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 localization 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 fluorescein and better visibility of the tear meniscus could therefore, be obtained by the use of red-free filter. We designed a study to compare intracocular pressure (IOP) measurements obtained using red-free light with those taken with the cobalt blue filter.

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 at 7.5 V, both eyes were applanated using both filters with an axial length greater than 26 mm it is a safer option to administer the local anaesthetic in the sub-Ten–Jonson’s space. We have found it particularly easier to stay away from the globe by injecting the needle rather than injecting the needle from 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 going 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 going through the skin.

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 (4.44) mm Hg. On two tailed paired t test analysis at the 5% level of significance, the difference was 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 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.


Injury to the globe during pericocular anaesthesia

EDITOR,—We read with great interest the observations of Chen et al1 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.

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 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.

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 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.


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 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 However, we do feel that early recognition of an inadvertent injury and its early assessment by a vitreoretinal specialist is of utmost importance, a fact highlighted by other authors.3

From the viewpoint of injection technique, blunt needles do not prevent inadvertent injury to the globe.4 Furthermore, the length of the needle used by individual operators and the report by Davis and Mandel described a posterior peribulbar technique using a long 57.5 mm retrobulbar needle.5 We, however, prefer to use a shorter 32 mm 25 gauge needle to reduce the likelihood that the needle may come close to the equator of the globe. We agree that the administration of local anaesthetic can be particularly easier to stay away from the globe by injecting the needle rather than injecting the needle from 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 going 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.


Polymerase chain reaction in the diagnosis of bacterial endophthalmitis

EDITOR,—The paper by Therese et al7 raises several issues which require clarification. The contamination of Taq polymerase by bacterial DNA is now well established in the published press. Taq polymerase can 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.8 Although this level of contamination is insufficient to give a


Polymerase chain reaction in the diagnosis of bacterial endophthalmitis

EDITOR,—The paper by Therese et al7 raises several issues which require clarification. The contamination of Taq polymerase by bacterial DNA is now well established in the published press. Taq polymerase can 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.8 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 (AmpliTaq DNA polymerase) is well known for being unsuitable for bacterial PCR using primers that recognize sequences that the company (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 suitable 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 the group from 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 who subsequently do not develop endophthalmitis. 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 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 10.6 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 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 use 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.


delivered for...
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.

It is felt that 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 Optometrist’s 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.

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 in one 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 many 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 medically 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 MACREW

**BOOK REVIEWS**


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 cicatricial 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 syndromes (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 ocular cicatricial disorders and probable solutions.
Better understanding of the influence of the MHC antigens on the aetiology of ocular-cocutaneous 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 Blindensommission 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 EDASA, 1105 Quezon City, Metro Manila, Philippines. (Tel: (632) 927-2317 or (632) 925-3789; fax: (632) 924-6550; email: pao@pao.org.ph) (632) 927-2317 or (632) 925-3789; fax: (632) 927-2317; email: pao@pao.org.ph)

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 Ophthalmologique Universitaire de Creteil, Centre Hospitalier Universitaire, 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 e.V, 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, Weinlandstrasse 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: sec@congress.se; http://www.congress.com/sec/)

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 27 August–2 September 1999 in Jerusalem, Israel. Further details: Secretariat, 4th Meeting of the European Neuro-Ophthalmology Society, PO Box 50006, Tel-Aviv 61101, Israel. (Tel: 972-3-514000; fax: 972-3-5176574; email: Euro99@kene.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@lveyec.stph.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 Ophthalmologique 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 Oogheelkunde, 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.