Intravitreal triamcinolone in subfoveal recurrence of choroidal neovascularisation after laser treatment in macular degeneration

N T Ranson, R P Danis, T A Ciulla, L Pratt

Methods: 14 consecutive patients with recurrent neovascularisation were treated with a single 4.0 mg injection of triamcinolone and followed for up to 1 year. Visual results were compared with published data from the Macular Photocoagulation Study of recurrent neovascularisation.

Results: Mean visual acuity remained stable at about 20/200 throughout the study period in the treated patients. This is comparable to the outcomes in the Macular Photocoagulation Study for laser retreated patients, and better than the observation group.

Conclusions: Intravitreal triamcinolone may be an acceptable treatment of subfoveal recurrent neovascularisation while avoiding early persistent vision loss from laser retreatment.

Background: Laser treatment of extrafoveal well delineated choroidal neovascularisation in exudative age related macular degeneration has a high rate of failure with subsequent severe vision loss from subfoveal involvement. Laser treatment may limit scotoma size, but is unpalatable because of early persistent vision loss. Intravitreal triamcinolone injection may be an acceptable alternative therapy in such disparate cases.

Methods: A consecutive series of 14 eyes of 13 patients were treated with intravitreal TAAC and followed for 1 year after injection (3 or 4 seconds), the fundus was then visualised by slit lamp biomicroscopy until retinal circulation was re-established. Patients were asked to return for weekly assessment of intraocular pressure for at least the first 4 weeks after injection and were treated with topical antiglaucoma medications if the IOP became elevated over 25 mm Hg.

Methods: A consecutive series of 14 eyes of 13 patients were treated with intravitreal TAAC injection after subfoveal recurrence of neovascularisation after laser treatment of extrafoveal CNVM in EAMD. All eyes had one or more photocoagulation sessions with krypton laser treatment in Macular Photocoagulation Study fashion for well delineated extrafoveal CNVM,1,2 as determined by clinical examination and fluorescein angiography. Failure of laser treatment or recurrence after initial improvement was heralded in each case by increased subretinal fluid, blood and/or fibrosis, as well as typical evidence by fluorescein angiography. Patients were offered TAAC injection when recurrences were subfoveal and further laser was refused.

After informed consent, patients were given several drops of topical oxybuprocaine (proparacaine), followed by a drop of 5% betadine. The patient was slightly reclined in the examining chair and asked to gaze upward. Stabilising the lids with the non-dominant hand, the injection was performed using a 27 gauge needle on a 1 ml syringe. The injection consisted of 0.1 ml of a commercially available suspension of triamcinolone acetonide (Kenalog 40 mg/ml, Apothecon) and the needle penetrated through the 6-00 pars plana (approximately 4 mm from the limbus). The needle was introduced only 2–3 mm into the eye in an effort to keep the suspension in the inferior vitreous region, out of the visual axis. After slow injection (3 or 4 seconds), the fundus was then visualised by slit lamp biomicroscopy until retinal circulation was re-established. Patients were asked to return for weekly assessment of intraocular pressure for at least the first 4 weeks after injection and were treated with topical antiglaucoma medications if the IOP became elevated over 25 mm Hg.

Visual acuity was measured, best corrected, on a front lit Bailey-Lovie chart at 10 feet at 3 month intervals. The presence of cataract was noted by slit lamp examination and graded according to the Age-Related Eye Disease Study protocol. A progression of one unit of the lens grade for nuclear sclerosis, cortical cataract, or posterior subcapsular change was considered significant. All but three eyes were followed for 1 year.
post-injection and one case was lost to follow up at only 6 months. The logMAR visual acuity equivalent was calculated and used for analysis (Table 1). The acuity was compared to MPS data for visual acuity in recurrent CNVM.

RESULTS
The baseline pre-injection logMAR visual acuity averaged 0.94 (20/180 Snellen equivalent) and the mean final acuity was 1.00 (20/200) (Table 1). At 1 year, eight of 11 eyes were within 0.2 log units (approximately two lines of acuity) from baseline and one eye lost more than six lines of acuity. Of the eight phakic eyes, none had clinically significant progression of lens opacity. Three of 14 eyes required topical aqueous suppressants for mild elevation of intraocular pressure (in the 25 mm Hg range). In general, triamcinolone treated patients tended to demonstrate stability of vision and the neovascular lesion (Fig 1).

DISCUSSION
Within 2 years of laser treatment, 52% of extrafoveal CNVMs due to AMD will recur, usually on the foveal side of the laser scar. Recurrence generally results in worse vision, with a mean acuity of 20/40 in those eyes without recurrence compared to a mean acuity of 20/125 in those eyes with recurrence at 1 year.
The present study is a consecutive case series and the results can only be considered suggestive. However, since the inclusion criteria for patients from the subfoveal recurrence arm of the MPS study were similar and the visual acuity measurements were standardised and similar between studies, it is of interest to compare visual outcome in these triamcinolone treated eyes with the MPS cohort receiving repeat photocoagulation for subfoveal recurrence.

The follow up MPS study randomised eyes with recurrent subfoveal CNVM post laser to subfoveal laser treatment or photocoagulation for subfoveal recurrence.

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<th>VA</th>
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<th>VA</th>
<th>LogMAR</th>
<th>VA</th>
<th>LogMAR</th>
<th>VA</th>
<th>LogMAR</th>
<th>VA</th>
<th>LogMAR</th>
<th>Cataract progress (progression)=worsening of cataract at any time during follow up. IOP=intracocular lens. IOP drug=topical ocular antihypertensive administered for intraocular pressure &gt;25 mm Hg.</th>
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References

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