Providing Inflammatory Control in a Patient With Birdshot Chorioretinopathy

SPONSORED BY BAUSCH + LOMB

RETISERT READY™
RETISERT® PATIENT CASE STUDY SERIES

Birdshot chorioretinopathy (BCR) is a bilateral chronic noninfectious posterior uveitis that is often progressive and may lead to irreversible retinal damage and vision loss if not treated.[1] This type of uveitis is strongly associated with presence of the human leukocyte antigen (HLA)-A29 gene, with an estimated 80 to 98% of BCR patients testing positive for the gene.[2] BCR is rare, accounting for 1 to 2% of all uveitis cases.[2] It is most prevalent in white populations between 40 to 60 years of age and has a slight female preponderance.[1,2] Clinical signs of BCR include characteristic yellowish ovoid choroidal lesions that measure approximately 500 to 1,500 µm in diameter.[1,3] Anterior segment inflammation is generally absent, but mild vitritis is almost universally present.[4] BCR patients are typically treated off-label with steroid-sparing immunomodulatory therapies (IMTs) to provide long-term control of inflammation and preservation of visual function.[4] The following case report describes a BCR patient who was unable to tolerate treatment with a steroid-sparing IMT agent but was transitioned to RETISERT (fluocinolone acetonide intravitreal implant) 0.59 mg for long-term ocular inflammatory control.

Thomas Albini, MD
Professor of Clinical Ophthalmology at the Bascom Palmer Eye Institute in Miami, FL

Thomas Albini, MD, is a paid consultant of Bausch + Lomb.

AT A GLANCE

- BCR is characterized by yellow-white lesions that radiate out from the optic nerve in a shotgun fashion.[3]
- Visual symptoms of BCR may include floaters, photopsias, scotomata, nyctalopia, dyschromatopsia, and poor contrast sensitivity.[1,4]
- BCR is a chronic noninfectious posterior uveitis that requires long-term management.[4,5]

Case Report: Birdshot Chorioretinopathy

BACKGROUND: A 54-year-old man presented with complaints of episodic blurry vision lasting up to 5 minutes. The blurry episodes oscillated in severity and had been occurring for a few months. The most recent episode had lasted for 10 minutes. He also experienced photophobia in both eyes, with greater frequency in the left eye. The patient's prior medical history included prostate cancer, acute lymphocytic leukemia, hypertension, chronic anxiety, and fibromyalgia, which were all medically managed as appropriate. He had no other prior history of ocular disease.

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.

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

BAUSCH + LOMB

Retisert®
(fluocinolone acetonide intravitreal implant) 0.59 mg

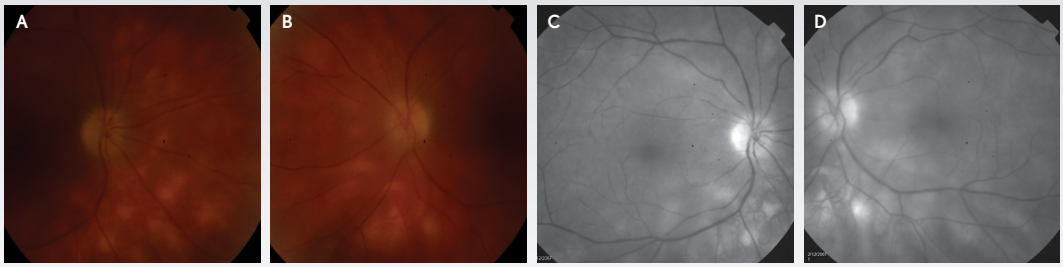

Figure 1. Yellow ovoid lesions are consistent with BCR. Fundus photography of the right (A) and left (B) eyes revealed vitritis and multiple lesions in the nasal retina. Red-free fundus photography of the right (C) and left (D) eyes showed bright areas consistent with the lesions observed in the fundus photos.

DIAGNOSIS: Examination of his right eye revealed a VA of 20/40 with an IOP of 20 mm Hg. His left eye had a VA of 20/20 with an IOP of 14 mm Hg. Both eyes exhibited normal central visual fields and intact motility. The anterior segment of each eye appeared normal, with no cells detected in the anterior chamber. Fundus imaging revealed vitritis and yellowish ovoid lesions in the nasal retina of both eyes (Figure 1 A, B). Furthermore, red-free fundus photography showed bright spots among the retinal vasculature, consistent with the yellow lesions observed in the fundus photo (Figure 1 C, D). FA revealed window defects corresponding to atrophic areas in the nasal retina of both eyes and optic nerve head leakage in the left eye (Figure 2). His complete blood count, comprehensive metabolic panel, chest x-ray, and angiotensin converting enzyme levels were all within normal limits, and the fluorescent treponemal antibody absorption test was negative, minimizing the possibility of infectious uveitis and sarcoidosis.[6,7] Additionally, his blood test results revealed that he was positive for HLA-A29. Based on these clinical evaluations, the patient was diagnosed with BCR.

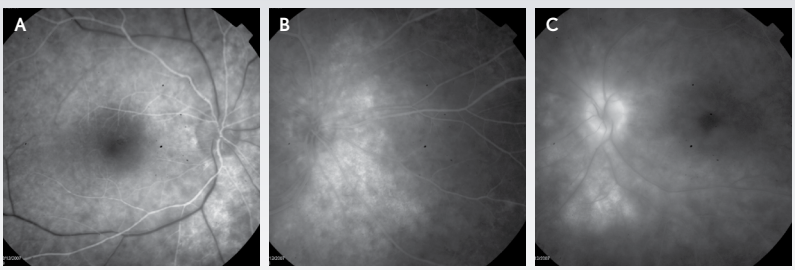

Figure 2. Window defects and nerve head leakage observed with FA. Early (A) and mid (B) phase FA of the right eye demonstrated window defects consistent with atrophic areas in the nasal retina. Early FA of the left eye (C) revealed optic nerve head leakage and window defects in the nasal retina.

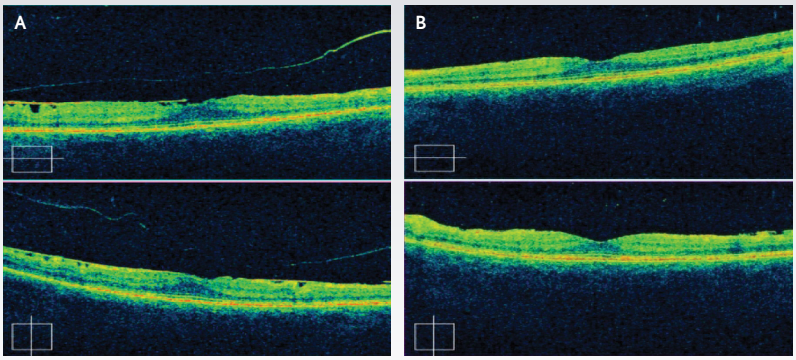

Figure 3. Inner retinal irregularities and ERM detected with OCT. (A) Horizontal (top) and vertical (bottom) cross-sections of the macula in the right eye revealed a prominent ERM and decreased foveal depression. (B) Horizontal (top) and vertical (bottom) cross-sections of the macula in the left eye reveal a small ERM.

TREATMENT: Like many BCR patients, the patient was given a steroid-sparing IMT to control inflammation and preserve visual function.[4] OCT imaging after 1 year of IMT revealed a prominent epiretinal membrane (ERM) in the right eye and a small ERM in the left eye, consistent with late structural complications observed in BCR (Figure 3).[4] Both eyes also exhibited inner retinal irregularities (Figure 3). Fundus photography taken around the same time revealed that the vitreous haze had resolved, and the lesions remained stable (Figure 4). Despite these improvements, the patient had continued to experience visual symptoms, and his VA was 20/50 in the right eye and 20/40 in the left eye. Although the patient's inflammation was well-controlled, he was unable to tolerate the IMT due to side effects. It is generally accepted that some systemic IMT agents conventionally used to treat uveitis have the potential to cause side effects.[8]

WHY RETISERT? As a corticosteroid implant indicated for the treatment of chronic noninfectious uveitis affecting the posterior segment of the eye, RETISERT is a viable alternative for patients with BCR who are unable to tolerate systemic corticosteroids or IMTs.[4,9] The patient was counseled on the risks and benefits of RETISERT, including cataract development and IOP elevation, and elected to receive bilateral RETISERT implants.

WHY RETISERT? (cont'd): Due to his intolerance to IMT, the patient discontinued IMT and began low-dose oral prednisone (30 mg daily) for 1 month prior to RETISERT implantation. In the immediate postimplantation period, the patient experienced a temporary decrease in VA. Oral prednisone therapy was down-titrated steadily over 3 months following RETISERT implantation. After 1 year of RETISERT therapy, no new lesions were observed, and the vitritis continued to be resolved (Figure 5). The ERMs remained present in each eye and did not require ERM surgery. Although the patient experienced residual metamorphopsia and distortion, he reported subjectively better vision, his Humphrey visual fields were stable, and his electroretinography test had improved. Additionally, his VA had improved slightly to 20/40 in the right eye and 20/30 in the left eye.

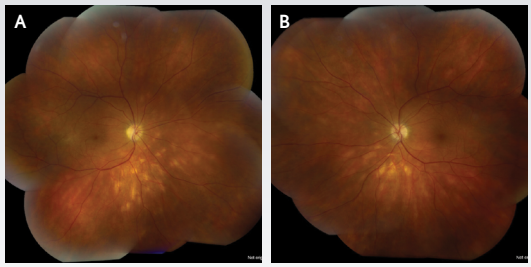

Figure 4. Vitritis was resolved, and lesions were stable after 1 year of IMT. Fundus photograph of the right (A) and left (B) eye.

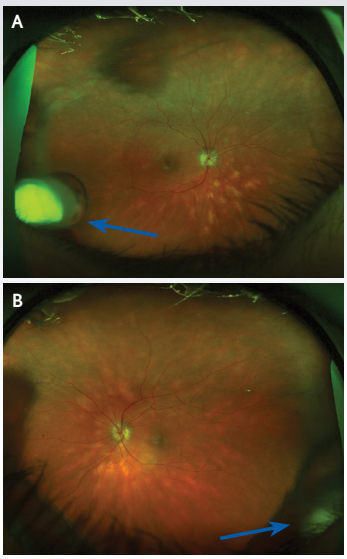

Figure 5. Ocular inflammation is controlled with bilateral RETISERT implants after 1 year of therapy. Widefield fundus photograph of the right (A) and left (B) eye. Arrows indicate visible RETISERT implants.

FOLLOW-UP: The patient was advised again that nearly all phakic RETISERT-implanted eyes are expected to develop cataracts and require surgery.[9] The patient was also counseled about the possibility of IOP elevation, which may require management. In clinical trials, 37% of RETISERT- implanted eyes required surgical intervention to manage elevated IOP, and approximately 77% of RETISERT-implanted eyes required topical IOP-lowering medications.[9] The patient developed bilateral cataracts that required surgical removal. He also experienced IOP elevation that was initially managed through maximal tolerated medical therapy but ultimately required microinvasive glaucoma surgery to control IOP levels.

The patient's RETISERT implants were exchanged at 44 months and 71 months postimplantation in the right and left eyes, respectively. His most recent follow-up occurred approximately 30 months following the second RETISERT implant in the left eye. The patient did not experience any flares while on RETISERT treatment and was not taking any systemic medication. His VA had improved to 20/25 in the right eye and 20/20 in the left eye, and he did not require surgery to correct the ERM. Additionally, both eyes exhibited stable visual fields and electroretinography tests. The patient was able to tolerate RETISERT treatment. Based on discussions with his physician, the patient plans to continue RETISERT therapy and receive a third RETISERT implant in each eye through an exchange surgery.

REIMPLANTATION[9]

- RETISERT 0.59 mg is a sterile implant designed to release fluocinolone acetonide locally to the posterior segment of the eye to deliver corticosteroid therapy for approximately 2.5 years where it's needed.
- Following depletion of fluocinolone acetonide as evidenced by recurrence of uveitis, RETISERT may be replaced.

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.

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

Retisert®
(fluocinolone acetonide intravitreal implant) 0.59 mg

Conclusions

BCR is a chronic noninfectious posterior uveitis that requires long-term management.[4,5] Steroid-sparing IMTs are typically used to reduce ocular inflammation and preserve visual function in BCR.[4] The patient described here achieved reasonable ocular inflammatory control with IMT, but was unable to tolerate the side effects. After discontinuation of IMT, the patient received bilateral RETISERT implants, which provided long-term ocular inflammatory control with cataract development and elevated IOP, which were effectively managed. This case study demonstrates the importance of giving a treatment regimen that is individualized and designed to address each patient's needs.

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. Minos E, Barry RJ, Southworth S, et al. Birdshot chorioretinopathy: current knowledge and new concepts in pathophysiology, diagnosis, monitoring and treatment. *Orphanet J Rare Dis*. 2016;11(1):61. **2.** Leung E. Birdshot retinochoroidopathy. *American Academy of Ophthalmology*. https://eyewiki.aao.org/Birdshot_Retinochoroidopathy. Accessed April 2, 2019. **3.** Crawford CM, Igboeli O. A review of the inflammatory chorioretinopathies: the white dot syndromes. *ISRN Inflamm*. 2013;2013:783190 doi: 10.1155/2013/783190. **4.** Vitale AT. Birdshot retinochoroidopathy. *J Ophthalmic Vis Res*. 2014;9(3):350-361. **5.** Menezo V, Taylor SR. Birdshot uveitis: current and emerging treatment options. *Clin Ophthalmol*. 2013;8:73-81. **6.** Majumder PD, Sudharshan S, Biswas J. Laboratory support in the diagnosis of uveitis. *Indian J Ophthalmol*. 2013;61(6):269-276. **7.** Lin P. Infectious uveitis. *Curr Ophthalmol Rep*. 2015;3(3):170-183. **8.** Pasadhika S, Rosenbaum JT. Update on the use of systemic biologic agents in the treatment of noninfectious uveitis. *Biologics*. 2014;8:67-81. **9.** RETISERT [prescribing information]. Bausch & Lomb Incorporated.

BAUSCH + LOMB

Retisert®
(fluocinolone acetonide intravitreal implant) 0.59 mg