LETTERS TO THE EDITOR

Sir William Bowman

EDITOR,—The recent editorial on Sir William Bowman¹ leads to two points worthy of mention, for their continuing relevance to medicine today.

Firstly, it seems that no one completes a distinguished medical career without some dispute and William Bowman was no different in this respect. Argument arose over Bowman's discovery of the essentially muscular nature of the 'ciliary membrane' in 1823, as a paper on the same subject had been presented a year previously by Robert Knox—he of the infamous connection with Burke and Hare (who were hanged for the crime of murdering vagrants to procure corpses for dissection).

Knox's paper included study of the ciliary muscle in vultures, in which it was very strong, in horses and deer, in which it was less marked, and in fishes, in which it was rudimentary. Apparently his association with Burke and Hare had turned him away from human anatomical study for a while, but in any case the debate over whether the credit was due to Bowman or Knox continued for years.²

Another salutary point is Bowman's example of fostering good medical nursing relations. Florence Nightingale's initial crusade was for better standards of nursing in Britain, since nurses of the time were often drunk on duty and tended to combine their duties with prostitution.³

Bowman, impressed with her assistance at a difficult operation, became her 'mentor' and offered her the chance to re-organise nurse training at King's College Hospital. Although this never came about, owing to Miss Nightingale leaving for the Crimean war, the example of interdisciplinary cooperation is one we could probably learn from today.

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- 1 Trevor-Roper P. Sir William Bowman—1816–1892. *Br J Ophthalmol* 1992; 76: 129.
- 2 Cope Z. *Sidelight on the history of medicine*. London: Butterworth, 1957, 185–7.
- 3 Woodham-Smith C. *Florence Nightingale*. London: Constable, 1950, 58 and 125–7.

Acyclovir in herpes zoster ophthalmicus

EDITOR,—I read with great interest the article by Marsh and Cooper.¹ Herpes zoster ophthalmicus (HZO) is indeed a serious illness, often characterised by severe ocular complications. Better knowledge on how to manage HZO complications by properly designed studies, such as the one by Marsh and Cooper, is therefore highly desirable. However, when dealing with HZO it is extremely important to distinguish between two different situations: acute HZO (a skin rash of equal or less than 3 days' duration) and late (subacute or chronic) HZO (with a rash of more than 3 days' duration), as the therapies differ radically. In the study by Marsh and Cooper we are clearly in the second situation of late HZO, as patients were included up to 3 weeks after the skin rash had appeared. It is interesting to note that the results of the study confirm the prevailing

clinical impression that steroids are (most of the time) indispensable for treatment of ocular inflammatory complications of HZO when it was not treated with systemic acyclovir (ACV) in the acute phase. The currently admitted rationale is, as the authors state, that inflammation is probably produced by antigenic changes of damaged tissue and not by viral replication.

The situation is however completely different in acute HZO where active viral replication is at the origin of disease morbidity. Moreover, the strong antibody response seen in HZO indicates that it is not a purely ocular phenomenon but has a systemic component, probably because varicella zoster virus (VZV) also spreads along perineural and perivascular pathways.² It is therefore reasonable to administer systemic ACV which, at the oral dose of 800 mg five times daily, is known to inhibit replication of most VZV strains.³

We showed in a series of 48 patients, treated with adequate doses of oral ACV within 3 days of skin eruption, that no patient went on to a chronic course or needed steroid therapy within a minimum follow-up period of 2 years.² We further showed that, if only topical or inadequate systemic doses of ACV were given, the rate of serious ocular complications or chronic evolutions tended to be equal to the pre-ACV rate of plus or minus 20%.⁴ The body of clinical evidence presently available, indicating that systemic doses of ACV given within 3 days of skin eruption prevent serious ocular complications, is so patent that, on an ethical base, no patient should at present be denied such treatment.^{5–7} The financial implications of routine ACV therapy for all cases of acute HZO are not to be minimised. However it is far from certain that the health cost of HZO will be cheaper if the decision is made not to treat systemically. We found that the average treatment duration and average number of visits of the group of adequately treated acute HZO patients was respectively 23 days and 5.5 visits, whereas it was 90 days and 10.1 visits in a group of patients having received only topical or inadequate systemic ACV (late treatment or insufficient doses). If prolonged therapy, prolonged medical care, and job absenteeism are taken together, routine systemic ACV therapy might well be more cost efficient.

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- 1 Marsh RJ, Cooper M. Double-masked trial of topical acyclovir and steroids in the treatment of herpes zoster ocular inflammation. *Br J Ophthalmol* 1991; 75: 542–6.
- 2 Herbert CP, Büchi ER, Piguet B, Zografos L, Fitting P. High-dose oral acyclovir in acute herpes zoster ophthalmicus: the end of the corticosteroid era. *Curr Eye Res* 1991; 10 (suppl): 171–5.
- 3 Liesegang TJ. Diagnosis and therapy of herpes zoster ophthalmicus. *Ophthalmology* 1991; 98: 1216–29.
- 4 Borruat FX, Büchi ER, Piguet B, Fitting P, Zografos L, Herbert CP. Prevention of severe ocular complications by adequate acyclovir therapy. *Klin Monatsbl Augenheilkd* 1991; 198: 358–60.
- 5 Cobo LM, Foulks GN, Liesegang TJ, Lass J, Sutphin JE, Wilhelmus K, et al. Oral acyclovir in the treatment of acute herpes zoster ophthalmicus. *Ophthalmology* 1986; 93: 763–70.
- 6 Hoang-Xuan T, Büchi ER, Herbert CP, Denis J, Frot P, Thenault S, et al. Oral acyclovir for herpes zoster ophthalmicus. *Ophthalmology* 1991; 98 (Suppl): 155.
- 7 McGill J, MacDonald DR, Fall C, McKendrick GDW, Copplestone A. Intravenous acyclovir in acute herpes zoster infection. *J Infect* 1983; 6: 157–61.

- 8 Harding SP, Porter SM. Oral acyclovir in herpes zoster ophthalmicus. *Curr Eye Res* 1991; 10 (Suppl): 177–82.

Reply

EDITOR,—We were interested to read Dr Herbert's letter. Whilst we agree about the importance of delivering effective systemic antivirals at the start of the disease, it is very seldom possible to do so. The vast majority of patients present to doctors when the rash is established and viral replication has been going for at least 5 days and has scattered throughout the tissues of the dermatome involved. Therefore most patients have secondary inflammatory complications at presentation. As far as the efficacy of systemic acyclovir is concerned, we are aware at present of only one controlled trial with administration of systemic acyclovir within the first 72 hours which claims a reduced instance of ocular complications.¹ The remaining series of reports are a mixture of prospective and retrospective results and are not double blind and controlled. We still feel that it is necessary to have another blind controlled trial with random selection of patients within 72 hours of the onset of pain with no exclusion of those with ocular complications at presentation (which occurred in the Cobo series).

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- 1 Cobo LM, Foulks GN, Liesegang TJ, Lass J, Sutphin JE, Wilhelmus K, et al. Oral acyclovir in the treatment of acute herpes zoster ophthalmicus. *Ophthalmology* 1986; 93: 763–70.

BOOK REVIEWS

Developments in Ophthalmology, Vol 19. Ultrastructure of the Conjunctival Epithelium. By Klaus-Peter Steuhl. Pp 104. £40.00. Karger: Basel, Switzerland, 1989.

Recognition of the importance of the conjunctiva and Tenon's capsule in ocular disease and wound healing is increasing. As knowledge of conjunctival anatomy and physiology grows an understanding of its pathology becomes clearer. It is the surface epithelium of the conjunctiva (and cornea) which is first exposed to external factors within the precorneal tear film. It also has a role in synthesising components of the precorneal tear film and thus both affects and is affected by the tear film. A detailed study of the conjunctival epithelium is therefore fully justified and is well presented in an organised fashion in this book.

The author sets out to explain the morphological significance of known and proposed functions of the conjunctival epithelium. In the introduction he provides a brief but well referenced synopsis on conjunctival/tear film structure and function. In contrast the chapter on materials and methods, although comprehensive, is of little direct interest to the general ophthalmologist. Most of the book is devoted to the results of the author's morphological study of both animal and human tissue. This is well illustrated with electron and light micrographs. A classification of five surface epithelial