 3-year post-implantation period, nearly all phakic eyes are expected to develop cataracts and require cataract surgery.[3] In addition, approximately 77% of patients will require IOP-lowering medications to control IOP, and 37% of patients will require filtering procedures to control IOP.[3]

Important Safety Information (cont'd)

- Based on clinical trials with RETISERT®, during the 3-year post-implantation period, nearly all phakic eyes are expected to develop cataracts and require cataract surgery.
- As with any surgical procedure, there is risk involved. Potential complications accompanying intraocular surgery to place RETISERT® into the vitreous cavity may include, but are not limited to, the following: cataract formation, choroidal detachment, endophthalmitis, hypotony, increased intraocular pressure, exacerbation of intraocular inflammation, retinal detachment, vitreous hemorrhage, vitreous loss, and wound dehiscence.

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Conclusions

Noninfectious posterior uveitis is an inflammatory eye condition that requires vigilant management in order to minimize complications and optimize outcomes.[4,5] This case study describes a patient who presented with long-standing idiopathic noninfectious posterior uveitis with associated retinal vasculitis who was treated with RETISERT. When this patient exhibited recurrence of noninfectious posterior uveitis following depletion of fluocinolone acetonide, RETISERT reimplantation procedures were performed. This case highlights the importance of prompt uveitic disease management to ensure long-term quiescence of inflammation.

Important Safety Information (cont'd)

- Following implantation of RETISERT®, nearly all patients will experience an immediate and temporary decrease in visual acuity in the implanted eye which lasts for approximately one to four weeks post-operatively.
- Use of corticosteroids may result in elevated IOP and/or glaucoma. Based on clinical trials with RETISERT®, within 3 years post-implantation, approximately 77% of patients will require IOP lowering medications to control intraocular pressure and 37% of patients will require filtering procedures to control intraocular pressure.
- Patients should be advised to have ophthalmologic follow-up examinations of both eyes at appropriate intervals following implantation of RETISERT®. Physicians should periodically monitor the integrity of the implant by visual inspection.
- Ocular administration of corticosteroids has been associated with delayed wound healing and perforation of the globe where there is thinning of the sclera.
- The most frequently reported ocular adverse events in clinical trials with RETISERT® occurring in 50-90% of patients included: cataract, increased intraocular pressure, procedural complications and eye pain. The most common non-ocular event reported was headache (33%).

Please see additional Important Safety Information throughout and full Prescribing Information for RETISERT® here.

References: 1. Abu El-Asrar AM, Herbort CP, Tabbara KF. Differential diagnosis of retinal vasculitis. *Middle East Afr J Ophthalmol.* 2009;16(4):202-218. **2.** Jabs DA, Busingye J. Approach to the diagnosis of the uveitides. *Am J Ophthalmol.* 2013;156(2):228-236. **3.** RETISERT [prescribing information]. Bausch & Lomb Incorporated. **4.** Dick AD, Tundia N, Sorg R, et al. Risk of ocular complications in patients with noninfectious intermediate uveitis, posterior uveitis, or panuveitis. *Ophthalmology.* 2016;123(3):655-662. **5.** McCluskey PJ, Towler HM, Lightman S. Management of chronic uveitis. *BMJ.* 2000;320(7234):555-558.

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