Tear secretion and tear film function in insulin dependent diabetics

EDITOR,—I read the article by Goebbels with interest and would like to share a few opinions with you. Goebbels stated in his paper that BUT results did not differ between diabetics and controls and also pointed out that BUT is a very rough test for the detection of tear film stability. He found low Schirmer test values and conjunctival squamous metaplasia in diabetics compared with controls. He hypothesised that a decrease in reflex tearing inducing conjunctival surface damage, disturbance of the trophic function of the tear film, or metabolic alterations might be responsible. First of all, we believe with many others that BUT is an invaluable and direct test of tear film stability when performed carefully. In addition, a keen observation of the breaking tear film provides a lot of information on the minute changes on the ocular surfaces. We found in our study that BUT scores, Schirmer test values, central corneal sensitivity, and goblet cell density were significantly lower in NIDDM patients compared with controls. NIDDM patients also had significantly higher squamous metaplasia grades. We showed that tear film function and impression cytology variables significantly fared poorly in those patients with diabetes with peripheral neuropathy. Loss of corneal sensitivity and poor metabolic control without any correlation with duration of diabetes and status of retinopathy. We believe that the ocular surface disease in diabetes is characterised by squamous metaplasia and goblet cell loss which seems to evolve in close proximity to the status of metabolic control and peripheral neuropathy. Corneal and conjunctival epithelial damage caused by disruption of tear quality and quantity and diabetic neuropathy may be important determinants of diabetic ocular surface disease.

Our final comment and request to all researchers who carry out impression cytology studies with devotion is that the methodology of the procedure should be reported in each paper with photographs of the samples so that we can compare and refine our own procedures despite variability in cytology techniques and difficulties in comparing impression cytology studies with one another. Besides, no impression cytology study should be without information on figures of squamous metaplasia grade and goblet cell densities. Absence or presence of mucin pick up of filter papers must be mentioned without fail since such observations prove noteworthy; mucin being one of the major components in increasing the tear film stability and the wettability of the ocular surface.

MURAT DOGRU
Uludag University School of Medicine, Department of Ophthalmology, Gonderlu Barisi 16659, Turkey


Reprint

EDITOR,—Dogru found decreased Schirmer test values and significantly higher grades of squamous metaplasia in NIDDM patients, thus confirming the data we obtained in our study on insulin dependent diabetics. Furthermore, he made two points with regard to breaking time (BUT) and impression cytology (IC). Undoubtedly, the determination of the BUT is a helpful tool for the clinical assessment of tear film disorders, especially when showing significantly reduced BUT values. However, there is some question as to whether or not the measurement of the BUT is a sensitive technique for the quantitative and reproducible determination of tear film stability. Even when performed properly, BUT values are often characterised by significant intradiurnal variability. In our study, BUT values did not differ between diabetics and controls. Thus, either the technique is not able to detect a difference between groups, or there isn’t one. We obtained a total of 1332 IC specimens.

The degree of squamous metaplasia was evaluated in a masked fashion according to a scale described by Tseng as mentioned in the paper. In our opinion, the demonstration of two or three figures of IC samples would provide poor additional information.

M J GOEBBELS
Dozent der Med Fachhochschule der Uni Bonn, Belgradz des Krankenhauses Düren, Oberstrasse 45, 52349 Düren, Germany

International Poverty and Health Network

EDITOR,—I read with interest and concern the recent editorial in the BJ O.

I have visited the Kikuyu Eye Unit near Nairobi on a yearly basis since 1992, and have witnessed at first hand both there and in Somalia the enormous burden of poverty and ill health described and quantified in the editorial. What strikes me very forcibly is the sheer number of hugely disadvantaged people. This, and the distressing and widening disparity in health and income between these people and those of us living in developed countries, is well made in the editorial. I have come to feel that efforts to improve control should receive a high priority, and in this regard I was surprised and disappointed that the IPPHN makes no mention of this in their checklist of strategies to reduce the global burden of poverty and poor health. I would be very interested to hear their response.

ROGER GRAY
Taunton and Somerset Hospital, Musgrove Park, Taunton, Somerset, TA1 5DA

BOOK REVIEWS


This book includes contributions from experts in the field of ophthalmic immunology. Topics covered in the book are concisely summarised, providing relevant ophthalmological information, clinical presentation, and appropriate treatment of various immune mediated intraocular diseases, as well as ocular adnexal diseases and orbital pathology. To accomplish the objectives of the book, the editors interviewed the major experts in the field of immune-mediated ocular diseases and first provided an exceptional overview of the general principles of innate and adaptive immunity along with concepts on regional immunity pertaining to intraocular tissues. Furthermore, the book includes the immunopathology of Graves’ ophthalmopathy, the immunology of lacrimal gland and tear film, and the immunological characteristics of conjunctival and mucocutaneous disorders. Other highlights include an updated review of the immunology of corneal transplantation, immune regulation of uveoretinal inflammation, and immunotherapy of uveal melanoma. Although several of the chapters are well illustrated, few chapters, such as those on scleritis, pemphigoid, and glaucoma, are without diagrams or illustrations of the ocular inflammation. Moreover, the purpose of the chapter entitled “Ocular hypertension and glaucoma associated with scleritis and uveitis” is unclear since the chapter does not cover any aspect of immunology. Although the review of scleritis addresses some limitations: the chapter entitled “Uveitis” is equally unclear since it does not cover any aspect of immunology. The purpose of the chapter entitled “Uveitis” is equally unclear since it does not cover any aspect of immunology.


This is a multi-authored book with the main author responsible for 12 out of the 38 chapters. All contributors (mainly European) are well known in their respected fields. It is just over 500 pages long and the majority of the text is devoted to uveitis with a chapter each on conjunctival, corneal, scleral, and orbital inflammations. The book is divided into five main sections: General aspects; Diagnostic tests of potential value in chronic non-infectious ocular inflammation; External ocular inflammatory diseases; Intracocular inflammation; and Optic nerve. The first two of these sections deal with underlying disease mechanisms at the basic science level, but just in relation to uveitis and not the other inflammatory disease included in the book. The first chapter on immunosuppression...
and immunomodulation is uninspiring and cyclosporin A is even described as a new drug. The chapters on immunological mechanisms underlying uveitis are rather disconnected as they are written by different authors so there is no common theme and they could be quite confusing to the novice. Nevertheless, the chapters on cytokines and HLA are informative but more could have been written on the latter topic and it cries out for a diagram. There are a large number of colour figures but not all of good quality, some fail to show the pathology and some are unnecessary. Diagrams explaining the taking of intraocular specimens would have been useful, as would the inclusion of treatment algorithms using corticosteroids and cyclosporin A for immunosuppression (although one does appear in the chapter on Behçet’s disease). The layout is unexciting and this is basically just another textbook on uveitis. In the age of multimedia, a more imaginative layout with shading, coloured text and diagrams, and boxes highlighting key points would have made it much more readable. The non-uveitis chapters are too brief and just as they start to whet one’s appetite for more—they end. Yet there are some good chapters, particularly on orbital inflammations (thyroid eye disease is not included), ICG, birdshot, and AIDS. The chapter on Behçet’s disease briefly mentioned the standard, recognised ISG classification but failed to document it. The most glaring omission was the topic of corneal graft rejection. Apart from a short paragraph on rejection lines it was never mentioned.

This book is overambitious as it tries to cram intraocular, conjunctival, corneal, and orbital inflammations into one text and fails to succeed. I am unsure what market the book is aimed at but it may have a place in some library shelves. Ophthalmology residents, however, should keep their credit cards firmly in their wallet.

PHILIP MURRAY

NOTICES

Vision 2020: the cataract challenge
The latest issue of Community Eye Health (34) discusses cataract blindness and surgery with an editorial by Allen Foster. 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) (0) 20 7608 6909; 6910/6923; fax: (+44) (0) 7250 3207; email: eyeresource@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, 60 Eccles Street, Dublin 7, Ireland.