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The Pulmonary Complications of AIDS
Evaluating the Tests

As experience with the acquired immunodeficiency syndrome (AIDS) has increased, the role of Pneumocystis carinii as a major cause of morbidity and death in these patients has become clear. Many AIDS patients treated for Pneumocystis have incurred an extraordinarily high incidence of serious adverse drug reactions. Complicating the problem is the fact that many persons with AIDS go through multiple episodes of pneumonitis, frequently due to organisms other than or in addition to Pneumocystis carinii. These grim realities force AIDS patients and their physicians to consider invasive diagnostic procedures, often repetitively. It is crucial, therefore, that we critically evaluate the diagnostic yield, safety and cost of all available procedures and strive for a clear perspective of the clinical implications of these tests. The study by Hartman and coworkers in this issue of Chest (see page 603) provides insight into some of these issues and raises questions about others.

The results reported by Hartman and coworkers indicate that by combining several bronchoscopic procedures it is possible to detect a wide variety of infections in the lungs of AIDS patients. The exact sensitivity of the individual procedures is unclear from their data, but interpreted together with several other series, the study of Hartman and coworkers confirms the utility of bronchoscopy in this setting. Of importance are differences between their results with respect to particular procedures such as bronchial brush-

ing and bronchoalveolar lavage and other results reported in the literature. Explanations for these discrepancies include the extent of disease at the time patients are studied, the skill and technique of the investigators with respect to a particular procedure, and the skill and technique of those processing and evaluating the specimens obtained. In AIDS patients with Pneumocystis, the organisms can be found in coughed sputum in persons with extensive radiographic involvement, but may be very sparse in patients with a lesser degree of chest film abnormality. The likelihood of recovering the organisms may also be affected by the portion of lung that is selected for study, the size of the biopsy obtained or the brush used, or volume of lavage that is instilled. These various procedures appear to be complementary. While maximum yield requires the use of the most invasive procedures, it is some consolation that less invasive procedures such as bronchial brushings and bronchoalveolar lavage can provide considerable information. This is no small point given the recurrent nature of the pulmonary involvement in AIDS patients. Clinicians performing these procedures must be familiar with them and understand the potential impact of even minor differences in technique. They must work closely with the microbiologist and pathologist to optimize their diagnostic yield.

What is the optimum way to follow AIDS patients? Response to therapy is often painfully slow. Any deterioration in their clinical condition should prompt consideration of other undiagnosed conditions. The experience of Hartman and coworkers that two weeks of therapy is inadequate treatment for Pneumocystis carinii pneumonia in the setting of AIDS is not unique. Many clinicians are routinely treating these patients for longer periods. More difficult is the isolation of Pneumocystis from the lungs of AIDS patients who appear to have undergone a successful course of treatment. Given the uncertain implications of such isolates and the potential toxicity of additional treatment, it can be argued that such patients should not routinely be restudied until such time as there is clinical evidence of an active pathologic process. A clear recommendation, however, will require additional data.

When available, bronchoscopic procedures can provide a rapid and relatively noninvasive means for diagnosing pulmonary infections, particularly Pneumocystis carinii pneumonias in AIDS patients. The procedures are not infallible and should be complemented by other studies such as urine cultures for fungus and mycobacteria or bone marrow biopsy where appropriate. An open lung biopsy should be considered if bronchoscopy is not available, contraindicated or nondiagnostic. Finally, clinicians should continually reassess their results to define the best
clinical strategy at their institution.

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REFERENCES

New Participation Opportunity for Physicians-In-Training Only (ACCP Affiliate Members)
51st Annual Scientific Assembly
October 28-November 1, 1985
Call for Case Reports Deadline: June 15, 1985

The Scientific Program Committee for the 51st Annual Scientific Assembly of the American College of Chest Physicians invites submission of case reports for presentation in a special Affiliate's Forum at the 1985 Annual Meeting. Participation is limited to Affiliate Members of the American College of Chest Physicians. (Affiliate Members are Fellows who are currently enrolled in approved training programs in one of the chest disciplines.)

Selection of case reports will be on a competitive basis and will be evaluated by a committee comprised of Affiliate Members. Acceptance will be based upon the clinical relevance, differential diagnosis, and well-defined pathophysiology of each case.

Accepted case reports will be presented at special Affiliate Forums each evening during the 51st Annual Scientific Assembly of ACCP. Open discussion of each case by a panel of invited experts and the audience will follow each presentation. Participants are expected to present well-documented cases to include roentgenograms, pathologic specimens, and laboratory values, as appropriate. Recognition for the best presentation in each session will be made.

Write for a submission form and/or additional information: Education Department, ACCP, 911 Busse Highway, Park Ridge, Illinois 60068-2375 (312/698-2200).