

LETTERS TO THE EDITOR

Compact field charts

SIR,—It is often difficult to assess field examinations. Fields are often in the wrong order and comparison between one field and another difficult because the examinations are often performed under different conditions.

For six years we have found it easier to record Friedman fields on one sheet of paper. This we have achieved by reducing three standard Clement Clarke Field Charts Cat. No. 530 4010 on a photocopier from 230 mm×210 mm to 210 mm×100 mm. We then photocopy these reduced charts together and at the same time make a double sided copy to give us six reduced field charts on one sheet of paper.

In this way we find it easier to achieve standardised conditions such as intensity of stimulus and the wearing of reading spectacles if needed. It is also easier to see definite changes from the first visit to up to six years later, thus avoiding, if possible, the all too frequent insidious loss of vision and field.

The charts were originally designed by A. Friedman and are produced by Clement Clarke International Ltd.

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Diabetes and retinal function

SIR,—I refer to your leading article¹ concerning a paper on an investigation into retinal function in the diabetic eye.² 'The mysterious absence of abnormality where abnormality would be expected' is almost certainly due to the method used to investigate the visual fields.

It should also be said that the number of papers on the subject is larger than the list of references indicates.

I have not reviewed the literature since 1969,³ but even then there were references to scotomata in patients with diabetes.⁴ There has been a much more recent study which the authors of the paper under discussion may not have seen.⁶ The conclusions reached in this paper are similar to those reached in mine; scotomata are common in diabetic eyes and are possibly due to microangiopathy.

It is puzzling that Bek and Lund-Andersen failed to find visual field defects in view of the fact that they used the same apparatus as the authors of the most recent study.

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- 1 Smith RJH. Diabetes and retinal function. *Br J Ophthalmol* 1990; 74: 385.
- 2 Bek T, Lund-Andersen H. Localised blood-retinal barrier leakage and retinal light sensitivity in diabetic retinopathy. *Br J Ophthalmol* 1990; 74: 388-92.
- 3 Roth JA. Central visual field in diabetes. *Br J Ophthalmol* 1969; 53: 16-25.
- 4 Dubois-Poulsen A. *Le champ visuel*. Paris: Masson, 1952: 654.
- 5 Lakowski R, Aspinall P. *The visual laboratory*. Edinburgh: 1966.
- 6 Trick GL, Trick LR, Kilo C. Visual field defects in patients with insulin-dependent and noninsulin-dependent diabetes. *Ophthalmology* 1990; 97: 475-82.

SIR,—The paper presents parts of a systematic, comparative study of retinal morphology and neurosensory function in diabetic retinopathy. The authors employ a newly developed technique for accurate superimposition of visual field data on to the corresponding fundus morphology.¹ With this comparative technique scotomata have been found, which indicate that the loss of neurosensory function in diabetic retinopathy in many cases, but not always, may be ascribed to retinal microangiopathy. The authors' tentative explanation of this inconsistency is that impaired supply of deeper retinal layers, such as choroidal vascular impairment or pigment epithelial dysfunction,

may be involved with other factors in producing visual loss in diabetic retinopathy. These findings, and also findings that confirm the results of Roth² will be published later.

Since 1969 several papers have been published on computerised perimetric studies of diabetic retinopathy, as for example Trick *et al*³ However, to our knowledge the standard stimulus conditions developed for glaucoma screening (Goldmann stimulus size III combined with a stimulus spacing of 4.2 or 8.4 degrees) have been employed in all these studies. Except for proliferative diabetic retinopathy, where the scotomata to be found may be expected to be large,⁴ these parameters are in our experience unsuitable for the detection of most of the small visual field scotomata characteristic of diabetic retinopathy. My colleagues and I have studied the influence of different perimetric stimulus variables on the ability to detect small scotomata,⁵ and we have established that, besides a properly chosen small stimulus spacing, the stimulus size has to be chosen as small as possible. Therefore the most optimal parameters available on the Humphrey Field Analyzer (HFA) were chosen by combining Goldmann stimulus size I with a stimulus spacing of 1°. We believe that much important information has been lost in prior studies due to improper stimulus conditions, and due to the fact that a precise correlation between visual field data and the corresponding retinal morphology rarely has been made.

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- 1 Bek T, Lund-Andersen H. Accurate superimposition of visual field data onto fundus pictures. *Acta Ophthalmol (Kbh)* 1990; 68: 11-8.
- 2 Roth JA. Central visual field in diabetes. *Br J Ophthalmol* 1969; 53: 16-25.
- 3 Trick GL, Trick LR, Kilo C. Visual field defects in patients with insulin-dependent and noninsulin-dependent diabetes. *Ophthalmology* 1990; 97: 475-82.
- 4 Bek T. Coexistence of localized scotomata and neovascularizations in proliferative diabetic retinopathy. *Acta Ophthalmol (Kbh)* 1990; 68: 21-7.
- 5 Bek T, Lund-Andersen H. The influence of stimulus size on perimetric detection of small scotomata. *Graefes Arch Clin Exp Ophthalmol* 1989; 27: 531-4.

FIFTY YEARS AGO

Annotation: The Journal in 1940

When the War came last year it was obvious that some curtailment in the size of the monthly numbers would have to be made, since the management could not foretell the financial position with any exactitude.

It is now possible to state that we shall be able to continue regular publication at any rate for this year, and every effort will be made to continue for the 'duration.' But the rationing system must continue, although it will be our aim to make this ration as large as possible. Papers dealing with war conditions will have priority over more ordinary material.

In these circumstances some delay in publishing papers is inevitable. We hope authors will bear this in

mind and the Editors on their side will do their best to avoid undue delay.

Authors can help the Journal materially by keeping their proof corrections as low as possible. Manifest errors must of course be corrected, but there is no need to make endless corrections in the interests of the English language. The Editors feel that they can almost pardon a split infinitive in the cause of economy. And the writer has always had a sneaking sort of partiality for that old Kaiser Sigismund, who at the Council of Constance in 1414, was pulled up by one of the Cardinals on an obvious slip in grammar and replied 'I am King of the Romans and *super grammatician*.' It is so easy to make mistakes not only in professional matters but also in writing and speaking.

Br J Ophthalmol 1940; 24: 189.



Diabetes and retinal function.

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Br J Ophthalmol 1990 74: 704
doi: 10.1136/bjo.74.11.704-a

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