Intravitreal Triamcinolone Acetonide for Idiopathic Cystoid Macular Edema

Ingrid U. Scott, MD, MPH, Harry W. Flynn, Jr., MD, and Philip J. Rosenfeld, MD, PhD

PURPOSE: To report intravitreal triamcinolone acetonide for idiopathic cystoid macular edema (ICME).
DESIGN: Interventional case series.
METHODS: Two patients with ICME were treated with intravitreal triamcinolone.
RESULTS: In one patient, best-corrected acuity was 20/70 before treatment and 20/30 6 months posttreatment in both eyes. Foveal thickness was 606 μm before and 197 μm posttreatment in the right eye and 542 μm before and 190 μm posttreatment in the left eye. In another patient, best-corrected acuity was 20/200 before treatment and 20/50 5 months posttreatment; foveal thickness was 580 μm before and 208 μm posttreatment. Recurrence of macular edema responded to repeat intravitreal triamcinolone acetonide in both patients.
CONCLUSIONS: Intravitreal triamcinolone may be associated with reduced edema and improved vision in patients with ICME; however, these changes may be transient. (Am J Ophthalmol 2003;136:737–739. © 2003 by Elsevier Inc. All rights reserved.)

INTRAVITREAL TRIAMCINOLONE ACETONIDE HAS BEEN reported to be associated with decreased macular edema and improved vision in patients with refractory macular edema associated with such conditions as diabetic retinopathy,[1] central retinal vein occlusion,[2] uveitis,[3,4] and birdshot retinochoroidopathy.[5] We report intravitreal triamcinolone acetonide in the treatment of idiopathic cystoid macular edema (ICME).

• CASE 1: A 52-year-old woman presented in May 2001 with a 1-year history of progressive visual loss in both eyes (OU). Five months earlier, she had been treated with laser photocoagulation in the left eye for "retinal swelling." Two months earlier, she had been treated with a periocular injection of triamcinolone acetonide in both eyes. The patient reported no improvement in her vision after the previous treatments. Examination demonstrated a best-corrected visual acuity of 20/40 OU. Intraocular pressure was 12 mm Hg OU. The remainder of the examination was notable for ICME OU. These clinical findings were confirmed by fluorescein angiography. Observational management was recommended. When the patient returned in January 2002, examination demonstrated a best-corrected acuity of 20/70 in the right eye (OD) and 20/40 in the left eye (OS); the remainder of the examination was notable for increased cystoid macular edema OD; optical coherence tomography (OCT) demonstrated a foveal thickness of 606 μm OD and 284 μm OS (Figure 1A). The patient underwent intravitreal triamcinolone injection (4 mg/0.1cc) OD. She returned in July 2002 noting decreased vision OS. Examination demonstrated a best-corrected visual acuity of 20/30 OD and 20/70 OS. Optical coherence tomography demonstrated a foveal thickness of 197 μm OD (Figure 1B) and 542 μm in the left eye (Figure 1C). The patient underwent intravitreal triamcinolone injection (4 mg/0.1cc) OS. She returned for follow-up in September 2002, at which time her best-corrected acuity was 20/100 OD and 20/30 OS. Optical coherence tomography demonstrated a foveal thickness of 442 μm OD and 190 μm OS (Figure 1 D). The patient underwent intravitreal triamcinolone injection (4 mg/0.1cc) OD; in December 2002, the patient had a best-corrected acuity of 20/30 OU and a foveal thickness (measured by OCT) of 200 μm OD and 197 μm OS. Due to progressive cataract OU, phacoemulsification with posterior chamber intraocular lens implantation was performed (OD in January 2003; OS in February 2003). By April 2003, best-corrected visual acuity had dropped to 20/100 OU and macular edema had recurred. Reinjection of intravitreal triamcinolone (4 mg/0.1cc) was performed OU. By May 2003, visual acuity had improved to 20/30 OU and OCT measurements were 216 μm OD and 169 μm OS.

• CASE 2: A 47-year-old woman with a history of topical corticosteroid treatment and nonsteroidal therapy as well as focal laser photocoagulation OS for chronic cystoid macular edema presented in July 2000 with a 1-year history of decreased vision OS and no improvement following prior treatment. Examination demonstrated a best-corrected acuity of 20/20 OD and 20/70 OS. Intraocular pressure was 15 mm Hg in each eye. The remainder of the examination was notable for ICME of the left eye. Fluorescein angiography confirmed the clinical findings. Observational management was recommended. In July 2001, the patient returned with a 6-month history of further decreased vision OS with no improvement with topical prednisolone acetate 1% eye drops. Examination of the left eye was notable for a best-corrected acuity of 20/200 and increased cystoid macular edema with a foveal thickness measured by OCT of 580 μm (Figure 2A). The patient underwent intravitreal triamcinolone injection (4 mg/0.1cc) OS; 8 days after injection, acuity had improved to 20/100 and OCT demonstrated marked improvement in cystoid macular edema (Figure 2B). In December 2002, acuity OS was 20/50 and foveal thickness measured by

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Inquiries to Ingrid U. Scott, MD, MPH, Bascom Palmer Eye Institute, PO Box 016880, Miami, FL 33101; fax: (305) 326-6417; e-mail: iscott@bpei.med.miami.edu

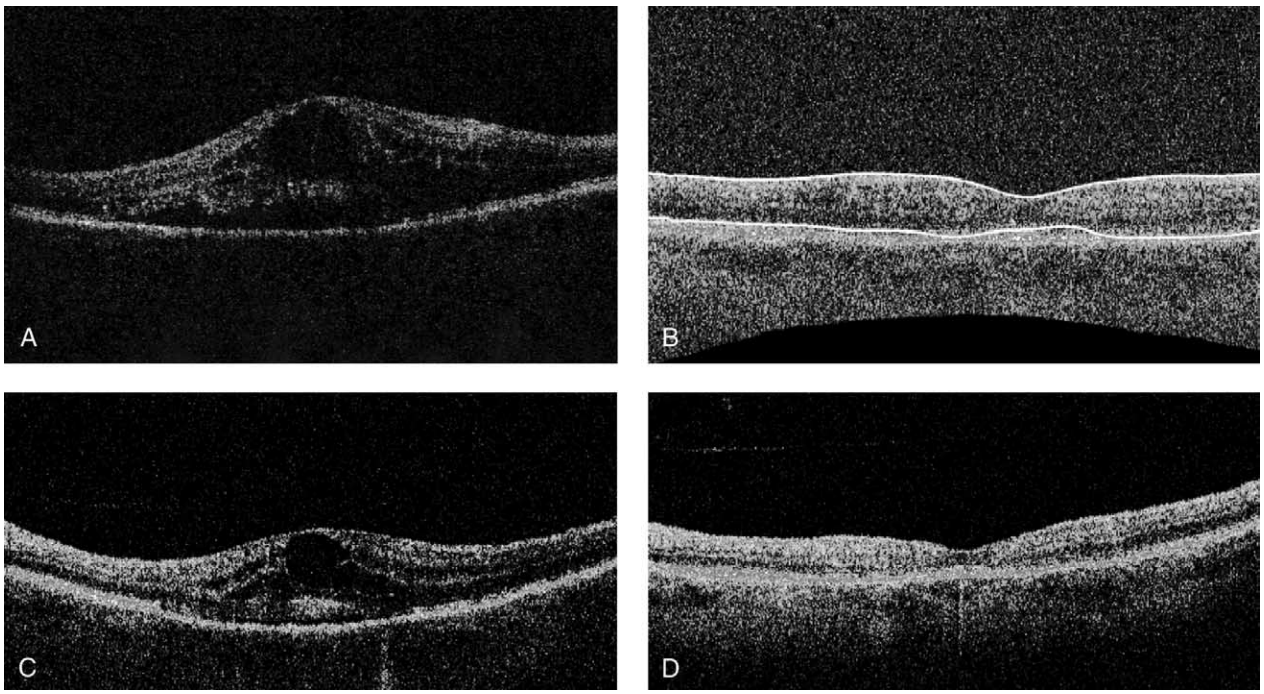

FIGURE 1. Case 1. (A) Optical coherence tomography of the right eye demonstrates a marked increase in foveal thickness (606 μm) and retinal cystic changes consistent with cystoid macular edema. Best-corrected visual acuity is 20/70. (B) Optical coherence tomography 6 months after treatment demonstrates restoration of a normal foveal contour (foveal thickness is 197 μm). Best-corrected visual acuity is 20/30. (C) Optical coherence tomography of the left eye demonstrates a marked increase in foveal thickness (542 μm) and retinal cystic changes consistent with cystoid macular edema. Best-corrected visual acuity is 20/70. (D) Optical coherence tomography of the left eye 2 months after treatment demonstrates restoration of a normal foveal contour (foveal thickness is 190 μm). Best-corrected visual acuity is 20/30. Recurrent macular edema responded to repeat intravitreal triamcinolone acetonide in both eyes.

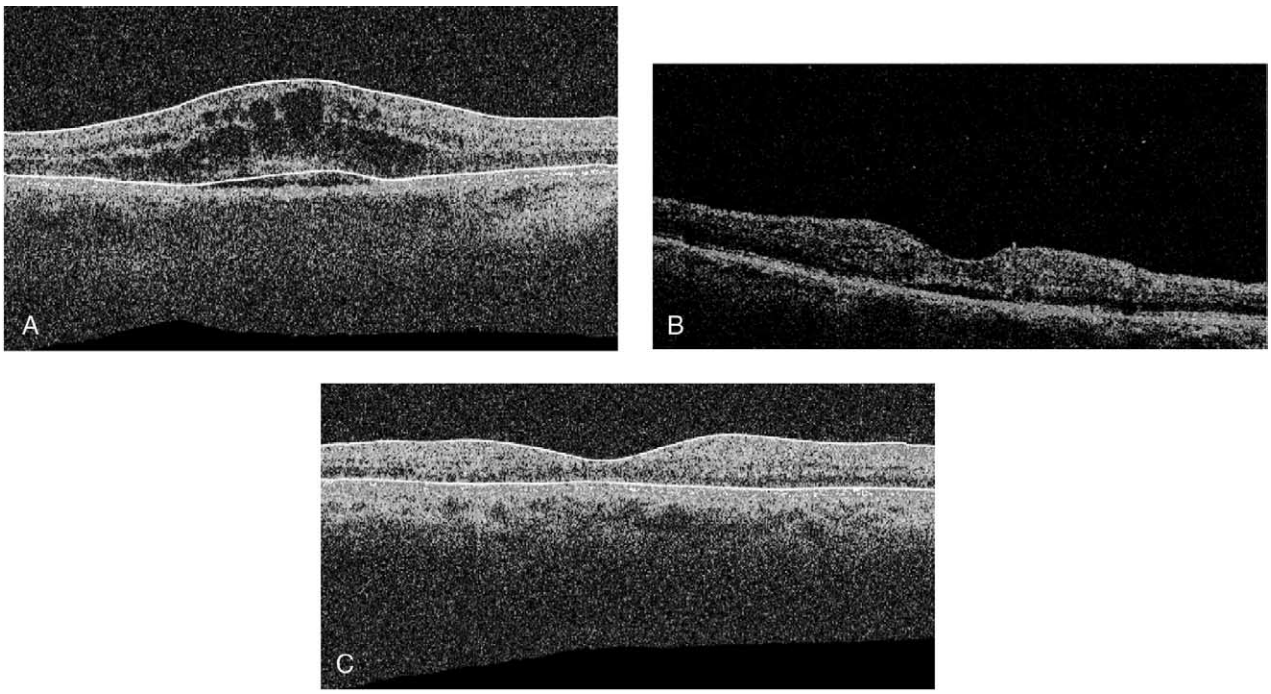

FIGURE 2. Case 2. (A) Optical coherence tomography of the left eye demonstrates a marked increase in foveal thickness (580 μm) and retinal cystic changes consistent with cystoid macular edema. Best-corrected visual acuity is 20/200. (B) Eight days after treatment with intravitreal triamcinolone acetonide, optical coherence tomography demonstrates marked improvement in cystoid macular edema. (C) Optical coherence tomography 5 months after treatment demonstrates restoration of a normal foveal contour (foveal thickness is 208 μm). Best-corrected visual acuity is 20/50. Recurrent macular edema responded to repeat intravitreal triamcinolone in the left eye.

OCT was 208 μm (Figure 2C). Recurrent visual loss to 20/200 OS occurred in February 2003; OCT foveal thickness was 550 μm. A second injection of intravitreal triamcinolone (4 mg/0.1 cc) was administered OS but visual acuity was limited by progressive posterior subcapsular cataract. Phacoemulsification with posterior chamber intraocular lens implantation was performed OS in April 2003. Best-corrected visual acuity in July 2003 was 20/50 OS and the OCT was 207 μm.

Intravitreal triamcinolone is a promising therapeutic modality for treating refractory macular edema associated with a variety of diseases, although the potential risks associated with administration of intraocular corticosteroids (such as intraocular pressure elevation and cataract formation) must be considered. Reported treatments for ICME have demonstrated limited, if any, visual benefit; the two cases reported here suggest that intravitreal triamcinolone may be of therapeutic value in patients with decreased vision due to ICME; however, the effects of intravitreal triamcinolone may be transient.

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Intravitreal Triamcinolone for Choroidal Neovascularization in Ocular Histoplasmosis Syndrome

Ehud Rechtman, MD, Valerie D. Allen, OD, Ronald P. Danis, MD, Linda M. Pratt, RN, Alon Harris, PhD, and Matthew A. Speicher, MD

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From the Department of Ophthalmology, Indiana University School of Medicine, Indianapolis, Indiana (E.R., V.D.A., R.P.D., L.M.P., A.H., M.A.S.) and Department of Ophthalmology, Kaplan Medical Center, Rehovot, Israel (E.R.).

Inquiries to Ronald P. Danis, MD, Department of Ophthalmology, Indiana University School of Medicine, Indianapolis, 702 Rotary Circle, IUMC, Indianapolis, IN, 46202; fax: (317) 274-1288; e-mail: rdanis@iupui.edu, erechtma@iupui.edu.

PURPOSE: To report the effects of intravitreal triamcinolone acetonide injections for subfoveal and juxtafoveal choroidal neovascularization (CNV) in ocular histoplasmosis syndrome.

METHODS: In a retrospective analysis, the proportion of eyes that gained ≥5 or lost ≥5 and ≥15 Early Treatment of Diabetic Retinopathy Study (ETDRS) letters, best-corrected visual acuity using ETDRS letter score (VA), greatest linear dimension (GLD), and treatment side effects were assessed.

RESULTS: Ten patients (five subfoveal, five juxtafoveal CNV; median follow-up: 17 months; range, 6–41 months) were evaluated. Thirty percent gained ≥5 letters, 20% lost 5 to 14 letters, and 50% maintained stable VA. Overall, mean VA and GLD remained stable. Side effects were transient intraocular pressure elevation and mild cataract development.

CONCLUSIONS: Intravitreal triamcinolone acetonide for CNV resulting from OHS was found to be relatively safe and showed good visual outcome for both subfoveal and juxtafoveal CNV. Further studies are warranted to evaluate this treatment. (Am J Ophthalmol 2003;136:739–741. © 2003 by Elsevier Inc. All rights reserved.)

LASER PHOTOCOAGULATION WAS NOT FOUND TO BE beneficial for subfoveal choroidal neovascularization (CNV) resulting from ocular histoplasmosis syndrome (OHS).[1] Laser photocoagulation, based on the Macular Photocoagulation Study,[2] is currently a common treatment choice for juxtafoveal CNV resulting from OHS. Photodynamic therapy with verteporfin has recently shown favorable outcomes in subfoveal CNV cases in a prospective uncontrolled study,[3] whereas submacular surgery remains under evaluation. Previously, we found oral prednisone and subtenon triamcinolone to have a stabilizing effect on visual acuity in the treatment of CNV for this condition.[4] No published study has reported treatment of CNV resulting from OHS with intravitreal triamcinolone acetonide (iTAAC). Therefore, we retrospectively analyzed the clinical records of all subjects who were treated at Indiana University with iTAAC injections (0.1 ml, Kenalog 40 mg/ml) for subfoveal and juxtafoveal CNV resulting from OHS and who had a follow-up of 6 months or longer. The proportion of eyes that gained ≥5 Early Treatment of Diabetic Retinopathy Study (ETDRS) letters, lost ≥5 and ≥15 letters, best-corrected visual acuity ETDRS letter score (VA), lesion greatest linear dimension (GLD), and treatment side effects were assessed. We found and evaluated the clinical records of 10 patients, ages 44.9 ± 17.7 (mean ± standard deviation [SD]) years, with CNV resulting from OHS. Only one had received earlier treatment for CNV (laser photocoagulation for extrafoveal CNV). At baseline, five had subfoveal CNV (three predominantly classic and two occult) and five had juxtafoveal CNV (four predominantly classic and one minimally classic) (Figures 1 and 2). Median follow-up was 17