

disc in rat retinas.⁵ The patient was evaluated for the possibility of underlying causes such as diabetes, ocular ischaemia, vascular occlusion, and intraocular inflammation. We can only speculate on the pathogenesis of the development of NVD as our attempts to identify an underlying cause were unsuccessful.

In our patient, panretinal photocoagulation was effective in achieving regression of NVD within 4 weeks in each eye. The mode of action of panretinal photocoagulation in achieving successful regression of NVD is not clear. Our case highlights the usefulness of PRP in the treatment of NVD even when the pathogenesis is unclear.

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Sir, Intravitreal triamcinolone for macular detachment following panretinal photocoagulation

Macular oedema often coexists with severe nonproliferative or proliferative retinopathy in diabetic patients. The Early Treatment Diabetic Retinopathy Study (ETDRS), along with clinical experience, have shown that panretinal photocoagulation (PRP) can exacerbate macular oedema and cause visual loss.¹ This effect is proportional to the amount of laser treatment.

Triamcinolone acetonide is a corticosteroid suspension that has been recently used, in clinical and experimental trials, as intravitreal injection, for the treatment of selected pathologic conditions.^{2–4}

We report a case of exudative macular detachment following PRP, treated with intravitreal injection of triamcinolone.

Case report

A 54-year-old man with a 15-year history of type II diabetes mellitus was referred for ophthalmic consultation because of sudden visual loss in his right eye. The patient had a history of and had been medically treated for hypertension and hypercholesterolemia. At the time of presentation, the patient was using insulin (17.5 U twice daily). On examination, his best-corrected visual acuity (BCVA) was light perception in the right eye and 20/40 in left eye. Results of anterior segment examination and intraocular pressure (IOP) measurement were unremarkable in both eyes. Fundus examination in the right eye was prevented by a dense vitreous haemorrhage. In the left eye, a high-risk proliferative diabetic retinopathy (PDR) was present, associated with clinically significant macular oedema and a large foveal hard exudate. After fluorescein angiography (Figure 1a), a PRP was performed in the left eye, in three sessions, of about 900 contiguous burns each, at 1-week intervals, under topical anaesthesia, using a frequency-doubled Nd:YAG laser (532 nm). A combination of focal and grid treatment of the macular region between 500 and 3000 μm from the fovea was administered according to the ETDRS protocol, during the initial session. At 3 weeks after the final treatment session, the patient returned for scheduled evaluation. BCVA was unchanged in the right eye and decreased to 20/200 in the left eye. Funduscopy examination, in the left eye, revealed a large macular detachment, which was confirmed by optical coherence tomography (OCT) (Figure 2a). After informed consent was obtained, 4 mg (0.1 ml) of triamcinolone acetonide was injected through the inferior pars plana, in the left vitreous cavity. At 1

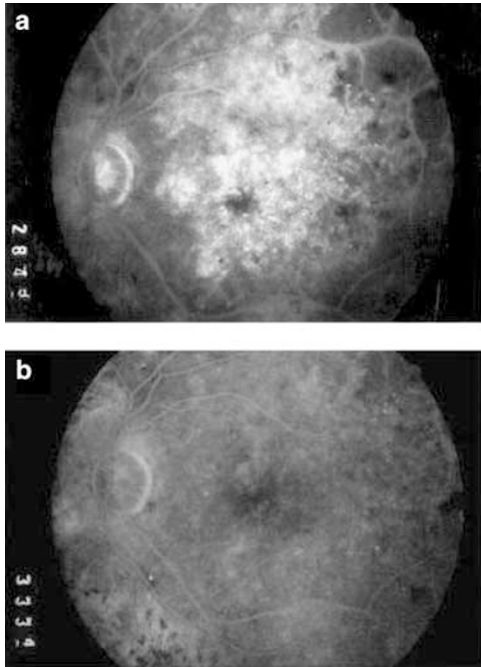


Figure 1 Left eye. (a) (Left) Late fluorescein angiogram before PRP. Note the significant amount of macular oedema, retinal ischaemia, and optic nerve head neovascularization. (b) (Right) Late fluorescein angiogram after PRP, 1 month after intravitreal triamcinolone injection. Note the reduction of exudative changes in the macular region.

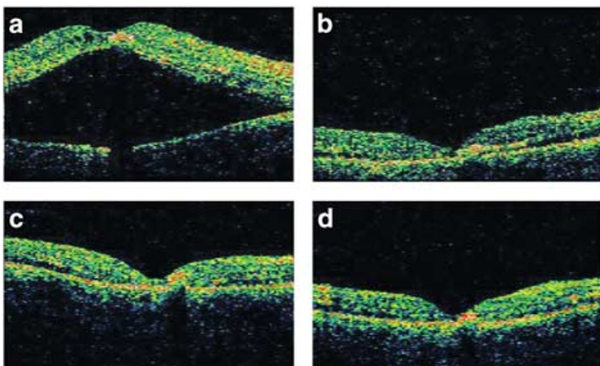


Figure 2 Left eye. (a) (Top left) OCT 3 weeks after PRP, demonstrates macular detachment of the neuroepithelium and retinal cystic changes. Note the hyper-reflective area within the fovea consistent with hard exudate. (b) (Top right) OCT 1 week after injection demonstrates a complete regression of the detachment and the disappearance of retinal cystic changes. Note the persistence of the hyper-reflective foveal hard exudate. (c) (Bottom left) OCT 1 month after injection. (d) (Bottom right) OCT 9 months after injection.

week after injection, BCVA in the left eye improved to 20/80 and OCT demonstrated an almost complete resolution of the macular detachment and retinal cystic changes (Figure 2b). At 1 month after injection, BCVA in

the left eye was 20/40. On OCT, either the retinal detachment or retinal cystic changes were no longer detectable. (Figure 2c). A fluorescein angiography was also performed, which demonstrated the regression of proliferative retinopathy and a reduction of macular oedema (Figure 1b). The patient was then evaluated at 3, 6, and 9 months. At 9 months after injection, BCVA in the left eye was 20/40, and either fundus appearance or OCT resulted almost unchanged compared to those at 1 month (Figure 2d). No injection-related complications were encountered.

Discussion

Corticosteroids have long been used in the treatment of cystoid macular oedema because of their ability to inhibit the arachidonic acid pathway, of which prostaglandins are a product. Corticosteroids may also downregulate the production of vascular endothelial growth factor, a known vascular permeability factor.⁵ Triamcinolone acetonide, a corticosteroid suspension, has been shown experimentally to reduce breakdown of the blood–retinal barrier.⁶ After intravitreal injection, the drug is delivered rapidly to its site of action with maximal bioavailability. In contrast, the sub-Tenon's route has failed to show a significant effect on the blood–retinal barrier because of inadequate penetration.⁶

Intravitreal triamcinolone has been reported to lead to decreased macular oedema and improved vision in patients with refractory macular oedema associated with conditions such as diabetic retinopathy,² central retinal vein occlusion,³ and uveitis.⁴ As observed in these previous studies, the effect of intravitreal triamcinolone on macular oedema may be transient and tend to decline approximately 3–5 months after injection.

In our case of exudative macular detachment secondary to PRP, a single injection of 4 mg of triamcinolone induced a complete detachment regression, at only 1 week after injection, and no recurrence was detectable up to 9 months of follow-up.

Although intravitreal triamcinolone has induced a marked reduction of retinal oedema in our case, no substantial effect was observed on the large exudate in the foveal region. Exudates are composed of lipid and proteinaceous material, such as fibrinogen and albumin, in the outer plexiform layer of the retina. Although intravitreal steroids have been demonstrated to reduce the breakdown of the blood–retinal barrier, it appears in our case that they have less effect in promoting the resorption mechanisms of exudate from intraretinal space.

Intravitreal triamcinolone may represent a new therapeutic modality for treating severe exudative

changes induced by PRP, although the potential risks associated with administration of intraocular corticosteroids (such as IOP elevation, cataract, and endophthalmitis) must be considered.

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Sir, Asymptomatic bilateral simultaneous rhegmatogenous retinal detachments

We read with interest the case report 'Bilateral rhegmatogenous detachment secondary to retinal dialyses associated with multiple retinal breaks' by M Singh *et al*.¹ We agree that simultaneous bilateral rhegmatogenous detachments are uncommon as this accounts for 1.18–2.5% of all retinal detachments.^{2,3} Retinal dialyses is the cause of the detachment in 10% of cases and is usually unilateral.⁴ Bilateral retinal dialysis occurs in 3.5–7.7% of cases and bilateral inferotemporal dialysis in 1.5–5.6% of the total cases.^{5,6} We would like to report a similar case of bilateral retinal detachments with retinal dialyses, which was asymptomatic and had intraretinal macrocysts bilaterally.

Case report

An asymptomatic 52-year-old Caucasian lady was seen in the eye clinic (she was forced to come to eye clinic by her daughter who had noticed she was not seeing well). Her visual acuities were perception of light in the right eye and 1/60 in the left. Ocular examination showed (Figure 1) a white cataract in the right and a macula-off retinal detachment with inferolateral retinal dialyses, demarcation line, and intraretinal macrocyst in the left eye. No history of trauma could be elicited from the patient. B-scan ultrasonography (Figure 2) confirmed retinal detachment and intraretinal macrocysts in both eyes. She has been placed on the

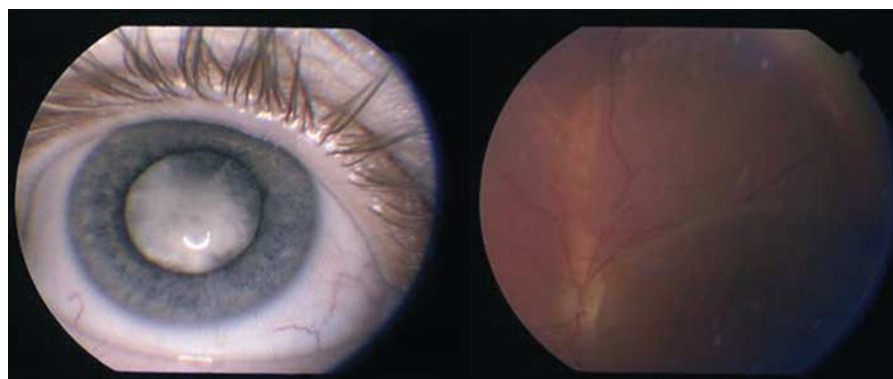


Figure 1 White cataract in right eye and chronic retinal detachment in left eye.