

## LETTERS TO THE EDITOR

### Diagnosis of PCP in HIV seropositive patients

We read with interest the article by Sauleda and colleagues on the use of a simplified exercise test for the initial differential diagnosis of *Pneumocystis carinii* pneumonia (PCP) in HIV positive patients (February 1994;49:112-4) and would like to make the following points. Firstly, the risk factors for the acquisition of HIV infection were not given other than to state that 36 of the patients were intravenous drug users. It was not clear how these 36 patients divided between the two groups. Intravenous drug use is associated with impaired lung function independently of acquired infection and, in addition, intravenous drug users are more susceptible to pyogenic infections. Of the initial 60 subjects enrolled in the study 25% were excluded, but it was not stated how many were excluded because of pre-existing respiratory disease that could alter the  $\text{SaO}_2$ . No data were presented on the smoking history of the subjects. Nieman *et al* have shown that cigarette smokers develop PCP more rapidly than non-smokers although initial lung function, as measured by spirometry and carbon monoxide transfer factor (TLCO), was not statistically different between the two study groups.<sup>1</sup> Data were also missing on the PCP prophylaxis used by patients in the study; previous studies have shown that this can have a significant effect on the diagnosis of PCP through the decreased yield with bronchoalveolar lavage.

A specificity value of 91% compares very favourably with other studies using exercise oximetry<sup>2</sup> and we wonder if the less standardised exercise protocol with a shorter duration of activity allowed the patients who were more ill to complete the test.

Like the authors, we are committed to the use of non-invasive tests for the diagnosis of PCP. We favour measurement of TLCO as a screening test, as exercise tests have been shown in the past to be poorly tolerated.<sup>2</sup> At our unit a TLCO value below 70% has been shown to have a sensitivity of 92% and a specificity of 72% for diagnosis of acute PCP.<sup>3</sup> These results are comparable with those in this study but, like the authors, we proceed promptly to bronchoscopy, initiating treatment early if appropriate.

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1 Nieman RB, Fleming J, Coker RJ, Harris JRW, Mitchell DM. The effect of cigarette smoking on the development of AIDS in HIV-1-seropositive individuals. *AIDS* 1993;7:705-10.

2 Smith DE, McLuckie A, Wyatt J, Gazzard B. Severe exercise hypoxemia with normal or near normal X-rays: a feature of *Pneumocystis carinii* infection. *Lancet* 1988;ii:1049-51.

3 Shaw RJ, Roussak C, Forster SM, Harris JRW, Pinching AJ, Mitchell DM. Lung function abnormalities in patients infected with the human immunodeficiency virus with and without overt pneumonias. *Thorax* 1988;43:436-40.

**AUTHORS' REPLY** We find the comments from the St Mary's group interesting and agree with most of their observations but there are several points that we would like to clarify.

With regard to factors that could have had a potential influence on the results, as risk factors for HIV were very similar in both groups (PCP, 16 intravenous drug abusers (IDA) and six male homosexuals; non-PCP, 20 IDA, one homosexual and two heterosexual partners of HIV seropositive) we felt this did not modify the results. On the other hand, although many patients were smokers, the mean (SD) age in both groups (31(1) and 28(1) years, respectively), as well as the absence of pre-existing pulmonary diseases, allowed us to assume that their lung function was not seriously affected by these factors. Finally, none of the patients had previously received prophylactic treatment for PCP. Many of the subjects were only HIV seropositive without any previous opportunistic infection.

We agree that classical lung function tests (principally TLCO) can be useful for screening purposes in these patients. However, they have important "logistic" limitations as the devices required for classical exercise tests or for the measurement of TLCO are expensive and untransportable, they are not available 24 hours a day, need qualified technicians, and cannot be performed in the emergency department (or at the patient's home). Our own experience in both the lung function laboratory (during morning periods) and the emergency department (afternoon and night, once a week, with limited technology available) compelled us to look for a simplified screening test. This test had to be easy to perform and able to be analysed in a short period of time. Thus, inessential factors – such as the use of a cycloergometer or predetermined levels of charge, and the measurement of oxygen uptake or carbon dioxide production – should be excluded. We felt, and still feel that, where possible, physiopathological knowledge should be applied in a simple way for clinical purposes.

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### Setting up a pulmonary rehabilitation programme

I read with great interest the article by Clark (March 1994;49:270-8) as the Department of Thoracic Medicine at the London Chest Hospital has recently begun to provide a programme of pulmonary rehabilitation. The paper contained many points that were found to be important during the initiation of our own service.

As a physiotherapist I feel encouraged by the prospect of a more involved and fulfilling role with patients disabled by chronic lung disease, as time constraints often prevent this holistic approach on a busy ward.

Dr Clark suggests that the involvement of physiotherapists in pulmonary rehabilitation will require them to undergo further training

as their background in exercise physiology may be limited. However, exercise physiology is a subject covered in great detail during our training, with *Gray's Anatomy* being the student physiotherapist's bible. When applying our training to the practice of pulmonary rehabilitation, careful analysis and thought is therefore ensured. Designing and carrying out exercise programmes for all ages and disabilities is also an integral part of our training, and we are certainly well familiar with the particular difficulties of patients with COPD. Although it is suggested that physiotherapists should attend leisure centre classes for experience in learning about exercise, our extensive training provides us with a comprehensive knowledge of the physiological and practical basis of exercise therapy applicable to chronically disabled patients.

I hope this letter will add to the information required by chest physicians on some of the subjects we cover during training, and will reinforce the view that physiotherapists should be included in a pulmonary rehabilitation programme.

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## BOOK NOTICES

**Prevention of Respiratory Diseases.** A Hirsch, M Goldberg, J-P Martin, R Masse. (Pp 744; \$185.00). New York: Marcel Dekker, 1993. 0 8247 8850 8.

This is number 68 in the influential "Lung Biology in Health and Disease" series. The book's editors are French and half the chapters come from French groups, the others coming from the USA, Canada, Holland, Italy and the UK. Only two of the 58 contributors are based in the UK, which may reflect the low priority prevention currently has in British respiratory medicine within our current health care system and in academic medicine.

The book takes a broad view of the prevention of respiratory disease, dividing it into four parts: occupational diseases, environmental sources of respiratory diseases, biological markers, and tobacco. The part on respiratory disease related to tobacco is, rightly, over one third of the book. It is particularly valuable as it brings together 11 contributions from several disciplines. It is possible to highlight only a few in this review. Kauffmann and her colleagues review the relationship between bronchial responsiveness and smoking and include useful tables summarising the epidemiological evidence. This chapter is typical of the high quality of many in the book – wide ranging, authoritative, well referenced, and carefully argued. In stylistic contrast was the chapter on theories of smoking behaviour which was illuminating because strategies to prevent smoking must operate within a conceptual framework. The authors discuss smoking as