An Unusual Manifestation of Herpes Simplex Virus–Associated Acute Iris Depigmentation and Pigmentary Glaucoma

Herpes simplex virus (HSV) has been established as a cause of acute anterior uveitis with sectoral iris atrophy and has been demonstrated to occur in patients without history of keratitis.\(^1\)\(^,\)\(^2\) We report a case of acute, diffuse iris depigmentation, anterior uveitis with a significant amount of pigmented cells, and associated pigmentary glaucoma without any distinctive herpetic corneal findings. Immunostaining results for HSV were positive in a histopathologic specimen obtained during an urgent trabeculectomy.

Report of a Case. A 61-year-old man had redness and irritation in his right eye for 3 days. Visual acuity was 20/25 OD and intraocular pressure was 16 mm Hg OD. The conjunctiva was white and quiet. The cornea showed Descemet membrane folds without any epithelial or stromal abnormalities. The anterior chamber was deep with 3+ cells, consisting mostly of pigmented cells and granules. There was mild nuclear sclerosis and the anterior vitreous was clear. The optic nerve showed a cup-disc ratio of 0.5 with normal color and sharp margins. The remainder of the posterior segment was normal with no signs of retinitis. Anterior uveitis was diagnosed and the patient began treatment with prednisolone, 1%, eye drops 4 times a day and atropine sulfate, 1%, twice a day.

On return examination 4 days later, diffuse transillumination defects were noted, 3+ pigmented cells were again observed in the anterior chamber, pigment was noted to be peppering the surface of the iris, and intraocular pressure was 48 mm Hg (Figure 1). Gonioscopy showed an angle open to scleral spur for 360° with extensive pigment deposition throughout. In addition to treatment with brimonidine tartrate, 0.15%, the patient began treatment with timolol maleate, 0.5%, and brinzolamide, 1%, as well as oral prednisone, 60 mg/d, and acyclovir, 800 mg 5 times a day, for suspected herpetic uveitis.

Despite maximal topical medical therapy, the patient’s intraocular pressure further elevated and remained greater than 50 mm Hg for 4 days. An urgent trabeculectomy was performed 10 days after the patient’s initial visit. The optic disc appearance 1 day prior to the trabeculectomy was not significantly changed from the appearance at the initial visit. Aqueous humor, iris from the iridectomy, and a small corneoscleral specimen from the deep sclerectomy were sent for HSV polymerase chain reaction (PCR) and histopathologic analysis. The qual-
Tugal-Tutkun et al reported 28 cases of bilateral diffuse iris depigmentation more prominent on examination than other inflammatory cells. Diffuse iris depigmentation is also seen in chronic anterior segment involvement such as necrotizing retinitis. Diffuse iris depigmentation is also seen in chronic anterior segment involvement such as necrotizing retinitis. Corneoscleral specimen showed immunoreactivity for HSV, localized to collections of mononuclear cells lining the posterior surface of the cornea (Figure 2). The patient’s best-corrected visual acuity returned to 20/30 by 2 months postoperatively. He subsequently developed a cataract, which was removed uneventfully. At 18 months postoperatively, his visual acuity with correction was 20/20.

Comment. Van der Lelij et al described anterior uveitis with sectoral iris atrophy in the absence of keratitis in 31 of 592 patients with anterior uveitis. Herpes simplex virus was documented in 83% of these patients, and 90% of patients had elevated intraocular pressure. Herein, we report a case in which there is similarly no declarative corneal involvement pointing to HSV, with 2 additional distinctive features. First, the iris atrophy is much more diffuse than sectoral. Second, pigmented cells are more common pathway for virally mediated iris pigment loss. Our case may be an acute variant of such pigment loss.

The immunohistochemistry from the deep sclerectomy specimen in our patient helps to establish HSV association in this condition. The inability of PCR to detect HSV in this case is not surprising given that PCR of the aqueous is rather insensitive in the absence of posterior segment involvement such as necrotizing retinitis. Diffuse iris depigmentation is also seen in chronic Fuchs heterochromic iridocyclitis, which has been causally linked to a variety of viruses. This suggests a possible common pathway for virally mediated iris pigment loss.

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3. Tugal-Tutkun I, Araz B, Taskapili M, et al. Bilateral diffuse depigmentation of the iris. Initially suspected HSV, but PCR results of the aqueous for HSV type 1 and HSV type 2 were negative, leaving some doubt as to the association with HSV.