In search of intraocular antibody production to parvo B19 virus and adenovirus in intermediate uveitis

EDITOR,—In the majority of patients with intermediate uveitis the aetiology of ocular inflammation remains unknown. Some cases are associated with systemic diseases, such as sarcoidosis or multiple sclerosis. There is also evidence that viral infections are involved in the pathogenesis of intermediate uveitis. In patients with multiple sclerosis and uveitis, an increased intraocular antibody production to measles virus has been observed[1] and intermediate uveitis during an acute Epstein-Barr virus infection has been reported.[2] There has also been speculation that parvo B19 virus and adenovirus might be involved in the pathogenesis of intermediate uveitis.[3] Infections with parvoviruses occur worldwide with 40–60% of adults showing evidence of previous infection. Parvovirus is associated with erythema infectiosum (fifth disease) and a wide variety of other syndromes such as polyarthritis, vasculitis, and neurological syndromes, but an infection may also occur without any symptoms.[4] An indication for parvo B19 virus involvement in ocular inflammation is a case report of a patient with bilateral uveitis during an acute parvovirus infection.[5] Adenoviruses also occur frequently in the community. Of the respiratory viruses, adenoviruses cause the widest variety of illnesses, but in half of the cases the disease is asymptomatic. Ocular syndromes, caused by adenovirus infections are epidemic keratoconjunctivitis and acute haemorrhagic conjunctivitis, sometimes accompanied by a mild anterior uveitis.[6]

To investigate whether parvo B19 virus and adenovirus are involved in the pathogenesis of intermediate uveitis sera of patients with intermediate uveitis, and no evidence of other associated diseases, were tested for the presence of specific IgG antibodies to parvo B19 virus (18 sera) and adenovirus (10 sera). The ocular disease existed for at least 1 year. Subsequently, the ocular fluids of patients with circulating antiviral antibodies were tested for the presence of specific antibodies. The ocular fluid samples had been collected for other diagnostic reasons. The antiviral antibodies were detected with specific enzyme linked immunosorbent assays (Parvovirus IgG ELISA: Progen, Germany; Adenovirus ELISA: Virotech, Germany).

Six of the 18 sera (33%) were positive for IgG antibodies to parvovirus and nine of the 10 patients (90%) were positive for antibodies to adenovirus indicating previous contact with these viruses. Vitreous fluid (n=2) and aqueous humour (n=4) of the six patients positive for parvovirus in serum and vitreous fluid samples of two patients negative for parvovirus in serum were tested for antiparvoviral antibodies. Three of the serum positive patients (50%) had antiparvovirus antibodies in their ocular fluid, whereas the two controls were negative. To detect whether these patients had intraocular antibody production to parvovirus or whether the presence of these antibodies is due to an increased permeability of the blood-ocular barrier, the specific antibody titres were compared with the total IgG in ocular fluid and serum by calculation of the Goldmann-Witmer coefficient. A Goldmann-Witmer coefficient >3 is considered to be positive but none of the three patients reached this level for parvovirus. Six aqueous humour samples of patients positive for adenovirus in serum were tested for antiadenovirus antibodies in aqueous humour but none of the ocular samples were positive.

The majority of the patients we investigated had serological evidence of a previous adenovirus infection and one third of the patients of a previous parvovirus infection, but none of the patients tested had signs of an intraocular infection with either of these viruses. Therefore, there was no evidence in the chronic stage of intermediate uveitis that parvo B19 virus or adenovirus infections were commonly involved in the pathogenesis of this inflammatory eye disease.

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5 Corridan PGJ, Laws DE, Morrell AJ, Murray PI. Tonic pupils and human parvovirus (B19) infection. *J Clin Neuro-ophthalmol* 1991; **11**: 109–10.
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BOOK REVIEWS

Surgical Anatomy of the Face. By Wayne Larrabee Jr, Kathleen H Makielski. Pp 236. $181.50. New York: Raven Press, 1992.

This book deals in a very specialised manner with the cosmetic aspects of this topic. The illustrations and artwork make an immediate impact; they are of interest as one of the main authors is the artist involved, and they reflect a very stylised approach to both exact and surface anatomy. The reproduction of these illustrations is excellent and consistent with the very high standard expected and set by this particular publisher. The two main authors enlist only a further three specialists for assistance, and therefore the style and concept established by them is maintained, making the reading of the accompanying text very straightforward – unlike many multi-author texts.

The book is quite distinctively designed for a cosmetically oriented surgical market and practice. It deals in turn quite specifically with the varying racial types that surgeons with a mixed practice would encounter and examines nuances of skin, muscle, and bone.

The surgical disciplines which will benefit from this particular anatomical text are that of maxillofacial, otolaryngology, and ophthalmic plastic surgery, and as an adjunct to surgical text in these disciplines, it is of excellent value. The relative anatomy is not particularly detailed in this book, but seems to reflect a 'need to know' principle. As a review of cadaveric prosections in these disciplines, the text is excellent, and deals well with the superficial anatomy in great detail.

This textbook, I fear, is not one for the beginner, but is an excellent addition to surgical texts, particularly for those surgeons dealing with a large cosmetic or reconstructive practice. In this regard there are very few books that deal with this form of comparative anatomy, and at this excellent level of illustration. These alone make the book good value for money.

I recommend, however, that this book should not be used alone!

EWAN G KEMP

Magnetic Resonance Imaging and Computed Tomography: Clinical Neuro-orbital Anatomy. By J D Wirtschafter, E L Berman, C S McDonald. Pp 196. San Francisco: American Academy of Ophthalmology, 1992.

This book provides an imaging anatomical atlas of the orbit and those parts of the brain relevant to ophthalmology using magnetic resonance (MR) and computed tomography (CT) images.

The first chapter, which takes up one quarter of the whole book, deals with the basics of MR and CT imaging. The description of MR, like those which seem to appear in all imaging texts mentioning MR, struggles between coverage of the subject and brevity and would, I think, confuse the uninitiated and does not contribute to the subject matter of the book. The emphasis on MR compared with CT in this chapter (37 compared with 5½ pages) is reflected in the rest of the book.

The other chapters consist of approximately 140 annotated MR and CT images of normal anatomy accompanied by a short explanatory text. The image quality is good and the annotation clear. The index is comprehensive and easy to use. A short self-assessment examination completes the book.

This book may be of occasional use to the radiologist in training though current imaging atlases cover most of the areas studied. The ophthalmologist may find the book helpful in providing an illustration of current imaging possibilities.

OLIVE ROBB

Pre- and Postoperative Care of the Cataract Patient. By Paul C Ajamian. Pp 134. £35. Boston: Butterworth-Heinemann, 1993.

This book, by Paul Ajamian, a professor of optometry who works in Atlanta, Georgia, is primarily aimed at American optometrists. It is intended to inform them about the current status of cataract surgery and to equip them to monitor patients up to the time they require surgery and to follow their postoperative period after the cataract has been removed. It achieves this aim in a wholly satisfactory manner.

He begins with an overview of cataract which contains some very clear descriptions and illustrations of the different types of cataract an optometrist is likely to come across. This section is very comprehensive.

He then works through the preoperative evaluation in which he sets out the features within the case history that would indicate that the time for cataract surgery had arrived. Again this section is characterised by his comprehensive style. He not only includes very occasionally used devices, but also takes pains to explain that such devices are only rarely used and a reader of this section has no difficulty understanding what the common and routine examinations are, and what examinations may be peculiar only to a few surgeons or a few research centres. This clarity is a feature of the book throughout and there is therefore little

possibility of a reader developing an imprecise understanding of current cataract management.

A particularly useful section is found in chapter 3 where he gives advice on how an optometrist should choose the surgeon to whom he would refer the patient. These guidelines are impressively accurate and show that Dr Ajamian has a very wide clinical experience and that his knowledge and understanding is very up to date.

The actual surgery itself is treated in very great detail. Intracapsular surgery is included but the author makes it clear that this is purely for historical reasons. Although the planned extracapsular cataract extraction section is very enlightening, most of the emphasis is placed on the phakoemulsification. Considerable discussion is given to the advantages of wound construction and the non-astigmatogenicity of the smallest incisions. Capsularhexis too is given its rightful place within these discussions.

Extensive coverage is given to the different types of intraocular implants and their advantages. Perioperative complications are discussed and there are some highly informative colour illustrations. The postoperative evaluation of the patient is treated in very considerable detail as is consistent with the rest of the book. The different rates of recovery in small and full incision cataract surgery are discussed and the expected astigmatism, or lack of it, evaluated.

Again complications are comprehensively covered. Dr Ajamian goes beyond merely listing these complications but also discusses their management in very accurate detail. Late complications are also treated in his exceptionally clear style and advice is given on such matters as intraocular pressure management and suture removal.

I would regard this book as imperative reading for all non-ophthalmologists engaged in the care of patients with cataract. Although the book is aimed at optometrists, ophthalmic nurses would derive great knowledge from reading it. Another group who would find this book extremely useful are purchasers – that is, either general practice fundholders or district health authorities. The breadth of knowledge that this book would give them would allow them to make very informed decisions about the quality of care to be expected in this day and age for the cataract patient. The book is remarkably up to date and incredibly easy to read, even through the more weightier sections. However, despite this, I do not feel it would be suitable reading material for patients themselves.

JOHN BOLGER

Textbook of Ophthalmology. Vol 4. Orbit and Oculoplastics. Edited by S M Podos, M Yanoff. Pp 208. $106.50. London: Gower Medical Publishing, 1993.

This book is one of a series of volumes attempting to integrate basic science and clinical practice in each of the ophthalmic subspecialties. Each chapter is written by a different author, covering a different problem – lid retraction, ectropion, orbital fractures, etc, and, as may be expected, the quality of the individual chapters varies considerably, principally in the detail with which surgical procedures are described, the indication for a given operation, and the management of complications, all of which are of critical importance to the surgeon wishing to extend his repertoire.

As an example, there is an extremely well written chapter on enucleation, evisceration, and problems of the anophthalmic socket, covering this important but often neglected aspect of oculoplastics in a logical and detailed fashion which would permit the most common problems to be tackled using the information presented in this chapter alone.

In contrast, the chapter on ptosis was disappointingly brief, most of the chapter devoted to a description of the causes of ptosis but then only describing frontalis suspension and anterior levator resection for the management. Little detail was given to the management of overcorrection and, while the author recommended the use of autogenous fascia lata for brow suspension, he gives no details as to how this should be harvested.

The section on entropion includes a lucid account of the mechanisms contributing to senile entropion, but then, despite the numerous operations available, suggests a rather lengthy procedure correcting horizontal lid laxity, orbital fat prolapse, and lower lid retractor disinsertion as the standard operation to be used. Although it would be likely to give good results, it may be unnecessarily complex for the majority of cases of this common condition. Assessment of which mechanisms are prominent in causing the entropion in each particular case would allow these to be addressed by quicker, simpler operations. Upper lid entropion also has a spectrum of clinical features which may influence one's choice of operation, but once again only posterior lamellar grafts are described for cicatricial entropion and anterior lamellar resection for dermatochalasis which does not cover the range of techniques required to treat many of these patients.

The volume is illustrated with good quality colour photographs and some line drawings, but in many cases the salient points of an operation could probably have been demonstrated better by diagrams, with a consequent reduction in text, which might have improved its usefulness to the trainee surgeon memorising the stages of a new operation.

There are now many textbooks and manuals of oculoplastic procedures on the market, and for most ophthalmologists training in this field the need is for a volume which will help them choose the correct operation for a specific problem, give enough detailed information in an easily memorised format to allow them to complete the operation successfully, and be able to cope with such complications as may arise from time to time. If this is the requirement, this particular volume has too many weak chapters to be recommended, especially when cheaper, clearer, and more detailed books are readily available.

C HUTCHINSON

Allergy and Immunology of the Eye. 2nd ed. By M H Friedlaender. Pp 337. $140. New York: Raven Press, 1993.

Our knowledge about allergy and immunology has exploded over the past one to two decades and this field has become difficult to understand. The immunological research has reached a complexity which makes it almost impossible for non-specialists to understand the mechanisms and to relate them to ophthalmic problems. In these circumstances this book attempts to describe immunological and allergic diseases of the eye and to give an overview of the underlying mechanisms. Consequently, the first three chapters describe basic immunology and some special mechanisms which are of exclusive importance to the eye. Nine chapters about clinical entities follow, which give an insight into ocular diseases driven by these immunological mechanisms. This outline should be successful, because it allows the reader to gain a fundamental understanding of allergy and immunology of the eye. It is 15 years since the first edition of Friedlaender's book appeared. He has basically left the outline of the first edition untouched but has tried to update the existing chapters to give new developments in the field of immunology. Unfortunately, this approach has not been sufficient because of the enormous increase in knowledge in this field over the past 15 years.

The problem with this approach starts on page 2 with Fig 1.1, which depicts 'important milestones in the history of immunology'. This figure shows five important milestones over a period of 11 years (from 1896 to 1906), but nothing since 1959. In this historic overview nothing can be found about monoclonal antibodies, the genetic backgrounds of antibody diversity, the concepts of antigen presentation by HLA antigens, or the T cell receptor – discoveries which are of truly historic dimensions in this fast moving field.

These deficits then continue through most chapters of this book. One example is the chapter on immunopathology of Behçet's disease (p 269). We can read a lot about different aspects of a questionable viral aetiology and the role of antibodies. But only papers from the late 1960s and the mid 1970s are cited, which confirm the role of T cells, although many good papers about this topic have been published in the last three to five years, which acknowledge the modern T cell concepts not even thought of 20 years ago. Consequently, the chapter 'Treatment of Behçet's disease' merely mentions cyclosporin A and ignores its value in the chronic treatment of patients with this disorder.

Experimental autoimmune uveitis, which is an important animal model of some uveitic entities, is only briefly mentioned in the chapter about humoral immune responses (p 65). This is especially disappointing for two reasons. Firstly, today's widely accepted understanding of this model is that it is primarily T cell driven and not antibody mediated as claimed in this chapter. Secondly, this model has paved the way for important therapeutic approaches (such as cyclosporin).

Overall, the 15 years of developments that have taken place between the first and the second edition of this book can only be found in small patches distributed over all chapters.

Many inaccuracies make the book difficult to read and could be misleading. We would like to give just two examples. The chapter on B cells (p 6) includes a paragraph about antibodies, which is outdated and refuted by research performed in the very early 1980s. (1) Antibodies are glycoproteins, not just 'proteins' as stated in this book. (2) They are produced not only 'by plasma cells after stimulation', but also by B cells before stimulation for specific antigen recognition. (3) The next sentence in this paragraph reads that antibodies react 'uniquely with the configuration that was responsible for their formation'. This implies the instruction theory as the mechanism of antibody formation. But this theory was rejected many years ago.

The chapter about suppression of cellular immunity (p 48) tries to define and differentiate the two immunological mechanisms of tolerance and suppression. This is a difficult task and perhaps many immunologists would give

different definitions for these terms. But the statement that 'tolerance produces specific suppression of an immune response', is misleading and adulterates these two concepts.

Overall, this book covers, in a narrative style, many outdated theories, misleading concepts, and old fashioned techniques. It does not confer a modern concept of allergy and immunology of the eye. In conclusion we cannot recommend this book.

STEPHAN R THURAU
GERHILD WILDNER

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NOTICES

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.)

Extended Programs in Medical Education

The UC San Francisco Department of Ophthalmology and the Francis I Proctor Foundation are running a course entitled Cornea and Excimer Update on 9–11 December 1993 at the ANA Hotel and University of California, San Francisco. Further details: School of Medicine, Rm LS-105, Office of Continuing Medical Education, San Francisco, CA 94143–0742, USA. (Tel: (415) 476–4251; Fax: (415) 476–0318.)

Medical Screening: The Way Forward

Medical screening provides many opportunities for the prevention of disease and handicap. What can it offer and what are its limitations? Based on several case studies, a one day conference entitled Medical Screening: The Way Forward, organised jointly by *BMJ* and *Journal of Medical Screening*, will be held on 26 January 1994 at the QE2 Conference Centre, London to examine the medical, scientific, ethical, social, psychological, and economic aspects of screening. For details: Pru Walters, BMA Conference Unit, BMA House, Tavistock Square, London WC1H 9JR. (Tel: 071–383 6605; Fax: 071–383 6400.)

Optics '94

Optics '94, an international exhibition on eye wear, technology, and equipment for optometry and opththalmology will be held on 18–20 February 1994 at the World Trade Center, Singapore. A conference on better eye care will be held in conjunction with the exhibition. Further details: Lines Exposition & Management Services Pte Ltd, 318-B King George's Avenue, Singapore 0820. (Tel: (65) 2998611; Fax: (65) 2998633.)

International Society of Ocular Trauma

The 3rd International Symposium on Ocular Trauma will be held in Cancun, Mexico in March 1994. Further details: Secretariat, PO Box 50006, Tel Aviv, 61500, Israel. (Tel: (972 3) 5174571; Fax: (972 3) 5175674.)

Third Annual Scientific Meeting of the Australian Squint Club

The Third Annual Scientific Meeting of the Australian Squint Club will be held in Melbourne, Australia on 4–6 March 1994. Further details: Dr W E Gillies, 82 Collins Street, Melbourne 3000, Australia (tel: 61 3 654 5860; fax: 61 3 650 4404).

Fourth Breton Workshop on Autoimmunity

The Fourth Breton Workshop on Autoimmunity will be held on 15–16 April 1994 in Brest, France. Further details: Secretariat, Laboratory of Immunology, Brest University Medical School Hospital, BP 824–29 609 Brest cédex, France. (Tel: (33) 98 22 33 84; Fax: (33) 98 80 10 76.)

European Society of Traditional Ophthalmology and Traditional Chinese Medicine

The 3rd international symposium of traditional medicine will be held on 12–22 May 1994 in Japan. Further details: Dr J Poletti, Société Européenne d'Ophtalmologie Traditionelle, CHIC Tarbes, BP 1330, 65013 Tarbes Cedex, France. (Tel: 62 51 54 55; Fax: 62 51 51 62.)

American Academy of Optometry

A meeting of the American Academy of Optometry will be held on 28–30 May 1994, at the Amsterdam Marriott Hotel, Amsterdam, The Netherlands. Further details: Academy Office, 4330 East-West Highway, Suite 1117, Bethesda, MD 20814, USA. (Tel: (301) 718-6500; Fax: (301) 656-0989.)

International Conference on Biomedical Periodicals

The International Conference on Biomedical Periodicals will be held on 16–18 June 1994 in Beijing, China. Further details: Dr Yongmao Jiang, International Conference on Biomedical Periodicals, c/o Publishing House of Medical Journals, Chinese Medical Association, 42 Dongsi Xidajie, Beijing 100710, China. (Tel: 86–1–5133311 ext 362; Fax: 86–1–5123754.)

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.)

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.)

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.)

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.