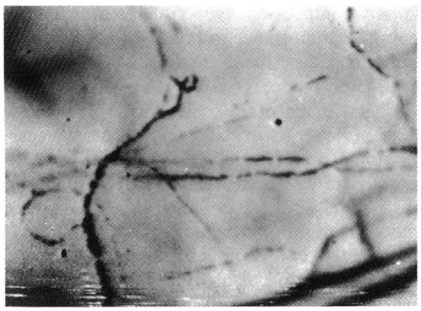

Figure 1 Conjunctival capillary vessels (magnification ×100) showing the segmentation plasma versus corpuscular formation.

angiographic observations we conclude segmentation in the fluorescence intensity corresponds to segments of erythrocytes and cell-free plasma. The figures of Ben-nun and Constable do not necessarily contradict our assumption. The segmentation of fluorescence intensity seems to correspond to packed cells. The interpretation of the postmortem findings could be clarified if the illumination was changed from white to green light. With green light illumination the contrast between red blood cells and plasma is best, owing to the maximum of absorption of haemoglobin.

The fluorescent blood cell angiography mentioned is very interesting. Those findings may clarify the interpretation of our report. Recently Tanaka *et al*[3] observed fluorescent dots in perifoveal capillaries. They proposed that these dots correspond to leucocytes and platelets in the circulating blood. We do not agree with their conclusion. They are using the automatic gain control in the set-up of the scanning laser ophthalmoscope which leads to decreased signal/noise ratio.

In conclusion, we think that our interpretation of the observed phenomenon (Fig 2) seems

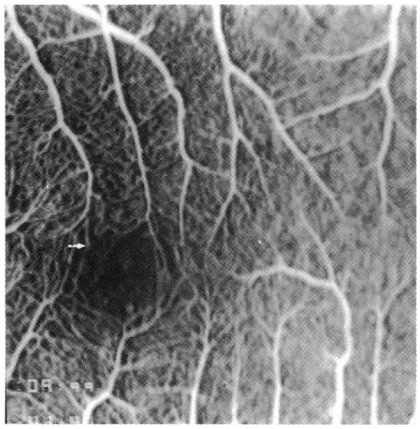

Figure 2 Perifoveal capillary network with hyperfluorescent gap (arrow) in macular capillary (modified from Wolf et al).

to be acceptable. In addition until now our method is the only one that measures flow velocities and morphological parameters in the perifoveal capillaries objectively.

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Periorbital necrobiosis lipoidica

SIR,—I read with interest the case reported by Mr Lavy and colleagues.[1] An important differential and possible alternative diagnosis to that suggested which does not appear to have been considered is that of necrobiotic xanthogranuloma (NXG). This now well described condition is a non-X histiocytic disease characterised by a conspicuous dermatosis with a particular predilection for the periorbital tissues. Prior to its description in 1980 by Kossard and Winkelmann,[2] it had previously been described in a variety of ways including atypical necrobiosis lipoidica.

As in the case discussed NXG presents with painless non-pruritic papules that progress to nodules and plaques which may vary in appearance but usually have a xanthomatous element. These lesions may remain subclinical for extended periods but can pursue an aggressive course with recurrent severe ulceration of the skin lesions. These usually have pronounced telangiectasis in the ulcerative phase.

The importance of this alternative diagnosis is that NXG is invariably associated with a dysproteinaemia, usually a monoclonal paraproteinaemia of the IgG class. This may follow a benign course but malignancies, typically multiple myeloma and chronic lymphatic leukaemia, may develop. The lesions may also involve the orbit posing a potential threat to vision.[3,4]

The histopathological findings in the case described could be consistent with a diagnosis of NXG. The features found in NXG of a non-specific lymphocytic and plasma cellular infiltrate with palisading granuloma formation, together with areas of collagen necrobiosis and giant cell formation are similar to the biopsy illustrated. More specific features of NXG would be xanthogranulomatous panniculitis, and distinct palisading cholesterol cleft formation.

In view of this, further investigation of this patient that may be warranted would include serum protein and lipoprotein electrophoresis, urinalysis for Bence-Jones protein, and a computed tomographic scan of the orbits to rule out any intraorbital pathology. Other less consistent findings in NXG that may be of limited value are a cryoglobulinaemia, a positive rheumatoid factor, depressed serum complement levels, and a reduced level of C1 esterase inhibitor. (If a review of the histology were carried out monoclonal antibody studies may identify the presence of T-helper cells within the granulomas which has been described in NXG.[5])

The increasing recognition of NXG as a specific clinicopathological entity with serious systemic associations means that this diagnosis must be considered in any case of a necrobiotic process affecting the periorbital region.

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Reply

SIR,—I note with interest Mr Luck's suggestion that a diagnosis of necrobiotic xanthogranuloma should be included. This is a condition that I was not previously familiar with and I am grateful to him for drawing my attention to it.

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BOOK REVIEWS

Graves' Ophthalmopathy: Current issues in endocrinology and metabolism. Eds Jack R Wall and Jacques How. Pp 196. £45.00. Blackwell: Oxford, 1991.

In 1989 the first international meeting devoted to thyroid eye disease was held in Montreal. In addition to endocrinologists and ophthalmologists there were immunologists, pathologists, radiotherapists, otolaryngologists and oculoplastic surgeons, geneticists, biochemists, and statisticians.

Despite such an array of expertise the first 78 pages, which are devoted to trying to expound the pathological processes, are far from conclusive. Autoantibodies to eye muscle can be demonstrated, but they show incomplete specificity, with some cross reactivity with diaphragm muscle and with thyroid antigens. Connective tissue antibodies and cell mediated immunity are also considered. Wall proposes a working hypothesis that Graves' ophthalmopathy follows the reaction of a primarily thyroid-directed cytotoxic antibody with an antigen present on the surface of the eye muscle membrane. Studies of T-lymphocyte reactivity to retrobulbar antigens is emerging as one of the key areas. However, the very protracted natural history of the condition and the problem of unilaterality of the proptosis in many patients are questions that will have to be answered by any proposed pathogenic mechanism.

The remaining 109 pages cover the problems of clinical management. Unfortunately there is still no universally agreed scheme to describe the various forms and levels of involvement of the eye and orbit in this condition. There is a useful chapter on the structure and mode of action of cyclosporin, but another chapter is given over to plasmapheresis, though most workers have abandoned this as a mode of treatment.

The long term follow-up of patients treated by orbital radiotherapy at Stanford under the direction of the late J P Kriss confirms the value of 2000 cGy of megavoltage irradiation in fractionated doses over a two-week period. Recent results from (West) Germany claim

equal effectiveness for 'low dose radiotherapy' of only 6–8 cGy in total. Several of the workers comment on the active phase of Graves' ophthalmopathy and on the improved chances of therapeutic success during this period of the disease. Furthermore, many of them consider either combined or sequential therapy with prednisolone as the linchpin and cyclosporin or radiotherapy to be used additionally.

Finally, surgery is discussed and the various routes for orbital decompression, usually two or sometimes three wall decompression, are described. Surprisingly there is no detailed discussion of what is probably the most common surgical procedure in Graves' ophthalmopathy, namely ocular muscle surgery for diplopia. Eyelid operations, to reduce retraction of either the upper or the lower eyelids, are described.

Just as the combined activity of endocrinologist and ophthalmologist gives best treatment for the patient, so a meeting of this type which includes immunologists and biochemists should ensure that at least the correct questions are being asked with regard to the aetiology of this enigmatic condition. The inevitable unevenness of the contributions must not be allowed to detract from the value and purpose of a meeting on such an important topic. Each chapter is well referenced and provides continuing stimulation for all types of workers who are seeking solutions in this fascinating condition.

PETER FELLS

History of Ophthalmology 3: Sub auspiciis Academiae Ophthalmologicae Internationalis. Eds H E Henkes, Cl Zrenner. Pp 150. £61. Kluwer: Dordrecht, Netherlands, 1990.

Ophthalmology sadly lacks any magisterial record of its history. This is a subject of wide (and increasing) general interest, but the problems of amalgamating, interrelating, and balancing are enormous. The field is vast enough, but the real difficulties arise as we approach the last century when the narrative becomes so complex that it must fragment into subspecialties and take account of national schools (with constant proliferation in both fields); this almost inevitably calls for multiple authorship, leading to overlap, gaps, and imbalance in style and presentation. So one easily finishes up with an indigestible hotchpotch, punctuated by tedious catalogues of names.

In many respects the greatest mine of information on our earlier history is still to be found in Casey Wood's *American Encyclopedia of Ophthalmology* (1917), which is interspersed with extensive historical sections compiled by Shastid, albeit in a rather ruminative, avuncular style. Then in 1933 came a concise but very readable *Short History of Ophthalmology* by Sorsby, and thereafter, in 1962, a rather more turgid paperback in the 'Clio Medica' series by Chance; the latest is a rather ponderous survey by Gorin (1982), which was largely regimented in terms of the different national institutions.

When the International Academy of Ophthalmology was founded by François in 1960 (as the academic counterpart of the International Council of Ophthalmology), one of its first aims lay in preparing a comprehensive and authoritative history of our specialty. One volume was planned to cover its evolution up till 1850, then one covering each subspecialty in the years that followed, and a final volume dealing with each national school, along with short biographies of the more distinguished participants. When this plan foundered, Blodi (then our President) undertook to translate the historical sections of Hirschberg's monumental ten-volume series which covered the period until 1918, and of this eleven handsome volumes in English are now available. Meanwhile a surrogate was proposed in a different form by Henkes, who arranged for the Documenta Ophthalmica to relegate one of its monthly volumes each year to our International Academy for a collection of historical essays which he would edit. The first emerged in 1988, and this latest, third volume, certainly sustains the high standard of its predecessors, covering an agreeable diversity of aspects (art, literature, biography, and philosophy) punctuating the long history of our specialty.

P D TREVOR-ROPER

Oncology of the Eye and Adnexa: Atlas of Clinical Pathology. By A Brini, P Dhermy, J Sahel. Pp 154. £110.00. Kluwer: Dordrecht, The Netherlands, 1990.

This book is one of a series of monographs in ophthalmology published by Kluwer. It runs to 154 pages, half of which are devoted to a series of some 380 illustrations, the vast majority in excellent colour. The illustrations depict the clinical and histological appearance of most of the tumours of the eye and adnexa likely to be met by a practising ophthalmologist. The subject matter is dealt with from the eyelids and conjunctiva, through tumours of the orbit and orbitopalpebral tissues, to intraocular tumours involving the uvea, and finally the retina and optic disc. The text itself is unusual in that it is trilingual, each page of text being arranged in three columns: the first in English, the second in French, and the third in German. Each page of text is faced by a page on which are arranged six illustrations occupying the upper half of the page, while the lower half is devoted to useful and informative captions, again in the three languages arranged similarly in three vertical columns.

The authors' main aim spelt out in the introduction is the production of a practical reference manual for the practising ophthalmologist giving rapid access to the clinical and pathological features of tumours of the eye and adnexa and in this they succeed admirably. They have successfully married the clinical and pathological features of the tumours described both in the text and in the illustrations and it is likely that the book will, as the authors hope, be of value to pathologists and dermatologists in addition to ophthalmologists.

Criticisms are relatively minor, perhaps the most important being the small size of the illustrations necessitated by the need to compress a large number of illustrations into small bulk and the need to accommodate a trilingual text. Most of the clinical pictures are of good quality and reproduction of the histological sections is also good although at times a larger format or higher magnification would have been helpful if details described in the text were to be easily identified in the pictures.

The English text is a little stilted and there are a fair number of grammatical errors. These however do not compromise the meaning of the text nor do they detract greatly from the value of the book.

Because this is basically an atlas the text is greatly compressed. Nevertheless most of the points of importance in relation to each of the tumours described and illustrated are adequately made. No attempt however is made to deal with any of the basic aspects of oncology (except rather superficially in the case of retinoblastoma) and, although an indication of prognosis is given in each case, treatment is not discussed. There is a short appendix giving guidance to the ophthalmologist on how best to prepare an eye or a biopsy for pathological examination and also some guidance for the pathologist on how best to process an enucleated eye for satisfactory histological examination. Finally the book details the staining methods used for the illustrated histological preparations.

Within the rather restricted aims set by the authors this book successfully and succinctly presents a great deal of information about the clinical appearances and pathological features of most of the ophthalmic tumours likely to be met in clinical practice. The book would form an excellent revision text for those preparing for examinations in either ophthalmology or pathology and it can be recommended to both ophthalmologists and pathologists as a rapid source of information on ocular and adnexal tumours.

The large number of excellent colour illustrations is reflected in the price.

W S FOULDS

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NOTES

American Academy of Optometry

The annual meeting of the American Academy of Optometry will be held on 12–14 December 1992 at the Buena Vista Palace in Orlando, Florida, USA. The deadline for the submission of abstracts in printed form is 17 August and by electronic mail 24 August. Further details: Program Committee, American Academy of Optometry, 4330 East-West Highway, Suite 1117, Bethesda, MD 20814, USA.

American Academy of Ophthalmology

A 10 year cumulative index is now available for the publication *Focal points: clinical modules for ophthalmologists*, produced by the American Academy of Ophthalmologists. The following modules are being prepared for this tenth anniversary year: Corneal complications of contact lenses; Radial keratotomy for myopia; Periorbital animal bites; Cyclodestructive procedures for glaucoma; and Infectious keratitis. An annual subscription is $85 for academy members and $110 for non-members. Further details from: Customer Service, American Academy of Ophthalmology, PO Box 7424, San Francisco, CA 94120–7424, USA. (Tel: (415) 561–8540.)