followed by the administration of intravenous acetazolamide and inhalation of isoamyl nitrite. Over the next 10 days, the patient also underwent stellate ganglion block. The intrachoroidal emboli had disappeared completely in the next day, but it took 4 days for the retinal emboli to disappear. Even though the visual acuity of the patient’s left eye improved slightly to counting fingers, a profound central visual field defect remained. Six months after onset, the left fundus showed optic nerve pallor, marked retinal atrophy, and attenuation of the retinal vessels (Fig. 2).

**Comments**

The mechanism of the sudden visual loss in this case was undeniably related to the intravascular infusion of triamcinolone acetonide, similar to that previously reported in other cases. The ophthalmic artery branches peripheral to the nose and culminates in the posterior and anterior ethmoidal arteries. Thus, when there is an inadvertent intra-arterial injection of small particles under pressure, this causes retrograde flow into the ophthalmic system and subsequently into the eye via the central retinal and short posterior ciliary arteries.

Although the Ministry of Health, Labour and Welfare of Japan does not approve of the procedure, injection of triamcinolone acetonide into the nasal mucosa is a common treatment for chronic allergic rhinitis and other nasal disorders. Recently, the use of triamcinolone acetonide has become more popular as a treatment for ophthalmic diseases. However, posterior sub-Tenon triamcinolone injection can also cause retinal and choroidal occlusion, as reported by Moshfeghi et al.6

Triamcinolone acetonide consists of particles of which 90% measure 10 μm or less, and thus is thought to present less risk than larger particle corticosteroids such as methylprednisone. However, as shown here, the injection of triamcinolone acetonide can cause multiple emboli and serious visual disturbances. In order to avoid these hazardous complications, caution must be exercised, with a careful check for the presence of blood reflux back into the syringe at the time of drug administration. In addition, when withdrawing the use of corticosteroid suspensions, alternative treatments should be considered whenever possible.

**Key Words:** choroidal vascular occlusion, triamcinolone injection

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**References**

is relatively high, it is believed that this disease rarely leads to visual disturbances. Malik et al.¹ suggest that interferon need not be discontinued even if the patients developed interferon-associated retinopathy, provided the patient receives close opthalmological monitoring. In addition, Cedar et al.² report that ophthalmic monitoring is not essential even for patients with hepatitis C treated with pegylated interferon α as long as there is no subjective visual complaint.

In order to show the importance of ophthalmic monitoring and the risk of continued administration of pegylated interferon α, we describe two cases of interferon-associated retinopathy associated with severe visual disturbances caused by secondary central retinal vein occlusion (CRVO). Both cases were complicated by hypertension that was poorly controlled because of limited medication compliance.

Case Reports

A 60-year-old woman started to take pegylated interferon-α and ribavirin for the treatment of chronic hepatitis C. In her right eye, soft exudates and hemorrhage appeared within 1 month; however, they resolved almost completely within the following 8 months, with only a few soft exudates remaining (Fig. 1a). She suddenly developed CRVO after 11 months of treatment. Her best-corrected visual acuity (BCVA) was 0.02 (OD). The macular region was filled with soft exudates, and hemorrhage was observed all over the retina (Fig. 1b). Fluorescein angiography showed an extensive nonperfusion area in the corresponding macular region.