

Iris crystals in chronic iridocyclitis

EDITOR,—I read with interest the article by Lam *et al.*¹ They describe iris crystals and keratic precipitates in anterior uveitis without hypergammaglobulinaemia. However, they did not study the aqueous humour, which might have shown dysproteinhydria as described by Behrens-Baumann *et al.*² We studied crystalline deposits in the anterior chamber without iridocyclitis. Using two dimensional microthin layer chromatography, samples of aqueous humour revealed a protein of molecular weight about 110000 and an isoelectric point of 7–8 not seen in controls.

We suggest using electrophoresis of the aqueous humour to study the possible nature of the crystals seen on the iris and lens surface as well as retrocorneally.

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- Lam S, Tessler HH, Winchester K, van Hecke H, Lam BL. Iris crystals in chronic iridocyclitis. *Br J Ophthalmol* 1993; 77: 181–2.
- Behrens-Baumann W, Schott K, Vogel M, Neuhoff V, Langenbeck U, Demeler U. Hereditary ocular dysproteinhydria of the aqueous humor with crystalline deposits. *Graefes Arch Clin Exp Ophthalmol* 1984; 221: 187–91.

Reply

EDITOR,—I appreciate the comments made by Dr Behrens-Bauman regarding the use of chromatography to analyse the aqueous humour from eyes with iris crystals. However, some of the differences between our series of cases of crystalline deposits in the anterior chamber should be noted.^{1,2} The cases reported by Behrens-Bauman *et al.*¹ are familial and appear autosomal dominant, whereas the cases reported by us are associated with chronic iridocyclitis.² Furthermore, in the cases reported by Behrens-Bauman *et al.*, the crystalline deposits are present on the corneal endothelium and the anterior surface of the lens capsule, whereas in our cases, the crystalline deposits are in the iris stroma.² In addition, we have previously reported that hypergammaglobulinaemia may be present in some of the cases of iris crystals.^{2,3} However, Behrens-Bauman *et al.*¹ did not describe any serological abnormalities in their cases.

It is intriguing to think that there may be a common pathogenetic pathway in all these cases, leading to the formation of crystalline deposits in the anterior chamber. Although analysis of the aqueous humour was not performed in our report, I agree with Behrens-Bauman that it is possible that dysproteinhydria may be present in some of our cases. I am grateful that Behrens-Bauman has pointed out a laboratory method to further our understanding of the iris crystals in the future.

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- Behrens-Bauman W, Schott K, Vogel M, Neuhoff V, Langenbeck U, Demeler U. Hereditary ocular dysproteinhydria of the aqueous humor with crystalline deposits. *Graefes Arch Clin Exp Ophthalmol* 1984; 221: 187–91.
- Lam S, Tessler HH, Winchester K, van Hecke H, Lam BL. Iris crystals in chronic iridocyclitis. *Br J Ophthalmol* 1993; 77: 181–2.
- Lam S, Tessler HH. Iris crystals and hypergammaglobulinemia. *Am J Ophthalmol* 1990; 110: 440–1.

BOOK
REVIEWS

Developments in Ophthalmopathy. Volume 25. Endocrine Ophthalmopathy, Molecular, Immunological and Clinical Aspects. Edited by George Kahaly. Pp 154. \$144. Basel: S Karger, 1993.

This book provides expert opinions on many aspects of Graves' ophthalmopathy (GO), encompassing recent data on immunogenetics, immunopathogenesis, diagnosis, and treatment. The 16 chapters are written by well known scientists, based on their presentations at an international symposium on GO in Mainz in 1992. There has been a surge of interest in this fascinating disease, probably related to its largely unexplained immunopathogenesis and the difficult management of patients with severe eye disease. Comprehensive reviews on GO have been published in several major journals in the last few years, but the major attraction of this book is derived from the combination of recent clinical and fundamental data. It allows the reader to get a glimpse at the cutting edge where progress will be made.

A nice section on retrobulbar histology and immunohistochemistry describes the fact that antigen presenting cells are the most prevalent immunocompetent cells in the orbit, and that these macrophages are most abundant in the medial and inferior recti. The emerging concept that T cells sensitised to orbital antigens might play a central role, is elegantly presented; the local release of cytokines may activate fibroblasts. The debate on the primary target cell of the autoimmune attack is going on; the balance appears to shift away from the eye muscles towards the connective tissue. Current knowledge does not favour a primary role of autoantibodies in the immunopathogenesis. Volpé describes the arguments for and against the view that the thyroid and the eye disease are different expressions of the same disease entity. Other chapters describe the benefits of immunosuppression and retrobulbar radiotherapy, which probably are restricted to patients with active eye disease. Finally, a report is given of the endonasal approach in orbital decompression.

The book can be recommended to those with a strong interest in this disease, and may serve to delineate areas of future research.

W M WIERSINGA

Orbital Tumors. 3rd ed. By John W Henderson in collaboration with R J Campbell, G M Farrow, J A Garrity. Pp 462. \$164. New York: Raven Press, 1994.

The third edition of Dr John Henderson's classic text about orbital tumours will be eagerly welcomed by ophthalmic surgeons with an interest in orbital diseases. Since publication of the second edition in 1981, there have been many changes in the diagnosis and treatment of orbital diseases and Henderson, in reporting these changes, has been joined by colleagues from the Mayo Clinic.

The text considers orbital tumours in the broadest sense of the term, with neoplastic, inflammatory, and infiltrative lesions being

included. Each chapter covers the clinical presentation, radiology, and pathology of the various conditions and also includes a comprehensive selection of references up to about 1990.

The management presented is very much a practical approach based upon many years of experience; this is particularly reflected in their recommendations for the use of fine needle aspiration biopsy within the orbit. Some of the treatments advocated may be considered controversial – as in the use of anterolateral orbitotomy with malignant lacrimal gland tumours, where breach of the bone may actually predispose to intradiploic tumour seeding; it must be recognised, however, that the optimal management of many such orbital diseases is subjective and unresolved.

Imaging of orbital diseases is well presented, although the quality and use of magnetic resonance imaging has markedly progressed since the writing of this section of the text. The basic principles of orbital surgery are covered in a chapter that is well illustrated with line diagrams.

The quality of the printing, binding, and illustrations is excellent, there being only very few minor errors in the illustrations. This is, therefore, a most welcome return of a classic text on orbital disease, which presents an up to date review of the subject; it is to be strongly recommended to all surgeons and physicians who care for patients with this group of conditions.

GEOFFREY E ROSE

Visual Search 2. Edited by D Brogan, A Gale, K Carr. Pp 477. £55. London: Taylor and Francis, 1993.

This is the second volume in a series reporting the proceedings of biennial international conferences on visual search. These conferences are clearly *sans frontiers*, spanning the whole spectrum of visual search research. The present volume has six sections dealing with modelling, feature discrimination, eye movements, visual processing, interpretation of medical images, and other applied aspects of visual search.

Like most conference proceedings, this book makes few concessions to a reader with a casual interest in the subject. On the other hand, it does provide a representative cross section of the research that is currently being carried out, and subsequent volumes in the series often provide updates on specific projects; anyone involved in visual search will almost certainly find something here which is relevant to them. Also included are two longer chapters, covering keynote lectures, which provide comprehensive reviews in their respective areas, one theoretical and one applied.

The first, by J Beck, discusses different models of visual processing underlying texture segregation, which is an important aspect of a visual array for cueing the recognition of a target in a visual search task. Specifying the attributes of an array which give rise to texture segregation has proved difficult and, instead, Beck characterises the aspects of visual processing which may underlie it. Evidence for segregation through familiar spatial frequency channels (for example, by contrast, orientation, and size) and through preattentive grouping processes (for example, by edge alignment and lightness differences) is reviewed. A third process is postulated for situations in which segregation is specified by orientation differences of quasi three dimensional subunits such as orthogonally projected cubes, but where the

orientation of edges (that is, the outline shape) defining the units remains constant. The orientation of these quasi three dimensional units is specified by lightness differences between the 'faces' of each unit. In this way this third process, which is based on the interpretation of projected shapes, is allied to grouping processes. However, it appears to require a greater focus of attention.

The second chapter, by L Stark and colleagues, describes experiments which attempt to characterise patterns of visual search and search strategies. For many years this field of research has been important for military and surveillance applications and man-machine interfaces. In contrast to Beck's emphasis on early visual processing, Stark *et al* argue that cognitive factors in search tasks may be more important than the specific conditions of viewing or the characteristics of particular images. This hypothesis was investigated by comparing visual search strategies for randomly distributed targets in two dimensional landscape displays with those observed when targets were distributed in meaningful locations in similar displays viewed more naturalistically – that is, stereoscopically. Search strategies for the two types of display differed dramatically. When targets were distributed randomly, visual search ranged methodically over the image and performance was determined by traditional image characteristics of clutter, contrast, etc. For meaningfully located targets viewed stereoscopically, search strategies were apparently dependent on cognitive models of the spatial distribution of targets in the scene, with eye movements concentrated around the natural features of the image such as roads, houses and landscape contours; as might be expected in a cognitive task, search performance improved through learning and with familiarisation with the images. That there are differences between the two types of display is perhaps not surprising, but the contrast which Stark *et al* portray highlights the dubious relevance of detailed visual processing models in many applied situations.

The book concludes with a summary of what appears to have been a rather anarchic workshop session. Contradictions, inadequacies of models, and assumptions in several areas were discussed; these included the field of attention, the postulated guidance role of peripheral vision during visual search, the validity of using eye position data as markers of the site of information gathering and of the duration of a fixation as a measure of information processing load. Did this debate expose some disillusionment with the inability to forge common ground between theoretical and applied aspects of visual search research? Possibly so, but it seems clear that those attending the conference remain excited by the challenge.

BARNABY REEVES

NOTICES

MSc/Membership Course in Ophthalmology, University of Bristol at Bristol Eye Hospital

Applications are invited for a course in ophthalmology for the degree of MSc by advanced study in research over three academic terms. A short 6 month course is available in preparation

for the membership of the Royal College of Ophthalmology. For details: Professor D L Easty, Department of Ophthalmology, Bristol Eye Hospital, Lower Maudlin Street, Bristol BS1 2LX, England.

Traumatic Optic Neuropathy – Clinical Trial

A clinical trial to study traumatic optic neuropathy is to take place randomising to megadose steroids alone v megadose steroids with extracranial optic nerve decompression. For details: Michael P Joseph, MD, Massachusetts Eye and Ear Infirmary, 243 Charles St, Boston, MA, 02114, USA. (Tel: 617-573-3192; Fax: 617-573-3914.)

XIIIth Congress of the International Society of Geographical Ophthalmology

The XIIIth Congress of the International Society of Geographical Ophthalmology will be held on 1 and 2 July 1994 at the Queen Elizabeth Hotel, Montreal, Canada. Further details: Professor Gordon Johnson, Secretary, ISGO, International Centre for Eye Health, 11-43 Bath Street, London EC1V 9EL. (Tel: (71) 608 6907; Fax: (71) 250 3207.)

International Symposium on Optics, Imaging, and Instrumentation

An international symposium on optics, imaging, and instrumentation will be held on 24-29 July 1994 at the San Diego Convention Center and Marriott Hotel and Marina, San Diego, CA, USA. Further details: SPIE, PO Box 10, Bellingham, WA 98227-0010, USA. (Tel: 206/676-3290.)

American Academy of Ophthalmology

The third annual summer institute will be held the weekend of 5-7 August 1994, in Seattle, Washington at the Sheraton Seattle Hotel and Towers. Further details: Sarah Samuels, American Academy of Ophthalmology, 655 Beach Street, San Francisco, CA 94109-1336, USA. (Tel: (415) 561-8515.)

Welsh Cataract Congress 1994

The Welsh Cataract Congress 1994 will be held on 8-10 September 1994. Details from: Eula Mae Childs, coordinator, Cullen Eye Institute, Baylor College of Medicine, 6501 Fannin, NC200, Houston, TX 77030, USA. (Tel: (713) 798-5941; Fax: (713) 798-4364.)

Frontiers in Penetrating Keratoplasty

The German Ophthalmological Society will hold an international symposium on 'Frontiers in penetrating keratoplasty' on 22-24 September 1994 in Heidelberg, Germany. Further details: Prof Dr R Sundmacher, University Eye Hospital, Moorenstrasse 5, 40225 Düsseldorf, Germany.

Screening for diabetic retinopathy in Europe: four years since the London protocols

Protocols to screen for and treat diabetic retinopathy were agreed upon on 9-10 October

1990 in London, as a step towards implementing the Saint Vincent Declaration and, in particular, its target of reducing new blindness due to diabetes by one third or more in the next five years. These protocols have been widely distributed with the help of the European Office of the World Health Organisation, the European Region of the International Diabetes Federation and the European Association for the Study of Diabetes. Time is about ripe to assess how much work has been done and to decide whether the protocols need to be updated or modified.

A new meeting is being organised for this purpose. It will be held on 25-26 September 1994 in Turin, Italy, as a satellite event to the 30th annual meeting of the EASD and will be organised jointly by the Working Group on Blindness of the WHO/IDF Saint Vincent Declaration Initiative and the Study Group on Eye Complications of the EASD (EASDEC). Further details: Massimo Porta, MD, PhD, Istituto di Medicina Interna, Università di Torino, Corso AM Dogliotti 14, I-10126 Torino, Italy. (Tel: +39 11 6635318; Fax: +39 11 6634751.)

British and Eire Association of Vitreo-Retinal Surgeons

The next meeting of the British and Eire Association of Vitreo-Retinal Surgeons (BEAVRS) will be held at the Marriott Hotel, Bristol, on 20-21 October 1994. Further details: Mr R H B Grey, Bristol Eye Hospital, Lower Maudlin Street, Bristol BS1 2LX. (Tel: 0272-230060; Fax: 0272-284686.)

Third International Symposium on Ocular Inflammation

The 3rd international symposium on ocular inflammation will be held on 22-25 October 1994 in Fukuoka, Japan. Further details: Registration Secretary, c/o JTB Communications Inc, New Kyoto Center Building, 5F, Shiokoji, Shinmachi, Shimogyo-ku Kyoto 600, Japan.

The First Asia-Pacific Symposium on Visual Sciences

The First Asia-Pacific Symposium on Visual Sciences (1st APS-VS) will be held in Guangzhou, China, on 2-5 November 1994. It is also a satellite symposium for the Third Congress of the Federation of Asian and Oceanian Physiological Societies. For further details: Professor De-Zheng Wu, Eye Research Institute, Zhongshan Ophthalmic Center, Sun Yat-Sen University of Medical Sciences, 54 Xianlie Road, Guangzhou 510060, PR China. (Tel: +86-20-777 3370; Fax: +86-20-777 5271.)

International Society for Clinical Electrophysiology of Vision

The 33rd ISCEV symposium will be held in Athens, Greece, 16-20 June 1995. The congress is organised by the International Society for Clinical Electrophysiology of Vision. Further details: Secretariat, Erasmus Conference Centre, International Congress Organisers, 227 Kifissias Ave, 145 61 Kifissia, Greece. (Tel: (01) 6125022/3, 8054004; Fax: (01) 6125021.)