CORRESPONDENCE

Red-free light in applanation tonometry

EDITOR,—Goldmann's applanation tonometry is generally performed using cobalt blue filter and fluorescein in order to obtain accurate localisation of the apex of the tear meniscus.^{1,2} The peak transmission value of the cobalt blue filter BG12 on the Haag-Streit slit lamp 900 BM is 0.80 at 400 nm, whereas that of the red-free filter BG39 is 0.965 at 490 nm. The peak absorption value of fluorescein in dilute aqueous solution at physiological tear pH is also at 490 nm.³ Greater intensity of fluorescence and better visibility of the tear menisci could therefore, be obtained by the use of red-free filter. We designed a study to compare intraocular pressure (IOP) measurements obtained using red-free light with those taken with the blue light.

Fifty six consecutive follow up glaucoma patients attending ophthalmic clinic during February 1998 were the subjects for the study. The order of testing of the two eyes and the order of use of the filters were determined by random permuted block method. After instillation of 4% lignocaine and 0.25% fluorescein with polyvinylpyrrolidone, and with slit lamp illumination at 7.5 V, both eyes were applanated at the same sitting using both cobalt blue and red-free illumination in succession. Three readings were taken for each illumination and the average was used for statistical purpose. The mean value of IOP of 112 eyes obtained using red-free light was 17.19 (SD 5.14) mm Hg whereas using blue light it was 17.17 (6.44) mm Hg. On two tailed paired *t* test analysis at the 5% level of significance, the difference is not significant.

The red-free filter does not diminish the overall light intensity as much as the blue filter. Consequently, the ocular structures are seen more clearly in the background during the procedure. At the same time the tear menisci are seen brightly fluorescent as a result of both to greater overall intensity and more appropriate wavelength of the light. Red-free light applanation tonometry, therefore, achieves optimal visualisation of the tear menisci and accurate estimation of IOP.

M H SHAIKH

J S MARS

Eye Department, Royal Albert Edward Infirmary,
Wigan WN1 2NN

Correspondence to: Mr M H Shaikh.

- 1 Whitecare M, Stein R. Sources of error with use of Goldmann-type tonometers. *Surv Ophthalmol* 1993;38:1-30.
- 2 Roper D L. Applanation tonometry with and without fluorescein. *Am J Ophthalmol* 1980;66:668-71.
- 3 Romanchuk KG. Fluorescein. Physicochemical factors affecting fluorescence. *Surv Ophthalmol* 1982;26:269-81.

Injury to the globe during periocular anaesthesia

EDITOR,—We read with great interest the observations of Chen *et al*¹ on the occurrence of inadvertent injury to the globe secondary to peribulbar anaesthesia. We found it particularly relevant because we have recently encountered similar cases, but without serious consequences.

COMMENT

The incidence of globe perforation following periocular anaesthesia is probably much more than the previously believed 0.1%²⁻⁴ and more cases would be identified with a high index of suspicion and postoperative fundal examination through a dilated pupil. At the time of injection it is more likely for the needle to travel through the globe (seen as an entry and exit wound) and as a result the anaesthetic is still injected in the periocular space, leading to adequate anaesthesia and akinesia. Peribulbar anaesthesia, which was reported as a safer alternative to the retrobulbar injection^{5,6} was implicated in all our cases and might not be as safe as was previously believed.

It is easy to point a finger at the person administering the block and attribute the condition to the learning curve especially of the trainee; however, we feel that a few steps might be useful. The risks of ocular perforation may decrease with use of the long 25 gauge (25 mm) needle instead of the longer (37.5 mm) retrobulbar needle. The use of blunt needles has been recommended to prevent injury to the globe.⁷ Perforation is more likely in eyes with an axial length greater than 26 mm⁶ it is a safer option to administer the local anaesthetic in the sub-Tenon's space. We have found it particularly easier to stay away from the globe by going transconjunctivally rather than through the skin. Also it is always suggested that before injecting the needle is moved sideways to ensure that it has not engaged the eyeball. This not only warns us of the possibility of the needle being in the globe but also prevents any injection of anaesthetic in the globe. However, one should not underestimate the importance of adequate training of personnel and suspicion in the immediate postoperative period. But there is always going to be the occasional "uncooperative patient"⁸—a situation where the utmost caution has to be exercised.

ANIL K NAMBIAR
SAL RASSAM

Department of Ophthalmology, Worthing Hospital,
Worthing BN11 2DF, West Sussex

- 1 Chen S, Cahill M, Barry P. Cluster of four cases of inadvertent injury to the globe secondary to peribulbar anaesthesia. *Br J Ophthalmol* 1998;82:850-1.
- 2 Gillow JT, Aggarwal RK, Kirkby GR. A survey of ocular perforation during ophthalmic local anaesthesia in the United Kingdom. *Eye* 1996;10:537-8.
- 3 Cibis PA. General discussion: opening remarks. In: Schepens CL, Regan CDJ, eds. *Controversial aspects of the management of retinal detachments*. Boston: Little Brown, 1965:222.
- 4 Ramsay RC, Knobloch WH. Ocular perforation following retrobulbar anaesthesia for retinal detachment surgery. *Am J Ophthalmol* 1978;86:61-4.
- 5 Zaturansky B, Hyams S. Perforation of the globe during injection of local anaesthetic. *Ophthalmic Surg* 1987;18:585-8.
- 6 Duker JS, Belmont JB, Benson WE, *et al*. Inadvertent globe perforation during retrobulbar and peribulbar anaesthesia. *Ophthalmology* 1991;98:519-26.
- 7 Lichter PR. Avoiding complications from local anaesthesia. *Ophthalmology* 1988;95:565-6.
- 8 Hay A, Flynn HW, Hoffmann JJ, *et al*. Needle penetration of the globe during retrobulbar and peribulbar injections. *Ophthalmology* 1991;98:1017-24.

Reply

EDITOR,—We are delighted for the opportunity to reply to the comments of Nambiar and Rassam regarding our recent small case series of inadvertent injury to the globe secondary to peribulbar anaesthesia. While

the incidence of inadvertent injury to the globe during peribulbar anaesthesia was as low as 0.006% in a paper by Davis and Mandel, the variety of reported incidences may be due to variations in definitions and techniques of peribulbar anaesthesia.¹⁻⁵ We tried to emphasise in our report that the experience of the administrator with peribulbar anaesthesia is not as important as others would suggest as demonstrated by the fact that three of the inadvertent injuries were caused by experienced consultants (an anaesthetist and an ophthalmologist).²⁻⁵ However, we do feel that early recognition of an inadvertent injury and its early assessment by a vitreoretinal specialist is of the utmost importance, a fact highlighted by other authors.²

From the viewpoint of injection technique, blunt needles do not prevent inadvertent injury to the globe.⁶ Furthermore, the length of the needle used by individuals varies and the report by Davis and Mandel described a posterior peribulbar technique using a long 37.5 mm retrobulbar needle.¹ We, however, prefer to use a shorter 32 mm 25 gauge needle to reduce the likelihood that the needle will go close to the equator of the globe. We agree that asking the patient to look from side to side may be useful in confirming that the needle is in the correct position but whether the injection should be transcutaneously or transconjunctivally is a matter of personal preference. Finally, we disagree that an axial length of 26.0 mm or more is in itself an indication to use another form of anaesthesia. However, each patient and their possible risk factors should be assessed individually before a decision regarding appropriate anaesthesia for any ophthalmic procedure.^{1,4} It is at this point that the administrator's training and experience are essential in reducing any potential complications.

SEAN CHEN
MARK CAHILL
PETER BARRY

The Research Foundation, The Royal Victoria Eye and
Ear Hospital, Dublin 2, Ireland

- 1 Davis DB, Mandel MR. Posterior peribulbar anaesthesia: an alternative to retrobulbar anaesthesia. *J Cataract Refract Surg* 1986;12:182-4.
- 2 Gillow JT, Aggarwal RK, Kirby GR. Ocular perforation during peribulbar anaesthesia. *Eye* 1996;10:533-6.
- 3 Gillow JT, Aggarwal RK, Kirby GR. A survey of ocular perforation during ophthalmic local anaesthesia in the United Kingdom. *Eye* 1996;10:537-8.
- 4 Duker JS, Belmont JB, Benson WE, *et al*. Inadvertent globe perforation during retrobulbar and peribulbar anaesthesia. Patient characteristics, surgical management and visual outcome. *Ophthalmology* 1991;98:519-26.
- 5 Hay A, Flynn HW, Hoffmann JJ, *et al*. Needle penetration of the globe during retrobulbar and peribulbar injections. *Ophthalmology* 1991;98:1017-24.
- 6 Seelenfreund MH, Freilich DB. Retinal injuries associated with cataract surgery. *Am J Ophthalmol* 1980;89:654-8.

Polymerase chain reaction in the diagnosis of bacterial endophthalmitis

EDITOR,—The paper by Therese *et al*¹ raises several issues which require clarification. The contamination of Taq polymerase by bacterial DNA is now well established in the published press. Taq DNA polymerase is known to be contaminated with low levels of bacterial DNA not originating from either *Thermus aquaticus* or *Escherichia coli* and is easily amplified using universal bacterial primers based on ribosomal gene sequences.²⁻⁴ Although this level of contamination is insufficient to give a

detectable amplification product after just one round of polymerase chain reaction (PCR), it is easily detected following nested amplification. The specific Taq used in the study (Ampli-Taq DNA polymerase) is well known for being unsuitable for bacterial PCR using pan-bacterial primers such that the company itself (Perkin-Elmer) has more recently introduced a "low DNA" Taq (Amplitaq LD) in order to reduce the size of the problem. The reduced level of contamination in this Taq is still sufficient to yield positive "negative controls" after two rounds of PCR with eubacterial primers. Therefore, before first round amplification, it is of paramount importance to pretreat the Taq polymerase with restriction enzymes (unpublished observations), and to include the first round negative control as a test sample in the nested PCR reaction. The levels of DNA contamination are easily detectable at the sensitivity (40 fg) for the second round PCR reported by this group of authors and neither in the text nor in the figures is there any mention of a first round negative control as a test sample in the nested PCR reaction. The results submitted by Professor Madhavan's group reflect PCR in the absence of adequate negative controls and are, therefore, meaningless.

It is also well known that 22–43% of anterior chamber cultures are positive immediately after cataract surgery in patients that subsequently do not develop endophthalmitis.⁵⁻⁷ Not only has no attempt been made to provide clinical data about the cases with endophthalmitis but also no information is provided about whether these samples were from cases of acute/chronic/delayed endophthalmitis cases. With the high sensitivity of PCR and the ability to detect non-viable organisms, a higher yield of positive results is only to be expected. But, for example, a positive PCR result in the absence of a positive culture result a few days postoperatively is not necessarily evidence of infection sufficient to cause endophthalmitis. Also, in the absence of speciation no information is obtained regarding the virulence of the organism. All "PCR" based techniques for investigation of cases of presumed bacterial endophthalmitis should, therefore, be accompanied by clinical data to allow readers to judge for themselves whether the results obtained are truly applicable to the clinical setting.

The contamination-free method of collection of samples is always critical but especially so if the detection method involves PCR techniques. No details of the preoperative/presampling preparation method are provided and no information is given as to whether the procedure was standardised and how many surgeons were involved in the collection process.

The only sensitivity data reported are from extracted dilutions of DNA and not from live organisms. As the ability to extract DNA from intact cells is an integral step in any DNA amplification method this is another major flaw in this study.

It is not surprising that Madhavan *et al* had little success in culturing *P. acnes* since the technique used was incorrect: cultures should be maintained for up to 14 days instead of only 10.⁸

The statement that "PCR showed 100% correlation with smear and culture results" is erroneous and misleading as this can not be verified in the absence of speciation techniques to identify the PCR product/s amplified. The final paragraph begins "Further studies are needed to identify the specific eubacterial strains . . .". The presence of different strains is irrelevant as treatment is identical. We suggest

Madhavan's group first attempt to identify the bacterial species present. Any new diagnostic test should be evaluated in terms of its *clinical* specificity as well as sensitivity: Therese *et al* have not addressed the specificity of PCR in the detection of disease so no comments on its clinical usefulness are warranted. Their suggestion that "Hence, the anterior chamber tap could be the method of choice in the diagnosis of endophthalmitis when a highly sensitive technique such as PCR is applied" has no basis and is likely to lead to mismanagement. The anterior chamber is the site of entry of organisms in the majority of cases. The presence of a positive PCR does not always correlate with established infection and the presence of a variety of bacteria from the patients own eyelid flora is only to be expected. Also, mixed infections have been reported in the published press.

NARCISS OKHRAVI
PETER ADAMSON
SUSAN LIGHTMAN

Department of Clinical Ophthalmology, Institute of
Ophthalmology, 11–43 Bath Street, London EC1V 9EL

- 1 Therese KL, Anand AR, Madhavan HN. Polymerase chain reaction in the diagnosis of bacterial endophthalmitis. *Br J Ophthalmol* 1998;82:1078–82.
- 2 Hughes MS, Beck LA, Skuce RA. Identification and elimination of DNA sequences in Taq DNA polymerase. *J Clin Microbiol* 1994;32:2007–8.
- 3 Maiwald M, Dittion HJ, Sonntag HG, *et al*. Characterization of contaminating DNA in Taq polymerase which occurs during amplification with a primer set for Legionella 5S ribosomal RNA. *Mol Cell Probes* 1994;8:11–14.
- 4 Rand KH, Houck HH. Taq polymerase contains bacterial DNA of unknown origin. *Mol Cell Probes* 1990;4:445–50.
- 5 Ariyasu RG, Nakamura T, Trousdale MD, *et al*. Intraoperative bacterial contamination of the aqueous humor. *Ophthalmic Surg* 1993;24:367–73.
- 6 Dickey JB, Thompson KD, Jay WM. Anterior chamber aspirate cultures after uncomplicated cataract surgery [see comments]. *Am J Ophthalmol* 1991;112:278–82.
- 7 Assalian A, Thompson P, St-Antoine P, *et al*. Anterior chamber fluid contamination after uncomplicated phacoemulsification. *J Cataract Refract Surg* 1995;21:539–42.
- 8 Okhravi N, Towler HMA, Hykin P, *et al*. Assessment of a standard treatment protocol on visual outcome following presumed bacterial endophthalmitis. *Br J Ophthalmol* 1997;81:719–25.

Reply

EDITOR,—We are extremely thankful to Okhravi's group for their critical comments on our article¹ and would like respond to the comments and queries raised by them.

Regarding the point on the contamination of Taq polymerase with bacterial DNA and the adequacy of negative controls, we certainly were fully aware of this problem when this project was undertaken and therefore sufficient care was taken in providing proper and adequate controls in each and every step in the PCR which we feel was quite evident in the article.

We included two negative controls in each of the amplifications (as mentioned in the article)—a reagent control and a sample extraction control. The sample extraction control consisted of sterile Milli Q water subjected to the same extraction procedures as the specimens. The second round controls consisted of a reagent control (only reagents used for the PCR reaction) and a sample extraction control, where 1 µl of amplified product from the first round extraction control was added. Only when both the reagent and sample extraction controls were negative were results on specimens accepted.

Whenever negative controls indicated contamination the results were rejected.

We can authentically state that the Ampli-Taq DNA polymerase (Perkin-Elmer) used in our study did not contain any detectable amount of bacterial DNA, under our PCR conditions. For meaningful interpretations as suggested by Okhravi *et al* of the PCR results, we have indeed mentioned in the text (under paragraph "PCR using universal primers" p 1079, line 10), 1 µl of amplified product of the first round was used for the second round. It should be understood that it also included the negative controls. Therefore, we submit that adequate negative controls were used along with each reaction. Another observation which strongly indicated that the positive findings do not represent contaminants was that a significant number of clinical specimens were negative.

Regarding their comments on the clinical data provided on endophthalmitis cases included in our study and their objection to our statement that anterior chamber tap (AC tap) is the method of choice in the diagnosis of bacterial endophthalmitis when PCR is applied, we need to state the following: we believe the clinical data (acute/chronic/delayed endophthalmitis) as suggested by Okhravi *et al* was beyond the scope of this study, because most of our postoperative endophthalmitis cases were referred to our hospital several weeks after their surgery and the bacterial agents which might have normally entered the anterior chamber during the immediate postoperative period could not have interfered with the PCR results of AC tap, unless they themselves were the causative agents of endophthalmitis, when the PCR automatically became true positive. Therefore, our conclusion that PCR on AC tap could be the method of choice as a diagnostic technique in cases of suspected bacterial endophthalmitis is correct.

We included clinically evident post traumatic and endogenous infective endophthalmitis cases in addition to postoperative ones to highlight the diagnostic value of PCR on AC tap in all these three clinical groups since the earlier study of Hykin *et al*² was based only on vitreous aspirates from delayed postoperative endophthalmitis cases.

In response to their statement "In the absence of speciation, no information is obtained regarding the virulence of the organisms", we wish to state that as our study was aimed only at evaluating the diagnostic value of PCR in bacterial endophthalmitis, speciation and virulence of bacteria with reference to the clinical data were irrelevant and did not need to be included in our study.

Regarding preoperative/presampling preparation method used for collection of intraocular specimens included in our study, they were collected by surgeons who used well established preoperative and presampling preparation methods for such collections, be it for PCR or other purposes. Therefore, our statement that the specimens were collected "aseptically", we felt, did not need further elaboration into details of these established procedures.

The PCR sensitivity data reported in our article were only for DNA extracted from living strains of *Staphylococcus epidermidis* and *Propionibacterium acnes*. We believe it was understood in the statement we made.

In response to their statement that cultures for *P. acnes* should be "maintained for up to 14" days instead of only 10, we wish to state that in our several years of experience, *P. acnes*, if viable, has been isolated within 5–6 days of the incubation period and extended incuba-

tion even up to 45 days in culture media did not result in isolation of this bacterium. As we did not find it useful to incubate the inoculated media any further than 10 days, the media were discarded if there was no growth. But we certainly appreciate the suggestion of Okhravi *et al* in this procedure.

Our statement that nested PCR showed "100% correlation with" bacteriologically (smear and culture) positive specimens was made to emphasise the exquisite specificity of the PCR method to detect eubacterial genome and no attempts have been made to speciate the amplified product to correlate with any isolated bacterium. We have, however, proposed "to identify specific bacterial strains in the specimens positive for eubacterial genome but negative for *P. acnes* genome". But at the same time, Okhravi *et al* make a contradictory statement that "the presence of different strains is irrelevant, as treatment is identical". Identity of the bacterium, we feel, is useful to help clinicians to decide on the method of treatment.

K L THERESE

A R ANAND

H N MADHAVAN

Vision Research Foundation, Sankara Nethralaya,
18 College Road, Chennai-600 006, India

- 1 Therese KL, Anand AR, Madhavan HN. Polymerase chain reaction in the diagnosis of bacterial endophthalmitis. *Br J Ophthalmol* 1998;82:1078-82.
- 2 Hykin PG, Tobal K, McIntyre G, *et al*. The diagnosis of delayed postoperative endophthalmitis by polymerase chain reaction of bacterial DNA in vitreous samples. *J Med Microbiol* 1994;40: 408-15.

Effect of amblyopia on employment prospects

EDITOR.—There has been much debate recently on the effectiveness of preschool vision screening.¹ One conclusion of the recent NHS review report on this subject was that there was inadequate understanding of the disability attributable to the three target conditions: amblyopia, refractive errors, and squints. This has aroused much controversy in the field of paediatric ophthalmology.

We felt it would be useful to collate the visual standards required to enter certain occupations. These data were obtained from the 1997 *Book of Vision*,² the 1997 *Optometrists' Handbook*,³ and the Office of the Rail Regulator.⁴

We found a job applicant with defective vision in just one eye would be excluded from a large range of occupations.

<i>Vision in worse eye with correction</i>	<i>Job excluded</i>
Less than 6/60	Merchant navy (engine room, radio staff, catering department, surgeon)
6/60	All army regiments
6/36	All Royal Naval duties
6/18	Large goods vehicle driver
	Bus driver
	Post Office driver
	Metropolitan cab driver
	Private pilot
	Train driver
	London Transport line duties
	Fork lift truck driver
	Police
	Prison officer
6/12	Commercial pilot
	Flight navigator
	Flight engineer
	Air traffic control officer
	All non-flying RAF personnel
	Merchant seaman (deck duties)
	Life boat crew

6/9

Royal Air Force pilot
Royal Air Force navigator
Royal Air Force aircrew
Fire brigade
Army regiments where minimum 6/6 in right eye is specified
Royal Navy aircrew and certain branches of Royal Marines

COMMENT

Patients with amblyopia are debarred from a wide range of jobs, which increases with the severity of the amblyopia. Amblyopia is therefore a handicap when seeking employment. Therefore, every effort must be made to achieve the best possible acuity in young patients with amblyopia so as to allow them the widest choice of occupation in adult life, unfettered by visual disability.

G G W ADAMS

Strabismus and Paediatric Service,
Moorfields Eye Hospital, London

MAREK P KARAS

Department of Optometry,
Moorfields Eye Hospital, London

Correspondence to: G G W Adams.

- 1 Snowdon SK, Stewart-Brown S. *Preschool vision screening: results of a systematic review*. London: NHS Centre of Reviews and Dissemination. Report 9, 1997.
- 2 *Book of vision*. London: Dollond & Aitchison, 1997.
- 3 *Members Handbook*. London: Association of Optometrists, 1997.
- 4 *Railway Group Standard for Train Driving (GO/RT 3251)*. London: Office of the Rail Regulator.

BOOK REVIEWS

If you wish to order, or require further information regarding the titles reviewed here, please write or telephone the BMJ Bookshop, PO Box 295, London WX1H 9TE. Tel: 0171 383 6244. Fax: 0171 383 6662. Books are supplied post free in the UK and for British Forces Posted Overseas addresses. Overseas customers should add 15% for postage and packing. Payment can be made by cheque in sterling drawn on a UK bank, or by credit card (MasterCard, VISA, or American Express) stating card number, expiry data, and your full name. (The price and availability are occasionally subject to revision by the Publishers.)

Management of Ocular Injuries and Emergencies.

By Mathew W MacCumber. Pp 486. £43. Hagerstown, MD: Lippincott-Raven, 1997. ISBN 0-397-51496-4. This book aims to be a practical guide to the diagnosis and management of all ocular emergencies during the critical first 48 hour period. This is quite a tall order but it is achieved very satisfactorily.

The book opens by identifying that true ocular emergencies requiring immediate attention are rare and that most emergencies give adequate time for evaluation and unhurried decision making which is a reassuring start especially for the novice or the non-ophthalmic accident and emergency trainee.

Each condition is dealt with in a sensibly ordered fashion with a brief description of the problem then a step by step diagnostic and management plan.

The order of the book is interesting in that it is anatomically ordered; injuries and non-traumatic emergencies are dealt with side by side. The chapter on corneoscleral lacerations and ruptures is next to infections of the conjunctiva and keratitis; and sudden non-traumatic visual loss follows traumatic maculopathy. This makes the continuum of orbital, anterior, and posterior segment trauma difficult to understand and therefore the assessment of the patient less clear. However, this does not seem to detract significantly from the text which comprehensively covers most areas with the emphasis on the practical side of diagnosis and treatment of ocular emergencies.

There is a useful section on the preparation of antibiotics for ocular use (drops, subconjunctival, and intravitreal use), diagrams of suture placement, and step by step diagnostic and management guides. There is a short section on the management of paediatric ocular emergencies which may prove useful for those not dealing with children on a day to day basis.

Details on imaging techniques are useful in identifying which method may be best, not only for the condition but also with regard to patient cooperation. Decisions on type of imaging in this country may be based on the availability of different techniques in some hospitals rather than on the optimum method. The section on epidemiology of ocular trauma is excellent providing a short overview of the current situation and for the medicolegally minded there is a comprehensive guide to various methods of evaluating visual disability.

Overall, this book sets out what it plans to do and works well both as a text for general reading as well as a reference guide to those working in the front line of ophthalmology.

C J MACEWEN

Oculodermal Diseases. By U Pleyer, C Hartmann, W Sterry. Pp 340; £57.15. Buren/The Netherlands: Swets and Zeitlinger, 1997. ISBN 90-7043-020-7.

Immunological similarities between the skin and the eye lead to various disorders which may involve both organs. Along with allergic disorders these are the ocular mucocutaneous syndromes that often present a number of diagnostic but also therapeutic problems. This book has succeeded in presenting important basic and clinical knowledge for a better understanding of these disorders. One of the main goals of the book is to understand similarities and dissimilarities between both systems. Written by dermatologists, immunologists, and ophthalmologists, the 19 chapters focus in the first part on general aspects of both organs, like immunophysiology of the skin, immunological privilege of the eye, and anatomy of the skin and conjunctiva. The second part addresses the immunology and therapy of ocular cicatricial pemphigoid (OCP), but also diseases that mimic OCP, and the Stevens-Johnson syndrome. The book is mostly well illustrated, the chapters generally contain the most recent important literature. The subject index makes working easier.

In conclusion, the book presents the most updated information in the field of these often misdiagnosed or mistreated disorders including an overview of the problems associated with oculodermal disorders and probable solutions.

Better understanding of the influence of the MHC antigens on the aetiology of oculomucocutaneous disorders and further characterisation of the autoantigens located in the area of the basement membrane zone may lead to a better diagnosis and to a much more specific, effective treatment.

MANFRED ZIERHUT

NOTICES

Blindness in children

The latest issue of the *Community Eye Health* (no 27) discusses blindness in children, with an editorial by Allen Foster, medical director of the Christoffel Blindenmission and articles on blind schools, problems of examining children with visual loss, optical services, and integrated education. For further information please contact *Community Eye Health*, International Centre for Eye Health, Institute of Ophthalmology, 11-43 Bath Street, London EC1V 9EL. (Tel: (+44) 171 608 6910; fax: (+44) 171 250 3207; email: eye-resource@ucl.ac.uk) Annual subscription £25. Free to workers in developing countries.

Residents' Foreign Exchange Programme

Any resident interested in spending a period of up to one month in departments of ophthalmology in the Netherlands, Finland, Ireland, Germany, Denmark, France, Austria, or Portugal should apply to: Mr Robert Acheson, Secretary of the Foreign Exchange Committee, European Board of Ophthalmology, Institute of Ophthalmology, University College Dublin, 60 Eccles Street, Dublin 7, Ireland.

XVII Asia-Pacific Academy of Ophthalmology Congress

The XVII Asia-Pacific Academy of Ophthalmology Congress will be held in Manila, Philippines on 7-12 March 1999. Its theme is "Ophthalmology in the Asia Pacific Region for the 21st century", the main topics being Cataract, Infection and Inflammation, Glaucoma, and Vitreoretinal disease. Further details: Secretariat, Philippine College of Surgeons' Building, 3/F, 992 North EDSA, 1105 Quezon City, Metro Manila, Philippines. (Tel: (632) 927-2317 or (632) 925-3789; fax: (632) 924-6550; email: pao@pao.org.ph)

Ophthalmic diagnostic ultrasound

A 1 day intensive course in ophthalmic diagnostic ultrasound will be held on 12 March 1999 at Royal Victoria Hospital, Newcastle upon Tyne. Topics to be covered include A and B-scan examination techniques of the eye and orbit; principle of standardised echography; screening of opaque media; differentiation of ocular tumours; assessment of vitreoretinal conditions; trauma; diagnosis of common orbital lesions; and introduction to high frequency ultrasound. Further details: Mr R C Bosanquet, Eye Department, Royal Victoria Infirmary, Newcastle upon Tyne NE1 4LP. (Tel: 0191 282 5449.)

Office of Continuing Medical Education

The 16th Annual Wilmer Institute's Current Concepts in Ophthalmology will be held on 14-19 March 1999 at the Manor Vail Lodge, Vail, Colorado, USA. Further details: Program Coordinator, Johns Hopkins Medical Institutions, Office of Continuing Medical Education, Turner 20/720 Rutland Avenue, Baltimore, MD 21205, USA. (Tel: (410) 955-2959; fax: (410) 614-8613; email: cmenet@som.adm.jhu.edu)

Ophthalmological Clinic, University of Creteil

An international symposium on the macula will be held on 26-27 March 1999 at the Ophthalmological Clinic, University of Creteil. Further details: Professor G Soubrane, Chef de Service, Clinique Ophtalmologique Universitaire de Creteil, Centre Hospitalier Intercommunal, 40 Avenue de Verdun, 94010 Creteil, France. Fax: 01 45 17 52 27.

Leonhard Klein Award 1999

The Leonhard Klein Award 1999, valued at DM30 000, will be given for innovative, scientific works in the field of development and application of microsurgical instruments and microsurgical operating techniques. It can be conferred on an individual as well as a group of researchers. The work must be submitted in either English or German by 31 March 1999. Further details: Stifterverband für die Deutsche Wissenschaft eV, Herrn Peter Beck, Postfach 16 44 60, D-45224 Essen, Germany.

XVIII Tuebingen Detachment course:

Retinal and Vitreous Surgery

The XVIII Tuebingen Detachment course: Retinal and Vitreous Surgery will be held 8-9 April 1999 at the lecture hall "Kupferbau" of the University, Gmelinstrasse 8, 72076 Tuebingen, Germany. Further details: Congress-Secretariat (T), Professor I Kreissig, Augenheilkunde III, Schleichstrasse 12, D-72076 Tuebingen, Germany. (Fax: +49-7071-293746; email: ingrid.kreissig@uni-tuebingen.de)

ARVO 1999 annual meeting

The 1999 annual meeting of the Association for Research in Vision and Ophthalmology will take place on 9-14 May 1999 in Fort Lauderdale Convention Center, Fort Lauderdale, Florida. Further details: ARVO, 9650 Rockville Pike, Bethesda, MD 20814-3998, USA. (Tel: (301) 571-1844; fax: (301) 571-8311.)

12th Annual Meeting of German Ophthalmic Surgeons

The 12th annual meeting of German Ophthalmic Surgeons will be held on 10-13 June 1999 at the Meistersingerhalle, Nürnberg, Germany. Further details: MCN Medizinische Congress-Organisation Nürnberg GmbH, Weilandstrasse 6, D-90419 Nürnberg, Germany. (Tel: ++49-911-3931621; fax: ++49-911-3931620; email: doerflinger@mcn-nuernberg.de)

XII Congress European Society of Ophthalmology

The XII Congress European Society of Ophthalmology will be held in Stockholm, Sweden on 27 June-1 July 1999. Further details: Congress (Sweden) AB, PO Box 5819, S-114 86

Stockholm, Sweden. (Tel: +46 8 459 66 00; fax: +46 8 661 91 25; email: soe@congrex.se; http://www.congrex.com/soe/)

Vision '99: International Conference on Low Vision and Vision Rehabilitation

The International Conference on Low Vision and Vision Rehabilitation will be held on 12-16 July 1999 at the Waldorf-Astoria Hotel, New York City, New York. Further details: Lighthouse International, 111 East 59th Street, New York, NY 10022-1202, USA. (Tel: (212) 821-9482; fax: (212) 821-9705; email: vision 99@lighthouse.org)

4th Meeting of the European Neuro-Ophthalmology Society

The 4th meeting of the European Neuro-Ophthalmology Society will be held on 29 August-2 September 1999 in Jerusalem, Israel. Further details: Secretariat, 4th Meeting of the European Neuro-Ophthalmology Society, PO Box 50006, Tel Aviv, 61500, Israel. (Tel: 972-3-514000; fax: 972-3-5175674/972-3-5140077; email: Eunoss99@kenes.com)

International Agency for the Prevention of Blindness

The sixth general assembly of the International Agency for the Prevention of Blindness will be held on 5-6 September 1999 at the Conference Centre, Beijing Friendship Hotel, Beijing, People's Republic of China. The theme is "The right to sight". Further details: IAPB Secretariat, LV Prasad Eye Institute, LV Prasad Marg, Banjara Hills, Hyderabad 500 034, India. (Tel: 091-40-215389; fax: 091-40-248271; email: IAPB@lvpeye.sph.net)

Ophthalmological Clinic, University of Creteil

An international symposium on the macula will be held on 1-2 October 1999 at the Ophthalmological Clinic, University of Creteil. Further details: Professor G Soubrane, Chef de Service, Clinique Ophtalmologique Universitaire de Creteil, Centre Hospitalier Intercommunal, 40 Avenue de Verdun, 94010 Creteil, France. Fax: 01 45 17 52 27.

Jules François Prize

The 2000 Jules François Prize of \$100 000 for scientific research in ophthalmology will be awarded to a young scientist who has made an important contribution to ophthalmology. All topics in the field of fundamental and/or clinical research in ophthalmology will be considered. The application should be sent jointly with a curriculum vitae, the list of all publications, and three copies of the candidate's 10 most relevant publications to Jules François Foundation Secretary, Professor Dr M Hanssens, Dienst Oogheekunde, de Pintelaan 185, B-9000 Gent, Belgium. Deadline for applications 31 December 1999.

Correction

One of the authors of a paper that appeared in the *BJO* last year was unfortunately left out of the list of authors. The paper was in the July issue of the journal (1998;82:816-20); and the author is Sherif M El-Harazi, who is at the Department of Ophthalmology and Visual Science, University of Texas Medical School at Houston, Texas.