Correspondence

Can AZT treatment in AIDS patients aggravate pre-existing CMV retinitis?

SIR, Cytomegalovirus (CMV) retinitis is the most common intraocular infection in AIDS patients, and is found in up to 34% of cases at necropsy.¹ It appears to be relentlessly progressive unless treated with intravenous or intravitreal DHPG (ganciclovir, BW B759U).^{2,3} However, an anti-retroviral drug, azidothymidine (AZT, zidovudine, Retrovir), has recently been introduced for systemic treatment of AIDS with the aim of improving the patient's immunity status at least transiently.⁴ To the best of our knowledge no particular reaction of any intraocular infection – or more specifically CMV retinitis – to this treatment has been described yet.

We recently observed a Caucasian homosexual patient aged 39 who was diagnosed as having AIDS 16 months ago when he developed *Pneumocystis carinii* pneumonia. CMV was documented at that time in a culture of bronchoalveolar lavage. Two months ago vision in the right eye dropped to 0.05 while being 1.5 cc on the left. Bilateral CMV retinitis, involving the whole posterior pole in the right eye and a large sector on the nasal periphery in the left eye, was diagnosed by its typical ophthalmoscopic appearance. CMV was cultured from urine and saliva. Treatment with DHPG was deferred until threat to left macular vision became imminent. During the following weeks the disease progressed slowly in both eyes. Fig. 1 shows the situation round the left disc two weeks before initiation of AZT treatment, and there was little evolution in the meantime. The total white cell count was $1.6 \times 10^9/l$ (lymphocytes $0.304 \times 10^9/l$, T_4 count not done) at that time. After one week of AZT treatment (4×300 mg orally) the CMV retinitis had extended considerably (Fig. 2) and DHPG treatment became imperative. The total white cell count was now $2.0 \times 10^9/l$ (lymphocytes $0.480 \times 10^9/l$, T_4 $0.052 \times 10^9/l$).

We thus observed very rapid aggravation of a previously

Fig. 1 Fundus photograph of left peripapillary area before AZT therapy was started.

Fig. 2 Fundus photograph of left peripapillary area after one week of AZT therapy. Note progression of CMV retinitis.

slowly evolving CMV retinitis after only one week of systemic AZT treatment, and we suspect that this might not be purely coincidental. Retroviral reverse transcriptase is known to be 100 times more sensitive to AZT than human DNA polymerase.⁵ However, AZT-induced mammalian haematopoietic and granulopoietic cell depression represents an important problem in clinical practice. We propose that qualitative or quantitative myelodepression during therapy may precede the partial restoration of cellular immunity and thus paradoxically facilitate the development of infections shortly after the start of anti-retroviral therapy. We therefore suggest that all patients under AZT treatment would benefit from thorough ophthalmological observation, in particular those with known intraocular infection.

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- 3 Henry K, Cantrill H, Fletcher C, Chinnock BJ, Balfour HH. Use of intravitreal ganciclovir for cytomegalovirus retinitis in a patient with AIDS. *Am J Ophthalmol* 1987; **103**: 17–23.
- 4 Yarchoan R, Broder S. Development of antiretroviral therapy for the acquired immunodeficiency syndrome and related disorders. A progress report. *N Engl J Med* 1987; **316**: 557–63.

5 Mitsuya H, Weinhold KJ, Furman PA, *et al.* 3'-azido- 3'-deoxythymidine (BW A509U): an antiviral agent that inhibits the infectivity and cytopathic effect of human T-lymphotropic virus type III/lymphadenopathy-associated virus in vitro. *Proc Natl Acad Sci USA* 1985; **82**: 7096-100.

Cardiac side effects of beta blocker eyedrops

SIR, The study by Brazier and Smith¹ of carteolol versus timolol eyedrops suggests that, whatever the theoretical advantages of intrinsic sympathomimetic activity in reducing cardiac side effects, it does not prevent carteolol from inhibiting exercise induced tachycardia. We must therefore remain sceptical in the face of blandishments from the pharmaceutical companies that this and other new beta blockers for ophthalmic use will produce fewer cardiac side effects.

Further studies are required to test whether or not these new drugs provide significant protection against beta blockade of cardiac contractility and peripheral vascular resistance. Perhaps the situation will only become clear when we have sufficient clinical experience of these drugs in the elderly glaucoma population. Meanwhile ophthalmologists should report all cases of cardiac and respiratory side effects to the Committee of Safety of Medicines using the familiar yellow cards.

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Reference

1 Brazier DJ, Smith SE. Ocular and cardiovascular response to topical carteolol 2% and timolol 0.5% in healthy volunteers. *Br J Ophthalmol* 1987; **72**: 101-3.

Notes

Research grants

The *David Cole Travel fellowship*, instituted by Merck Sharp and Dohme in memory of Professor David Cole, will assist a visit to a hospital or research centre during the academic year starting 1 October 1988. The award will be equivalent to £2000. The purpose of the award is to enable the successful applicant to gain experience and knowledge in pursuit of a specific project related to glaucoma.

The *Glaucoma Group Research grant*, sponsored by the International Glaucoma Association, will be available for a research project clinically orientated to glaucoma for 1988. The award will be equivalent to £2500. The grant may be used towards salary or project expenses or for buying equipment.

Both these awards are available to medical graduates and non-medical scientists resident in the United Kingdom or the Irish Republic. They may be held concurrently with other awards. Further details and application forms from Dr S Nagasubramanian, Secretary Glaucoma Group, Glaucoma Unit, Moorfields Eye Hospital, High Holborn,

London WC1V 7AN. The closing date for applications is 15 June 1988. The successful candidate will be informed by August 1988.

Tenth Interamerican course in clinical ophthalmology

This will be held in Miami, Florida, on 18-22 October 1988. Details from Interamerican Course, Bascom Palmer Eye Institute, PO Box 016880, Miami, FL 33101, USA.

Geographical ophthalmology

The next meeting of the International Society of Geographical Ophthalmology will be held jointly with the Ophthalmological Society of East Africa in Nairobi, Kenya, on 3-5 August 1988. There will be symposia on 'Retinal diseases in different geographical settings' and 'Ocular disease due to chlamydia' as well as free papers. Further information from Professor Gordon J Johnson, Director International Centre for Eye Health, 27-29 Cayton Street, London EC1V 9EJ.

Singapore conference

The XXVI International Congress of Ophthalmology will be held in Singapore on 18-24 March 1990. Details from Dr Arthur S M Lim, c/o Department of Ophthalmology, National University Hospital, Lower Kent Ridge Road, Singapore 0922, Republic of Singapore.

Retinitis pigmentosa

The 5th International Retinitis Pigmentosa Congress will be held on 4-7 November 1988 at Melbourne, Australia. Details from RP Congress, 46a Oxley Road, Hawthorn, Victoria 3122, Australia.

Prize for outstanding achievement

The Ludwig Von Sallmann Prize will be awarded at the 8th International Congress of Eye Research to be held on 4-8 September 1988 at the Hyatt Regency Hotel, San Francisco, California. The award of \$30 000 is for an outstanding achievement in ophthalmology and vision. Information and nomination blanks for this award can be obtained from Peter Gouras, MD, Von Sallmann Prize Committee, Columbia University, Box 18, 630 West 168 Street, New York, New York 10032, USA.

Correction

In the article by Burton G Goldstein and Peter Reed Pavan (*Br J Ophthalmol* 1987; **71**: 676-81) Dr Goldstein informs us that the following figures were published reversed: Fig 1, right photograph of stereopair; Figs 2, 3, and 5.