LETTERS TO THE EDITOR

Cowpox virus

EDITOR,—We read with interest the article by Dugmore and Dabir demonstrating the clinical features of a patient with ocular cowpox.¹ This patient was referred to the Manchester Royal Eye Hospital for investigation and we feel it would be useful to elaborate on the findings in their report.

The patient was a 15-year-old boy who presented with marked left upper and lower lid swelling (Fig 1), left preauricular lymphadenopathy and a left necrotising conjunctivitis associated with gross conjunctival chemosis. The patient was otherwise well and remained afebrile despite the extensive inflammatory signs. A previous report not mentioned by Dugmore and Dabir of follicular conjunctivitis with preauricular lymphadenopathy associated with cowpox infection also noted that the patient felt generally well during the illness.² A computed tomographic scan of the orbits was obtained (Fig 2) and was reported as showing a mass lesion encasing the anterolateral portion of the globe. It also suggested that an abscess cavity was present, probably in the subconjunctival space. A biopsy of pale rubbery tissue from the anteroinferior orbit was performed together with a repeat conjunctival biopsy. There was no evidence of an abscess cavity at surgery. The histology of both this and a subsequent biopsy showed extensive necrotic tissue with histiocytes and giant cells together with intense inflammatory infiltrate. This consisted mainly of plasma cells and lymphocytes. The appearances were therefore rather non-specific consistent with a necrotising granulomatous inflammatory process.

Figure 1 Appearance of patient at presentation.

Figure 2 Computed tomographic scan of the left orbit showing a mass lesion encasing the anterolateral aspect of the globe.

Figure 3 Slit-lamp photograph of the left cornea showing peripheral superficial and mid stromal corneal haze.

The inflammatory signs improved spontaneously and 9 months after the initial episode the patient was left with a moderate ptosis (probably due to a mild levator disinsertion), peripheral superficial and mid stromal corneal haze (Fig 3), and inferior symblepharon. Such corneal changes have not been reported previously.

A conjunctival swab taken at presentation was inoculated onto monolayers of Hep 2, human fibroblast, and primary monkey kidney cells. Cytopathic effect was seen 5 days later only in the monkey cells and provisionally attributed first to herpes simplex and then to adenovirus. The virus isolate was not neutralised by specific adenovirus or herpes simplex sera, and it was therefore sent 7 days after isolation for electron microscopy which revealed an orthopoxvirus. Inoculation onto the chorioallantoic membranes of a fertile chick embryo produced haemorrhagic pocks, and identification of cowpox was confirmed by the demonstration of conspicuous type A inclusion bodies in thin section electron microscopy.

Cowpox infection was first recognised in the domestic cat in 1978.³ Twenty to 30 new feline cases are seen annually by the Bristol and Liverpool University laboratories.⁴ There is therefore likely to be a large reservoir of infected cats in the United Kingdom. There were many cats living on a farm near the patient's home and these animals were thought to be the most likely source of infection.⁵ Patients presenting with follicular conjunctivitis are often diagnosed clinically as having adenoviral infection. Difficulty with early diagnosis is also likely in the laboratory if, because of its apparent rarity, cowpox is not considered when a cytopathic effect is first observed. It may be that some patients with presumed adenoviral infection have been infected by the cowpox virus. An increased awareness of this infection together with correct virological investigation may produce a more accurate assessment of the incidence of ocular cowpox in the United Kingdom.

We thank Dr D Baxby for formal identification of the cowpox isolate and for helpful advice and Mrs E Crosdale who kindly performed the egg inoculation work.

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- 1 Dugmore WN, Dabir ZM. Cowpox virus. *Br J Ophthalmol* 1992; 76: 510.
- 2 Hall CJ, Stevens JD. Ocular cowpox. *Lancet* 1987; i: 111.
- 3 Thomsett LR, Baxby D, Denham EM. Cowpox in the domestic cat. *Vet Rec* 1978; 108: 567.

- 4 Hoare CM, Bennett M. In: Grunsell C, Hill F, Raw M, eds. *Veterinary annual*. 25th ed. Bristol: Wright, 1985: 348–51.
- 5 O'Connor GM, Thiru AA, Caul OE. Ocular cowpox: transmission from the domestic cat to man. *Br J Ophthalmol* 1990; 74: 245–6.

Reply

EDITOR,—We wish to thank Simcock *et al* for drawing our attention to the report of the right follicular conjunctivitis with a necrotic ulcerated area of the lower lid margin.¹

O'Connor *et al* described necrotic ulcerated lesions of both left lids but no lesions of the conjunctiva.²

The distinctive features of the case described in our letter are the extensive conjunctival necrosis, the absence of necrotic ulcerated areas of the lids, the palpable fibrogranulomatous mass encasing the globe, and the initial lack of corneal involvement. We agree that the cowpox virus should be considered in patients with presumed adenoviral infection. It appears inconceivable that the present rarity of reported ocular cases represents the sum total of cowpox infection.

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- 1 Hall CJ, Stevens JD. Ocular cowpox. *Lancet* 1987; i: 111.
- 2 O'Connor GM, Thiru AA, Caul OE. Ocular cowpox: transmission from the domestic cat to man. *Br J Ophthalmol* 1990; 74: 245–6.

BOOK REVIEW

Principles and Practice of Clinical Electrophysiology of Vision. Edited by J R Heckenlively, G B Arden. Pp 830. £97. St Louis: Mosby, 1992.

At 830 pages this is a large book on the clinical applications of visual electrophysiology. The 114 chapters, however, cover the subject in a very readable as well as comprehensive way, with contributions from 72 eminent authorities in the field – the authors being drawn from all over the world.

Many of the chapters are quiet brief, and all of them are comprehensible to the clinician, reflecting the emphasis that the editors have placed on the clinical relevance of the material. The history of the subject is followed by a series of chapters on the origin of the electroretinograph and visual evoked cortical potential (VECP) components – for example, Karwowski and Kawasaki cover oscillatory potentials in three pages with 28 references.

The technical side of the discipline is fully addressed with valuable sections on equipment, data storage and analysis, and recording techniques – for example, Berninger and Arden cover the pattern electroretinogram, in eight pages with 65 references, with a combination of practical useful tips and a thorough theoretical analysis.

The basics of the electro-oculograph and the VECP are covered thoroughly, and there is a very interesting section, which illustrates the

editors' unblinkered view of their subject, covering psychophysical testing (dark adaptation, contrast sensitivity, visual acuity assessment, rod and cone perimetry) and fluorescein angiography.

The final 350 pages of the book are all of direct clinical relevance covering such diverse topics as cone dystrophies, malingering and hysteria, electroretinogram ratios in vascular occlusion and ischaemia, fundus flavimaculatus-like disease, electroretinograph detection of female carriers of X linked recessive retinitis pigmentosa, VECF in cortical blindness, flash VECF in developmental delay, to name but a few.

This is an excellent book. It achieves its editors' aim of providing 'an authoritative text' which would meet the needs of those working in clinical visual electrophysiology whether they be on the technical side or the clinical side of the discipline. As such it is destined to find its place as the standard reference on the subject in the departmental libraries, where it will be dipped into on occasion by the 'non-expert' also who wishes a quick update on 'blue cone monochromatism' etc.

JOHN DUDGEON

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NOTICES

European Strabismological Association

The 21st meeting of the European Strabismological Association will be held on 7-9 June 1993 at the Hotel Dorint, Salzburg, Austria. Further details: Dr H Thaller-Antlanger, LKA-Seherschule, Muellner Hauptstrasse 48, A-5020 Salzburg, Austria. (Tel: 0 66 2/44 82-37 50.)

IXth International Conference on AIDS

The IXth International Conference on AIDS in association with the IVth World Congress will be held on 7-11 June 1993 in Berlin, Germany. Further details: Conference Secretariat, Institute for Clinical and Experimental Virology, Free University of Berlin, Hindenburgdamm 27, D-1000 Berlin 45, Germany. (Tel: +49-30-798 36 87; Fax: +49-30-834-3061.)

Sport - the health challenges

A conference on sport - the health challenges will be held in association with the British Olympic Bid 2000 on 23-24 June 1993 at the

Manchester Conference Centre, UMIST, Sackville Street, Manchester M60 1QD. Further details: Miss Dawn Scanlan, Conference Department, The Royal Society of Health, 38A St George's Drive, London SW1V 4BH. (Tel: 071-630 0121; Fax: 071-976 6847.)

Allied Health Personnel - International Congress of Ophthalmology '94

The first Allied Health Personnel Conference will be held in conjunction with the XXVIIth International Congress of Ophthalmology on 26-30 June 1994 in Toronto, Canada. Further details: Congress Canada, 191 Niagara Street, Toronto, Canada M5V 1C9. (Tel: (416) 860-1772; Fax: (416) 860-0380.)

XXVIIth International Congress of Ophthalmology

The International Council of Ophthalmology will hold its XXVIIth Congress in Toronto, Canada on 26-30 June 1994. Further details: Secretariat, 275 Bay Street, Ottawa, Ontario, Canada K1R 5Z5. (Tel: (613) 563-1994; Fax: (613) 236-2727.)

Sixth International Conference on Behçet's Disease

The sixth international conference on Behçet's disease will be held on 30 June to 1 July 1993 in Paris, France. Further details: B Wechsler, Department of Internal Medicine, Pitié-Salpêtrière Hospital, 83 Bd de L'Hopital, 75013 Paris, Cedex 13, France. (Fax: 33 (1) 45 70 63 53.)

Office of Continuing Education

A conference on coordination and monitoring of clinical trials will be held on 8-9 July 1993 at the Thomas B Turner Building, Johns Hopkins Medical Institutions, Baltimore, Maryland, USA. Further details: Conference Coordinator, Johns Hopkins Medical Institutions, Office of Continuing Education, Turner Building, 720 Rutland Avenue, Baltimore, Maryland 21205-2195. (Tel: (410) 955-2959.)

Biomedical Optics Society

The International Symposium on Biomedical Optics Europe '93 will be held on 1-5 September 1993 at the Semmelweis Medical University, Budapest, Hungary. Further information: Direct Communications GmbH, Att Ms Karin Burger, Xantener Strasse 22, D-1000 Berlin 15, Germany. (Tel: ++49-30-881 50 47; Fax: ++49-30-882 20 28.)

Second World Association of Sarcoidosis and Other Granulomatous Disorders (WASOG)

The Second World Association of Sarcoidosis and Other Granulomatous Disorders (WASOG) meeting will be held in Los Angeles, California, USA, from 8-11 September 1993. The scientific sessions will be devoted to the epidemiology, genetics, immunopathogenesis, and clinical aspects of sarcoidosis and other granulomatous disorders. For further information: Dr Om P Sharma, Room 11-900, LAC/

USC Medical Center, 1200 N State Street, Los Angeles, CA 90033, USA (Tel: (213) 226-7923; Fax: (213) 226-2738.)

First International Ophthalmology Symposium

The first international symposium on ophthalmology will be held on 9-11 September 1993 at the Palais des Congrès, Bordeaux, France. The congress is organised by the Universities of Bordeaux and Miami, and the Bascom Eye Institute. For details: Mme D Pouvreau, BSC Palais des Congrès, 33300 Bordeaux-Lac, France. (Fax: (33) 56 43 17 76.)

Association for Eye Research

The Association for Eye Research will meet, jointly with the European Club for Ocular Fine Structure (ECOFS) in Granada, Spain, 15-18 September 1993. For further details: Professor Dr B Carreras, Local Organiser AER-93, Martinez Campos, 10-2A, 18005 Granada, Spain.

German Ophthalmological Society

The 91st meeting of the German Ophthalmological Society (DOG) will be held on 19-22 September, 1993, in Mannheim, Rosengarten, Friedrichsplatz, Germany. The topics include: laser in ophthalmology (especially laser and glaucoma, excimer laser); plastic surgery in ophthalmology; and cataract and intraocular lenses. Further details: Deutsche Ophthalmologische Gesellschaft (DOG), Im Neuenheimer Feld 400, 6900 Heidelberg, Germany. (Tel: 06221/41 1787; Fax: 06221 58 46 16.)

ECORA

The European Community Ophthalmic Research Association (ECORA) will hold its first scientific annual meeting in Bonn, Germany on 4-6 October 1993. For more details: Professor Dr M Spitznas, Universitäts-Augenklinik, Sigmund-Freud-Strasse 25, D-5300 Bonn 1, Germany.

Third International Symposium on Recent Developments in Immunopathology of Intraocular Inflammation

The third international symposium on recent developments in immunopathology of intraocular inflammation will be held in Miami, Florida, USA on 10-14 October 1993. Further details: Secretariat, Third International Eye Symposium, Department of Microbiology and Immunology, PO Box 106960 (R-138), Miami, FL 33101, USA. (Tel: (305) 547-6683; Fax: (305) 548-4623.)

American Academy of Optometry

The Ellerbrock Memorial Continuing Education Program will take place on 9-10 December 1993 at the Copley Connection, Boston Marriott/Weston Hotel, Copley Place, Boston, MA, USA. Further details: American Academy of Optometry, 4330 East West Highway, Suite 1117, Bethesda, MD 20814-4408. (Tel: (301) 718-6500.)