involvement; neither survived a year and both required thoracotomy to establish the diagnosis. In summary, the study by Cordier and colleagues includes all presentations of pulmonary amyloidosis and provides sufficient clinical detail for a practicing physician to classify properly and thereby permit optimal management of patients presenting with this uncommon manifestation of a disease whose pathophysiology is just beginning to be understood (Table 1).

Morie A. Gertz, M.D.; and Philip R. Greipp, M.D. Rochester, Minnesota

References


Bronchoalveolar Lavage Can Be Clinically Useful

Bronchoalveolar lavage (BAL) has proved to be a major research tool; however, its application as a clinical tool remains controversial. It has been stated that BAL should not be performed in a clinical setting. There are areas, however, in which lavage has clear-cut advantages over other techniques and should be taken from the research laboratory and brought to the bedside.

There is no question that lavage is useful in identifying the infecting agent in some pneumonias, especially Pneumocystis carinii and cytomegalovirus. More recently, this technique has been adapted for evaluating bacterial infections as well.

In the evaluation of noninfectious interstitial lung disease, BAL is not generally useful for diagnostic purposes. However, BAL does provide important prognostic information depending upon the underlying interstitial lung disease. In patients with cryptogenic fibrosing alveolitis, active disease is usually associated with an increase in the number and percentage of neutrophils in the BAL fluid. Rudd et al found a more favorable prognosis and more likely response to steroids in those patients with increased lymphocytes in the BAL fluid.

In sarcoidosis, there is an increase in lymphocytes in the BAL fluid of patients with active disease. Increases in other nucleated cells, including macrophages, may also be found. Therefore, the percentage of lymphocytes in the BAL fluid is neither diagnostic nor prognostic. In the early stage of pulmonary sarcoidosis, T-helper/inducer (T-H/I) cells are sequestered in the lung and are of increased number in the lavage fluid.

As the disease resolves, there appears to be an influx of T-suppressor/cytotoxic (T-S/C) cells into the lung. In examining the individual patient with sarcoidosis, a study of the number of T-H/I lymphocytes or the ratio of T-H/I to T-S/C lymphocytes in the BAL fluid can predict clinical outcome and response to steroid therapy.

For the practicing clinician, the BAL should be looked at as a multistage technique. For the diagnosis of infection, a relatively simple preparation of the specimen, similar to the handling of a bronchial wash, will give most answers. For the evaluation of cryptogenic fibrosing alveolitis, the percentage of neutrophils and lymphocytes can be measured, although it takes some familiarity with the variation in appearance of the cells. With practice, a laboratory equipped with a cytocentrifuge should be able to establish its own normal levels. The measurement of lymphocyte subpopulations requires some expertise. Most hospitals do not have the equipment for lymphocyte subpopulations and it is not clear that they are needed, since much of the information obtained by subpopulation studies may be obtained by other more generally available methods, such as the gallium scan. A central processing facility may be used for performing specialized testing of BAL specimens.
In summary, BAL application depends upon what we ask of it. One aspect of research into BAL must be defining the application of BAL to appropriate clinical settings.

Robert P. Baughman, M.D., F.C.C.P.; and Joseph E. Thorpe, M.D., Cincinnati

Pulmonary Disease Division, Department of Medicine, University of Cincinnati Medical Center. Reprint requests: Dr. Baughman, Pulmonary Disease Division, 231 Bethesda Avenue, Cincinnati 45267-0564

REFERENCES