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 hypergammaglobinaemia. 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 110 000 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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1 Lam S, Tessler HH, Winchester K, van Hecke H, Lam BL. Iris crystals in chronic iridocyclitis. *Br J Ophthalmol* 1993; 77: 181–2.
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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1 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* 1948; 221: 187–91.
2 Lam S, Tessler HH, Winchester K, van Hecke H, Lam BL. Iris crystals in chronic iridocyclitis. *Br J Ophthalmol* 1993; 77: 181–2.
3 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 frontieres*, 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