Diagnosis of pulmonary disease in human immunodeficiency virus infection: role of transbronchial biopsy and bronchoalveolar lavage

Dr MH Griffiths and colleagues (July 1989; 44:554-8) recorded a high incidence of complications while performing transbronchial biopsies in patients with HIV infection, whereas the side effects seen with bronchoalveolar lavage were few and unimportant. Their comparison of the risk-benefit ratios of the two procedures encouraged use of lavage rather than transbronchial biopsy.

Our experience at the Institute of Infectious Diseases in the University of Verona has been dissimilar in terms both of complications and of sensitivity rate. Bronchoscopy was carried out on 29 HIV infected patients with clinical and radiographic findings that suggested a pulmonary disorder but with an arterial oxygen tension above 50 mm Hg (6.7 kPa). There were none of the important complications described by Griffiths (pneumothorax, haemorrhage) with transbronchial biopsy sampling. Lavage was also carried out on each occasion. Techniques were preceded by computerised fluoroscopic guidance and this, plus other factors, may account for the lack of untoward effects in our experience. Fluoroscopic guidance also allowed us to take biopsy specimens from areas showing consolidation on the chest radiograph. This probably improved the diagnostic sensitivity in cases of tuberculous infection (six cases), which may occur more frequently than the data of Dr Griffiths and his colleagues suggest.

The diagnostic sensitivities of the two techniques were similar (76% for transbronchial biopsy and 68% for lavage), though the histological picture available from the biopsy provided more complete microbiological information. This is not surprising as Pneumocystis carinii pneumonia (the most frequent opportunistic infection in this context) usually results from the reactivation of latent endogenous infection and the organisms may be found in healthy subjects. Thus the demonstration of P carinii alone in lavage specimens does not provide proof that it is causing pneumonia in these patients. The high incidence of pneumocystis pneumonia in AIDS justifies an empirical approach to treatment based on clinical and radiograph findings; if a direct diagnostic assessment is required we believe that biopsy provides the best information.

Dr Griffiths and colleagues are correct stating that specimens obtained during bronchoscopy may also be useful for evaluating the response to treatment. For pneumocystis pneumonia, however, this is true only if the biopsy as lavage fluid often remains positive weeks after the beginning of treatment, regardless of the outcome of the disease. Biopsy samples provide an anatomical picture of the alveolar status and are more reliable than lavage both for diagnosis and for evaluating the evolution of P carinii infection in the lung. This to some extent also applies to cytomegalovirus infection as the typical inclusion bodies are often seen without clinical disease. Inclusions indicate active cytomegalovirus infection according to the criteria of the Communicable Diseases Center, but local pathogenicity is disputed. Factors other than fluoroscopic. It may have played some part in the dissimilar findings in our patients. We believe that transbronchial biopsy still deserves an important place in the investigation of pulmonary disorders in HIV infection.

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3 Revision of the CDC surveillance case definition for acquired immunodeficiency syndrome. Morbidity and Mortality Weekly Record 1987; 36(suppl).

Diaphragmatic paresis: pathophysiology, clinical features, and investigation

We were interested to read the review by Dr John Gibson (November 1989; 44:960-70). Dr Gibson supports the attractive and widely held hypothesis that the "shrinking lung" syndrome of systemic lupus erythematosus is due to diaphragm weakness. In a recent study using a wide range of tests for respiratory muscle strength, however, we concluded that the loss of lung volume observed in 12 patients with the syndrome was not explained by an abnormality of the diaphragm or phrenic nerves in the absence of a generalised myopathy or myositis. We believe that the results quoted provide less than conclusive evidence of isolated bilateral diaphragm weakness, as they all used a limited set of tests to assess diaphragm function and most studied small numbers of patients. In the largest study maximum transdiaphragmatic pressure was measured during static occluded efforts alone, and compared with a normal range obtained from 10 normal males. Not