LETTERS TO THE EDITOR

Keratitis in Reiter's syndrome

SIR,—We describe a patient with Reiter's syndrome who presented with a bilateral anterior stromal keratitis with a ragged corneal epithelial defect in one eye. These findings are a characteristic but rare and poorly recognised complication of Reiter's syndrome.

Case report

A 28-year-old man presented with 1 week's

Figure 1 Anterior stromal infiltrates and punctate epithelial erosions in the patient's right eye.

Figure 2 Anterior stromal infiltrates in the left eye.

Figure 3 Ragged epithelial defect in the left eye.

history of redness, pain, and blurring of the vision of both eyes. One month previously the eyes had been red with a mucopurulent discharge but these symptoms had resolved spontaneously over a period of 7 days.

Two months prior to the onset of his ocular symptoms he had had a diarrhoeal illness, followed shortly by polyarthralgia, and a diagnosis of Reiter's syndrome was made by a rheumatologist.

At the time of his initial ophthalmic examination he had coarse anterior stromal and epithelial infiltrates in both corneas (Figs 1 and 2), fine punctate erosions in the right eye, and a large, ragged epithelial defect in the left (Fig 3). He had fine conjunctival papillae in both eyes.

He was treated with guttae chloramphenicol 0.5% and guttae prednisolone 0.3% each four times daily. Within 1 month of presentation the keratitis had resolved completely without scarring.

Comment

Common ocular manifestations of Reiter's syndrome include conjunctivitis and iridocyclitis but, although it is mentioned by Duke-Elder,¹ keratitis is not well recognised as a complication by most ophthalmologists.

Keratitis, similar to that described here, was reported in 1972 by Mills and Kalina,² and more recently by Wiggins *et al.*³ Lee and coworkers reported superficial punctate keratitis and pleomorphic anterior stromal infiltrates in 4% of patients with Reiter's syndrome in their study.⁴

Our case demonstrates all the clinical features of an established case of keratitis in Reiter's syndrome.

Anterior stromal keratitis, affecting mainly the peripheral cornea, and associated with ragged epithelial erosions, is a rare but characteristic finding in Reiter's syndrome. A prodromal conjunctivitis is usual as is spontaneous resolution.

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- 1 Duke-Elder, Sir Stewart. *System of ophthalmology*, Volume VII, Part 1. London: Kimpton, 1965: 530.
- 2 Mills RP, Kalina RE. Reiter's keratitis. *Arch Ophthalmol* 1972; 87: 447-9.
- 3 Wiggins RE, Steinhuller PG, Hamill MB. Reiter's keratoconjunctivitis. *Arch Ophthalmol* 1990; 108: 280-1.
- 4 Lee DA, Barker SM, Su WPD, *et al.* The clinical diagnosis of Reiter's syndrome. *Ophthalmology* 1986; 93: 350-6.

Statistical standards

SIR,—I was recently invited to give a talk to the Department of Ophthalmology in Oxford on statistical methods in eye research. I chose to structure my talk around a review of the standard of statistics in articles published in the *BJO* and I thought that your readers might be interested in my findings.

I reviewed all of the articles published in the *BJO* during the first 6 months of 1990 concentrating on their statistical content including design, presentation, analysis, and interpretation. I identified 42 articles that had employed a statistical analysis and a further seven where I thought that a statistical analysis would have been helpful but was not given. The methods used were typically very simple and often just consisted of tests such as the *t* test or χ^2 test.

Any assessment of quality is bound to contain a large subjective element but even allowing for this the standard was a little

disappointing. I judged that 26 of the papers were either acceptable as they stood or needed only very minor changes perhaps of clarification. The remaining 23 contained what I would consider to be statistical errors. These errors ranged from the omission of important details to faulty design and the misuse of statistical tests. In very few cases were the errors so bad that the paper could not have been corrected, sometimes quite simply. However the errors do detract from the quality of the work and leave the reader in doubt about the conclusions.

These findings might at first sight seem surprisingly poor but they are very much in line with the results of similar reviews of published articles from journals covering other branches of medicine. The problem is well recognised and widespread, a solution is more difficult to find.

It is worth emphasising that the problem does not lie in the misuse of complex statistical techniques but rather in weak scientific method and a haziness about the underlying principles of statistical analysis. It is easy to point to poor medical education as the root of the problem, but medical students often do not see the need for courses in statistics and so pay comparatively little attention to them.

Perhaps it is up to the medical journals to take a lead by insisting on higher standards and by using referees who are trained in statistics.

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** Many thanks to Dr Thompson for his interesting letter which contains much food for thought. It emphasises the gap which exists between clinicians and professional statisticians, a gap which it would be good to narrow even perhaps to the extent of rendering redundant some of the old well-worn jokes about statistics. One is aware however from many conversations with responsible and experienced clinicians that suspicion about statistics dies hard and there are still numerous ophthalmologists who believe that complicated statistics are sometimes used to attempt to prove theories which, if they were really true, would be obvious by commonsense alone.

From my point of view as editor I am, although suitably chastened, at least glad to see that we at the *BJO* are not alone in publishing some papers with statistics which do not satisfy the professionals try as we may to keep authors on the straight and narrow. Looking around at some of our sister publications I should not be surprised if some of them were even worse than us but unfortunately these figures are not vouchsafed to us in the current letter.

On a positive note: we should very much welcome an article from Dr Thompson on the subject of good statistical practice in ophthalmic papers. The last we published, admittedly on a restricted aspect of the subject, the confusion of 'eyes' versus 'patients' in ophthalmic statistics, was back in 1987.¹ — ED, *BJO*.

- 1 Newcombe RG, Duff GR. Eyes or patients? Traps for the unwary in the statistical analysis of ophthalmological studies. *Br J Ophthalmol* 1987; 71: 645-6.

Amblyopia

SIR,—I congratulate Drs Lithander and Sjöstrand on their excellent study of amblyopia and the results of treatment.