A new strain of the non-obese diabetic mouse which develops cataracts (NOD/Ba/Lop19)

EDITOR,—The non-obese diabetic (NOD) mouse is a spontaneous model of type 1 (insulin-dependent) diabetes mellitus, frequently used in diabetes research.1 The colony at the medical college of St Bartholomew’s Hospital (NOD/Ba) was established in 1987 and some 55% of females and 15% of male mice spontaneously develop diabetes by 30 weeks of age.2 Cataracts are not a characteristic normally found in NOD mice but were observed during routine inspection in 1988. All animals in the strain NOD/Ba/Lop19 now spontaneously develop cataracts in both eyes (typically at 104–109 days of age). There are differences between NOD/Ba/Lop19 and the other mice of the colony with puberty, gestation period, teeth eruption, and eye opening all taking place later. Cataracts of the type seen are often the result of metabolic disturbances; however, although blood glucose levels greater than 12 mmol/l are known to cause cataracts in experimental models,3 their development in NOD/Ba/Lop19 is not related to the development of diabetes (normally at 112–133 days) as they occur before blood glucose levels exceed 11.5 mmol/l. This is unusual in that cataract formation in other susceptible laboratory rodents usually precedes the development of a general disease state.4

The cataracts initially take the form of a visible dense white sclerotic central area (see Fig 1), accompanied by clouding of the lens itself, which becomes denser over a few days. Both eyes are usually affected within 5 days of each other. Back cross breeding experiments show the Mendelian inheritance patterns typical of a single recessive gene. It has been suggested that there may be a subset of young diabetic patients with unusual susceptibility to cataracts and other complications of diabetes affecting the eye5 and NOD/Ba/Lop19 could act as a specific model for this group. If the mechanism by which cataract formation occurs in NOD/Ba/Lop19 mice could be established then it could prove useful to determine if any diabetic patients who develop cataracts have the same genotypic and/or metabolic characteristics. This then raises the possibility of preventative treatment.


Cortically visually impaired children

EDITOR,—While Hoyt and Friedrick rightly state the heterogeneous aetiology of cortical visual impairment (CVI) in children,6 we were disappointed by the null findings and unjustified dismissal of the value of electrophysiological studies in these cases. They fail to quote any electrophysiological studies more recent than 1979 in their review, of which there have been a not inconsiderable number. As far as our own work we have found that a normal flash VEP indicates statistically and clinically a better prognosis in blind babies with non-ocular visual impairment even though we would concede that in some cases flash VEPs can be normal in CVI.7 It is therefore clinically useful to perform evoked potential studies in these children, a point endorsed by the commentator in the same issue of BJOP,4 which states that electrophysiological investigations are mandatory in the investigation of babies with poor visual contact. We endorse this sentiment and although accepting the limitations of the technique, feel that VEP investigations provide valuable objective information in the assessment of these infants. Hoyt and Friedrick rightly point out that further work is required in this infant CVI but not even to attempt any review of work within the past 20 years—never mind the most recent—is at best misleading and at worst scientifically unacceptable.

M P CLARKE
K W MITCHELL
Department of Ophthalmology,
University of Newcastle,
Royal Victoria Infirmary,
Newcastle upon Tyne NE1 4LP


Reply

EDITOR,—We thank Clarke and Mitchell for their thoughtful comments on our editorial on cortical visual impairment (CVI). We are somewhat bemused by the notion that the passage of time invariably validates good clinical studies. Our editorial did not go into detail about VEPs and CVI because of space limitations and the focus of that editorial. We meant only to imply that VEPs had been less useful than we all hoped they would be in evaluating this difficult group of visually impaired children. We do not disagree with Clarke and Mitchell that intact flash VEPs usually imply a better visual outcome than if the VEPs are abnormal or absent. Similar results have been reported by Taylor and McCulloch.8 Regrettably, in our studies of children with cortical visual impairment the group of patients with intact flash VEPs represents only a small proportion of those we care for. In the remaining larger group of patients with abnormal VEPs we have not found good correlation with the ultimate visual outcome. Moreover, in children with neurological disorders, flash VEPs are often abnormal even when the patient is well sighted.9 The problem then is how to interpret an abnormal VEP in a child with CVI. This is where VEPs have been disappointing and frequently misleading VEP mapping may provide a significant improvement over standard flash VEPs. Witing et al.1 reported that VEP mapping in 50 children with permanent CVI was always abnormal and showed good correlation with computed tomography, whereas the conventional VEP recordings were abnormal in only 50% of cases and with much less good correlation. We, therefore, look forward to further studies of VEPs demonstrating improved techniques that provide better prognostic value when evaluating the abnormal VEP in a child with CVI.

We apologise for any confusion caused by the brevity of our discussion. We encourage Clarke and Mitchell to continue their VEPs of children with CVI and look forward to reading their results in the future.

CREIG S HOYT
DOUGLAS R FREDRICK
San Francisco, California


Automated perimetry by optometrists in patients at low risk of glaucoma

EDITOR,—The letter by Dayan et al1 raises some interesting questions regarding the examination and referral of patients by optometrists for further investigation in relation to open angle glaucoma. While the authors base their comments largely upon anecdotal evidence from a series of only 11 subjects from one small source, there are nevertheless some important points to be answered from these comments.

Firstly, the College of Optometrists guidelines offer guidance based on clinical evidence to optometrists conducting eye examinations. They specifically encourage optometrists to conduct the appropriate tests on any individual patient as a matter of best practice. In the case of glaucoma, recommendations are made that visual field tests should be conducted on subjects over the age of 40, those with a family history of glaucoma, and those with suspicious optic discs or other risk factors.2

The majority of visual field tests used in optometric practice are based upon static
perimetry (College of Optometrists annual clinical survey, 1998) and decisions then need to be made on the results obtained. Therefore, if one or two points are missed on a central field test does that mean an abnormality is present? The optometrist needs to make a judgment on this issue in the light of the complete clinical findings rather than simply exert a pass/fail criterion from a screening test.

Not surprisingly most glaucomatous patients in hospital clinics are referrals from optometrists but evidently this is at the cost of a relatively high false positive rate.1 Not surprisingly also, visual field test designers are continually trying to develop programs with high specificity and high sensitivity, which help the user to make an appropriate decision regarding normal or abnormal findings and thus referral.

Whether the optometrist refers a patient to the general practitioner for further investigation is influenced by a number of factors. Optometrists are legally required to refer patients if an abnormality is suspected or found. Therefore, realistically, individual practitioners are more concerned about missing pathology than referring false positives. This feeling is further strengthened by legal cases reaching the General Optical Council where optometrists have been sued (successfully) for not detecting and referring ocular pathology. A practitioner who does not comply with the guidelines themselves that are the problem.

The fault does not lie with individual optometrists as they cannot be blamed for making the referral, and the practitioner who does not comply with the guidelines themselves that are the problem.

We note that there is some disquiet among optometrists as well as ophthalmologists about the guidelines themselves. It has been suggested that there could be some area where a patient will be referred with a normal finding and thus referral. Ideally the ophthalmologist will send a copy of the reply to the referring optometrist. Currently and historically this process hasn’t been created by the guidelines themselves that are the problem.

Videston—1 thanked Dr Griffiths for his reply to my original comments. However, I would like to answer some other points he raises.

The use of visual field screening in patients above the age of 40 in optometric practice is based on the fact that the incidence of glaucoma increases above that age. Therefore, measuring handicapped and visual and visual fields and combining this with assessment of the optic disc is highly relevant in that group of the population. The highest positive predictive value (PPV) is demonstrated when information on all three factors is included.2 3

Logically it follows that the PPV of visual fields as a “stand alone” test increases if it is only used in a group with a higher cut off age—that is, 60 years of age or above.4 It is therefore incorrect to use the term as nouns. American English has coined the word viscoelastic and through common usage is encouraging others to adopt it. However, surely we should expect a native British journal to set a better example by using technically correct terminology.

E S ROSEN
10 St John Street, Manchester M3 4DY

BOOK REVIEW


The editors of Ida Mann’s autobiography, Elizabeth Buckley and Dorothy Potter, have undertaken a task of a true devotion. Through their long standing respect and admiration for this giant of 20th century ophthalmology, the authors have successfully brought together an excellent book which reviews the somewhat meandering autobiography which Ida Mann herself wrote.

For those who are interested it is an extremely fascinating account of individuals who helped to form Ida Mann’s career from her early days at Moorfields and Oxford onto her period in Australia and the continuing research that she did there on Aboriginal demographics.

The autobiography itself provides a unique insight into the enormous energy, but even more so into the approach, which Ida Mann took to her research work. Undoubtedly, these were driven by a great interest in her topics. In addition, she paid great attention to detail and this is highlighted in the book itself with some

4 Crick RP. What can we do about the detection of primary open angle glaucoma? Glaucoma Forum 1999;1:10–18.


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Viscoelastic

Ed. Elizabeth Inlay Buckley, Dorothy Potter. Pp 310; £30.00.

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4 Crick RP. What can we do about the detection of primary open angle glaucoma? Glaucoma Forum 1999;1:10–18.


4 Crick RP. What can we do about the detection of primary open angle glaucoma? Glaucoma Forum 1999;1:10–18.
The Tenth Annual Loyola Ophthalmology Continuing Medical Education Committee, European Board of Ophthalmology, will hold a workshop entitled “The other side of the chin rest” on 10 July 1999 at the London Eye. Further details: Jeanette Hawkes, The Biomaterials Partnership, LGC (Teddington) Ltd, Queens Road, Teddington, Middx TW11 0LY (tel: 0181 943 7596; fax: 0181 943 2767; email: biomaterials@lge.co.uk).

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, Institute of Ophthalmology, University College London, 60 Eccles Street, Dublin 7, Ireland.

JOHN V FORRESTER

NOTICES

Community based rehabilitation

The latest issue of the Community Eye Health (no 28) discusses community based rehabilitation in developing countries. For further information please contact Community Eye Health, International Centre for Eye Health, Institute of Ophthalmology, 11–13 Bath Street, London EC1V 9EL. (Tel: (+44) 171 608 6910; fax: (+44) 171 250 3207; email: eyesresource@ucl.ac.uk) Annual subscription £25. Free to workers in developing countries.

Royal National Institute for the Blind


Neglected Areas of Disease Burden: The Biomaterials Challenge

A workshop will be held on 30 June 1999 at the Society for Chemical Industry, 14/15 Belgrave Square, London covering five areas: ophthalmic, craniofacial, stroke, respiratory, renal, with a keynote address “Artificial vision” given by Professor Mark Humayun (Baltimore, USA). Further details: Jeanette Hawkes, The Biomaterials Partnership, LGC (Teddington) Ltd, Queens Road, Teddington, Middx TW11 0LY (tel: 0181 943 7596; fax: 0181 943 2767; email: biomaterials@lge.co.uk).

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).

British Ophthalmic Photographic Association

The British Ophthalmic Photographic Association (BOPA) will hold a workshop entitled “The other side of the chin rest” on 10 July 1999 at the London Eye. Topics include: consent; allergies and complications; living with visual impairment; and procedures. Cost £20. Further details: Tim Mole (tel: 01703 798747).

Continuing Medical Education

The Tenth Annual Loyola Ophthalmology Alumni Day on the subject of corneal oedema will be held on 12 June 1999 at Loyola University Medical Center, Maywood, IL, USA. Further details: Russell Dolce, Department of Ophthalmology, Loyola University Medical Center, 2160 South First Avenue, Maywood, IL 60153, USA (tel: (708) 216-3408).

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.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 Soulbrane, 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.

XXXIV Nordic Congress of Ophthalmology

The XXXIV Nordic Congress of Ophthalmology will be held in Reykjavik, Iceland, 18–21 June 2000. This meeting celebrates the 100 year anniversary of the Nordic Ophthalmology Conference. Further details: Iceland Incentives Inc, Hamarborg 1–3, Is-Kopavogur, Iceland (tel: +354 554 1400; fax: +354 554 1472; email: incentiv@itn.is).

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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: Eunos99@lnenes.com).

DR-2000, International Forum on Diabetic Retinopathy

The International Forum on Diabetic Retinopathy will take place on 7–9 September 2000 at the Palazzo Reale, Naples, Italy. Further details: Francesco Bandello, Congress Secretariat, MGR Congressi, Via Servio Tullio, 4, 20123 Milano, Italy (tel: 39 02 430071; fax: 39 02 48008471; email: dr2000@mgr.it).
Cortically visually impaired children

M P CLARKE and K W MITCHELL

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