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SHORT COMMUNICATION

Intravitreal triamcinolone in cystoid macular edema due to uveitis and repeated surgery after a penetrating trauma

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PURPOSE. *To test the effectiveness of intravitreal triamcinolone acetonide in treating macular edema due to multiple vitreoretinal surgical procedures and uveitis after a penetrating trauma with metallic foreign body retention in a 37-year-old man.*
METHODS. *The patient received two intravitreal injections of triamcinolone acetonide–2 mg/0.05 mL and 4 mg/0.1 ml-1 month apart. The 6-month follow-up included best-corrected visual acuity (BCVA) measurement and optical coherence tomography evaluation.*
RESULTS. *After the first injection (2 mg) the foveal thickness (685 µm, as compared to a normal value of <165 µm) and the BCVA (20/200) remained unchanged with respect to the preinjection values; 1 week after the second injection (4 mg), the foveal thickness went down to 130 µm and the BCVA improved (20/80). Such results were unchanged at the 6-month control. No complications occurred.*
CONCLUSIONS. *A 2 mg dose of triamcinolone acetonide did not improve the anatomic and functional status of the macula. A 4 mg dose markedly improved BCVA and reduced the macular thickness in this case of macular edema. (Eur J Ophthalmol 2004; 14: 581-3)*

KEY WORDS. *Cystoid macular edema, Optical coherence tomography, Surgery, Trauma, Triamcinolone acetonide*

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INTRODUCTION

The effectiveness of intravitreal triamcinolone injection in treating pseudophakic (1-3) and uveitic (4) macular edema (often with multiple injections), and as an aid in vitreoretinal surgery to reduce blood-ocular barrier breakdown (5), is being shown by an increasing number of reports. We applied such treatment to a case of cystoid macular edema (CME) due to a combination of toxic, inflammatory, and posterior segment surgical factors.

Case report

A 37-year-old man with a previous uncorrected visual acuity of 20/20 in both eyes had a penetrating trauma with metallic foreign body retention in his left eye in April 2002. He underwent vitrectomy with foreign body extraction (April 2002); vitrectomy, endolaser, and silicone oil tamponade for tractional retinal detachment (May 2002); oil removal, phacoemulsification, and posterior chamber acrylic intraocular lens (IOL) implantation (September 2002); sterile uveitis

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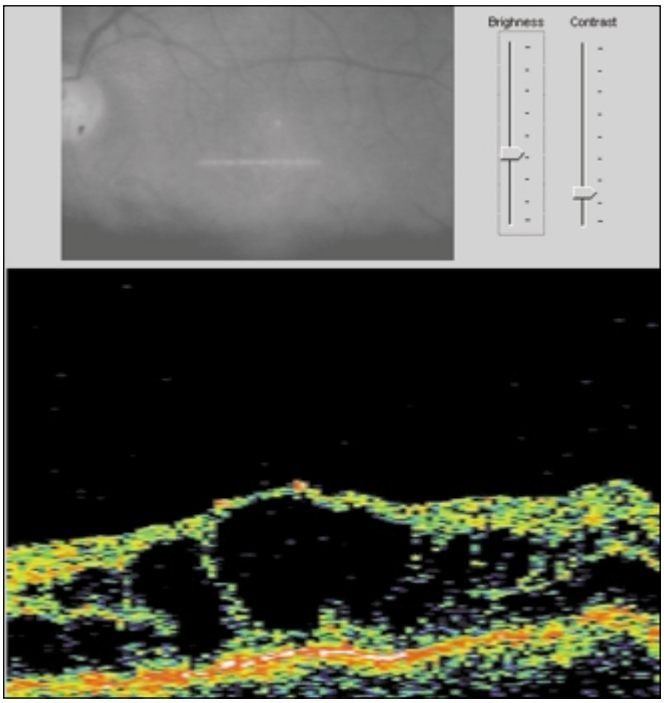

Fig. 1 - *Optical coherence tomography scan before the second injection.*

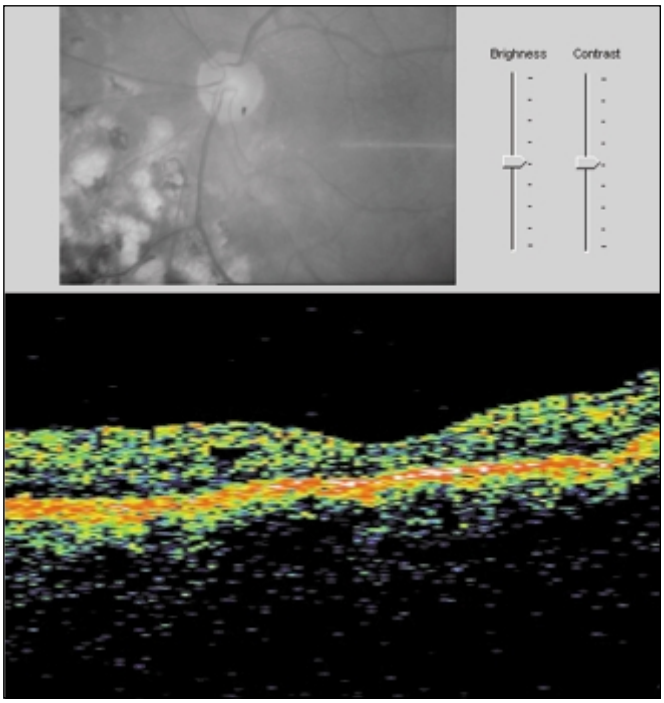

Fig. 2 - *Optical coherence tomography scan 1 week after the second injection.*

treated with topical and systemic steroids (September 2002); IOL removal, endolaser, and silicone oil injection for proliferative vitreoretinopathy with retinal detachment (January 2003); retinectomy for inferior recurrence of retinal detachment with epiretinal membrane peeling and oil tamponade (March 2003); and oil removal after a very confluent panretinal photocoagulation (May 2003). Each procedure was followed by topical atropine, antibiotic, steroid, and nonsteroidal anti-inflammatory drug therapy, and systemic antibiotic and steroid therapy. After the last procedure, even in the absence of an ophthalmoscopically and optical coherence tomography (OCT) detectable traction on the macula, a significant cystoid macular edema was present with a macular thickness at the fovea of 685 µm (normal: <165 µm); Fig. 1). The best-corrected visual acuity (BCVA) was 20/200. A pars plana injection of triamcinolone acetonide 2 mg/0.05 ml was performed. After 1 month (April 2003), the edema was still present with a similar OCT picture, and the BCVA was unchanged. The patient received a second injection of triamcinolone acetonide 0.4 mg/0.1 ml. Immediately after the injection, an anterior chamber paracentesis was performed in order to reduce the intraocular pressure; neither topical nor systemic therapies were added. The patient was asked to maintain an orthostatic position and an ophthalmoscopic examination confirmed that the triamcinolone crystals had settled in the inferior aspect of the vitreous chamber.

One week after the injection, the BCVA rose to 20/80, with a good recovery of the foveal profile (foveal thickness at the umbo: 130 µm, Fig. 2) and an intraocular pressure of 17 mmHg. OCT picture, foveal thickness, BCVA, and intraocular pressure remained unchanged at the 6-month control.

DISCUSSION

The effectiveness and safety of repeated intravitreal triamcinolone injection is confirmed in this case, in which inflammation due to a penetrating trauma with foreign body retention, uveitis, and repeated surgery caused the cystoid macular edema. Although

a complete recovery of a good foveal profile had been achieved, the BCVA did not normalize fully. Such data confirm the reports of other authors that the anatomic improvement is often more striking than the functional one, maybe due to the chronic damage to the edematous retinal tissue.

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REFERENCES

1. Jonas JB, Kreissig I, Degenring RF. Intravitreal triamcinolone acetonide for pseudophakic cystoid macular edema. Am J Ophthalmol 2003; 136: 384-6.
2. Benhamou N, Massin P, Haouchine B, Audren F, Tadayoni R, Gaudric A. Intravitreal triamcinolone for refractory pseudophakic macular edema. Am J Ophthalmol 2003; 135: 246-9.
3. Conway MD, Canakis C, Livir-Rallatos C, Peyman GA. Intravitreal triamcinolone acetonide for refractory chronic pseudophakic cystoid macular edema. J Cataract Refract Surg 2003; 29: 27-33.
4. Antcliff RJ, Spalton DJ, Stanford MR, Graham EM, ffytche TJ, Marshall J. Intravitreal triamcinolone for uveitic cystoid macular edema: an optical coherence tomography study. Ophthalmology 2001; 108: 765-72.
5. Sakamoto T, Miyazaki M, Hisatomi T, et al. Triamcinolone-assisted pars plana vitrectomy improves the surgical procedures and decreases the postoperative blood-ocular barrier breakdown. Graefes Arch Clin Exp Ophthalmol 2002; 240: 423-9.
6. Hee MR, Puliafito CA, Wong C, et al. Quantitative assessment of macular edema with optical coherence tomography. Arch Ophthalmol 1995; 113: 1019-29.