Correspondence

Proliferative diabetic retinopathy

*To the Editor of the **British Journal of Ophthalmology***

SIR,—I have been interested to read the paper by Dobree and Taylor (1973), but would like to record some comments and criticisms of the evidence on which the writers base their claim that “Using the parameter of the retention of the original visual acuity, the treated cases fared better than the controls . . .”, p. 80.

Visual acuity has been used as an important criterion of success. Was observer bias prevented by careful refraction just before and at the end of the trial, in controls and cases, by *a refractionist who was unaware of whether the individual was (to be) patient or control?* Patient bias could only have been efficiently prevented by sham treatment for controls.

Controls have a number of unsatisfactory features. They were “cases studied before the light coagulator was available”, but I realize that the authors presumably felt it unethical to withhold treatment from any patient after that time. A more satisfactory control sample is achieved by alternating cases and controls—or better still, by treating one eye chosen at random. Their systemic treatment did not knowingly differ from that of the group of light-coagulated cases (Dobree, personal communication on April 27, 1973). More seriously, 30·9 per cent. of the treated patients had an age at onset of diabetes over 40 years, while 40·5 per cent. of the controls were in that category (Table I, p. 73); this distribution very unfortunately biases the results towards a worse prognosis in the control group because (p. 77) “. . . a higher proportion of patients with diabetes of juvenile onset (63 per cent.) retained 6/9 vision than of those with diabetes of mature onset (35 per cent.). Moreover, there is a trend towards a more rapid loss of vision with late onset diabetes than with early onset diabetes—so that those with a visual acuity of less than 6/60 have 30 years’ average duration of diabetes with onset at less than 16 years in contrast to 8 years’ average duration with onset at 40 years or over”. Depending on the exact definition of “juvenile”, “mature”, and “early onset”, however, this criticism may be mitigated somewhat, because in the group with age at onset “15 to 40” there is a higher proportion of cases (38·9 per cent.) than controls (30·9 per cent.).

“These controls . . . are comparable in . . . the length of time they have been observed (Tables I, III, IV)” (p. 73). There were sixteen out of 59 controls who had been observed for more than 5 years, and only eleven out of 174 treated cases observed for this length of time (Table IV, p. 77). Mr. Dobree has informed me (personal communication April 27, 1973) that “> 5” years means the examination following the expiry of the 5-year period and not any duration longer than that.

Eyes or patients

Since the two eyes of any one patient tend to behave similarly, only one eye chosen at random of each patient should have been included. This principle has been infringed, because 174 eyes from 126 patients have been included, and 59 control eyes from 42 patients. Even if the authors felt it unethical to treat one eye of each two-eyed patient and to use the other as a control, only one eye should have been used for statistical comparisons, although there would be no bar to presenting right and left eyes separately. This subject has recently been discussed by Ederer (1973).

Statistical Analysis

No mention of the odds against mere chance as the explanation for the observed differences seems to have been made.

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Yours faithfully,
C. I. PHILLIPS

May 11, 1973

References

DOBREE, J. H., and TAYLOR, E. (1973) *Brit. J. Ophthalmol.*, **57**, 73
EDERER, F. (1973) *Arch. Ophthalm. (Chicago)*, **89**, 1 (Editorial)

To the Editor of the British Journal of Ophthalmology

SIR,—The reason why a statistical analysis was not given is that it is not known if the disease existed in comparable severity in the treated and untreated cases; many of the local and general factors influencing the prognosis are still unknown. It is for this reason that the word controls was put in inverted commas.

As Professor Phillips states, a satisfactory control is to use one eye chosen at random, but this depends on the symmetry of the disease in paired eyes, a fact which has only recently been shown in our own unit (Taylor and others, 1973) after the present paper was sent for publication.

What we have done is to make the third, and we hope not the final, report on the results of a continuous series which now includes some 200 cases of proliferative diabetic retinopathy. I believe these results to be encouraging.

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Yours faithfully,
J. H. DOBREE
ENID TAYLOR

July 17, 1973

Reference

TAYLOR, E., ADNITT, P. I., and JENNINGS, A. M. C. (1973) *Quart. J. Med.*, **42**, 305

Book reviews

Modern Trends in Ophthalmology. Vol. 5. Edited by A. SORSBY and S. MILLER. 1973. Pp. 206, figs, refs. Butterworths, London. (£8)

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