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.4 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 and decreased 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 quantity and quality 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 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 cytolytic 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.

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Reply

EDITOR.—Dogrul 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 points with regard to break up 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 something to 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 intra-individual 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 more additional information.

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International Poverty and Health Network

EDITOR.—I read with interest and concern the recent editorial in the BJO. 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 control should receive a high priority, and in this regard I was surprised and disappointed that the IPH 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.

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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 various significant experts in the field of ophthalmic immunology. As such, the book provides a lot of information on the minute details of each topic, which is helpful to all specialists interested in this field.

BOOK REVIEWS


This is a multiauthored book with the main author responsible for 12 out of the 30 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; Intraocular 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
European Association for Vision and Eye Research (EVER) The European Association for Vision and Eye Research (EVER) will be meeting on 4–7 October 2000 in Palma de Mallorca, Spain. Further details: Secretariat EVER, Postbus 74, B3000 Leuven, Belgium (fax: +32 16 33 67 85; email: EVER@med.kuleuven.ac.be).

Fifth Annual Meeting of the Association for Ocular Pharmacology and Therapeutics The Fifth Annual Meeting of the Association for Ocular Pharmacology and Therapeutics will be held 2–5 November 2000 in Birmingham, AL, USA. Further details: Jimmy D Bartlett, OD, Department of Optometry, University of Alabama at Birmingham, 1716 University Blvd, Birmingham, AL 35294-0010, USA (tel: 205-934-6764; fax: 205-975-7052; email: jbartlett@icare.opt.uab.edu).

American Institute of Ultrasound in Medicine—Millennium Ultrasound Course Series A course entitled “Ultrasound Diagnosis and Management of Fetal Growth Abnormalities” will be held in Las Vegas, Nevada, on 3–5 November 2000. Further details: Stacey Bessling, Public Relations Coordinator, AIUM, 14750 Sweitzer Lane, Suite 100, Laurel, MD 20707-5906, USA (tel: 301-498-4100; email: sbessling@aium.org).


Millennium Festival of Medicine A festival keynote conference will be held on 6–10 November 2000 at the Queen Elizabeth II Conference Centre, London, as part of the Millennium Festival of Medicine coordinated by the BMA in partnership with leading UK professional medical bodies. The conference will provide healthcare and allied bodies with an overview of the trends and developments which will affect medical treatment and practice. Further details: Christina Gwynne-Evans (tel: +44 (0) 20 7383 6872; email: cgwynne-evans@bma.org.uk).

12th Afro-Asian Congress of Ophthalmology The 12th Afro-Asian Congress of Ophthalmology (Official Congress for the Afro-Asian Council of Ophthalmology) will be held on 11–15 November 2000 in Guangzhou (Canton), China. The theme is “Advances of ophthalmology and the 21st century.” Further details: Professor Lezheng Wu, Zhongshan Eye Hospital, 52 Xianlie Nan Road, Guangzhou 510060, PR China (tel: +86-20-8777 3370; email: lwuicv@gzsums.edu.cn).

American Institute of Ultrasound in Medicine—Millennium Ultrasound Course Series A course entitled “Obstetrical Ultrasound” will be held in Marina del Rey, CA, on 12–14 January 2001. Further details: Stacey Bessling, Public Relations Coordinator, AIUM, 14750 Sweitzer Lane, Suite 100, Laurel, MD 20707-5906, USA (tel: 301-498-4100; email: sbessling@aium.org).

American Institute of Ultrasound in Medicine—Millennium Ultrasound Course Series A course entitled “Obstetrical and Gynecological Ultrasound” will be held in New York City, NY, on 24–26 August 2001. Further details: Stacey Bessling, Public Relations Coordinator, AIUM, 14750 Sweitzer Lane, Suite 100, Laurel, MD 20707-5906, USA (tel: 301-498-4100; email: sbessling@aium.org).