Treatment was initiated following the biopsy with topical chlorhexidine 0.02% and propamidine isethionate at half-hourly intervals. In addition topical neomycin was used for a period of 4 days and subsequently discontinued.

A response to treatment was noted within 72 hours of commencing treatment with relief of pain, complete epithelial cover and break-up of the perineural infiltrates. Treatment was reduced to hourly drops after 4 days and to drops 6 times per day after 3 weeks. Two weeks following the commencement of treatment the patient developed an area of stromal oedema with underlying keratic precipitates in the inferior third of the cornea and a mild anterior chamber reaction. Topical antiamoebal therapy was continued and the use of topical steroids avoided. The stromal reaction resolved completely over 3 weeks. Currently the patient's corrected visual acuity is 6/4, there has been complete resolution of pain and inflammation, and the cornea is clear with a faint nebular opacity at the site of the peripheral stromal biopsy only. The patient is currently on treatment with 6 times per day chlorhexidine and propamidine.

We therefore suggest that this case report provides supportive evidence that chlorhexidine combined with propamidine isethionate offers an effective and well-tolerated first-line treatment for *Acanthamoeba* keratitis.

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Sir,

We are pleased that Richardson and Waterhouse[1] have shown interest in the report of our study,[2] but feel their comments confuse what is a simple message. We studied a group of 52 asymptomatic patients over 65 years of age, with no history of obstructive airways disease, who were using topical timolol. We found an increase in mean peak flow from 278 l/min to 328 l/min ($p<0.001$), in mean FEV_1 from 1.66 l to 1.85 l ($p<0.001$) and in mean FVC from 2.40 l to 2.64 l ($p<0.001$) when topical timolol therapy was changed to betaxolol or pilocarpine. Twenty controls showed no significant change in spirometry.

The most important finding was that 19 of 47 patients who changed therapy and completed the study, improved peak flow and FEV_1 by more than 15%. These patients demonstrated reversible airflow tract obstruction.[3] Non-selective beta antagonists are contraindicated in such patients, even if they are asymptomatic, because they risk developing severe bronchospasm, especially if a chest infection supervenes.

The suggestion that only those with a FVC over 2 litres can be included implies that elderly people with poor lung function should not be the subject of study.

Spirometry values depend upon age, height and sex as well as respiratory disease. There are well-validated predicted norms available for people up to 65 years but there is controversy as to reliability and reproducibility of norms in very elderly people. The American Thoracic Society advises caution when using predicted norms in the elderly.[4] Studies have demonstrated differences in predicted values as great as 20% for elderly people using different reference equations for spirometry.[5] We recorded the patients' heights, but decided not to express the results as a percentage of a predicted value because so many of the subjects enrolled in the study were very old [42 (58%) were over 75 and 11 (15%) over 85 years].

We tested for significance of changes in mean values between enrolment and review in treatment change and control groups separately and found significant change only in the treatment change group. Age and height are not important as we are looking at differences within groups.

Having a larger proportion of males in the treatment change group does mean slightly larger absolute values of spirometry values. This may exaggerate the magnitude of changes when the treatment change group is compared with the control. We feel that since spirometry of the controls hardly changed at all and the change in the treatment group was so large we can stand by our figures.

In patients with airways obstruction the amount of air that can be expelled in the first second (FEV_1) falls, but the total volume that can be expelled (FVC) is relatively preserved, and a low FEV_1/FVC ratio results. FVC is the most commonly used measure of vital capacity but may not be appropriate in those with emphysema. Emphysematous people have air-trapping which reduces FVC. However, if they are asked to expel air gently, to give the so-called relaxed vital capacity (RVC), there is less air-trapping and a more accurate measure of vital capacity is obtained. We regarded FEV_1 and peak flow as the most important measurements. Our spirometer recorded peak flow, FEV_1 and FVC on a single breath; a RVC would have required a separate recording.

We were surprised by the increase in mean FVC that we found. The most obvious explanation is a learning effect with the spirometer, but one would then expect the same change in FVC to be seen in the control group – which it was not. Perhaps when the airways obstruction is reduced, by changing therapy, the intrathoracic pressures generated in a forced expiration may be lower, resulting in less air-trapping and an increase in FVC. We can only report the results we obtained.

Our spirometer was calibrated to an accuracy of ±2%. We note the tolerance of the Wright Mini Peak Flow Meter of 2–12%, but we did not use such an instrument.

Geriatricians and physicians would regard the demonstration of reversible airflow obstruction, even without symptoms, as a contraindication to non-selective beta antagonist therapy for all but a life-threatening indication. The prescription of timolol was contraindicated in 40% of the patients in our study. If beta antagonists are essential it would seem safe practice to prescribe a cardioselective drug for elderly people.

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