Role of Fiberoptic Bronchoscopy for Diagnosis of Pulmonary Tuberculosis in Patients at Risk for AIDS

To the Editor:

We were most interested in the article by Miro et al.,1 which appeared in the May 1992 issue of Chest. Dr. Miro and her colleagues had no evidence of a higher diagnostic yield when they performed bronchial brushing and transbronchial biopsy (TBB) in addition to bronchoalveolar lavage (BAL) in their series of 22 cases of HIV-associated pulmonary tuberculosis. We agree with the authors that the typical and often diagnostic caseating granulomas are rarely seen in HIV-infected patients, compared with immunocompetent ones, due to the inability to mount an effective cell-mediated immune response. We also agree that in absolute terms these procedures are unlikely to be significantly better than less invasive techniques in the diagnosis of tuberculosis in HIV-infected patients. However, in this clinical context we also considered the time elapsed before this diagnostic information was obtained.

In the bronchoscopy unit of the Maggiore Hospital in Verona, 11 HIV-infected patients with negative sputum smears, who were subsequently proved to have pulmonary tuberculosis on the basis of the in vitro isolation of Mycobacterium tuberculosis, underwent bronchoscopy with bronchial washing, BAL, and TBB. While in 7 cases acid-fast bacilli (AFB) were found in bronchial washing and/or BAL specimens, in the remaining 4 cases (36 percent) AFB were only seen in specimens taken by means of TBB. If TBB had not been performed in these 4 cases, we would have waited until the in vitro growth of M tuberculosis became evident (at 24 to 33 days) before administering the appropriate therapy. Since early antituberculous chemotherapy seems to be the most effective measure not only for the treatment of single patients but also for avoiding a disastrous spread of M tuberculosis in nosocomial settings,2,3 we are still convinced that TBB may provide a quicker diagnosis of pulmonary tuberculosis when the sputum smear is negative for AFB, without adding a substantial burden in terms of untoward complications.4 Until more sensitive and specific diagnostic techniques became more widely available (and standardized) for routine diagnostic use, we will continue to perform TBB in such circumstances.

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REFERENCES


To the Editor:

We appreciate the comments, viewpoints, and information expressed by Dr. Cazzadori and his colleagues in reference to our article.

The sensitivity of a TBB specimen for AFB is dependent on several factors, including the number of biopsy specimens obtained, sampling errors, mycobacterial organism load, stage on presentation, specimen handling, and observer expertise. Fluoroscopic guidance and selection of an area of extensive parenchymal infiltration for TBB may additionally increase the likelihood of a diagnostic biopsy. This may explain some of the diagnostic variability found in the literature and between institutions.

In our high-risk HIV group, the addition of bronchial brushing and TBB to the less invasive techniques for obtaining respiratory samples (spumum induction, BAL, washings) increased the positive AFB smear yield from 30 to 37 percent. In actual numbers, this translated to obtaining a preliminary diagnosis in an additional 2 of 22 patients who underwent biopsy. In both cases, the TBB specimen, not the brushing specimen, was the positive sample. Although this small increase was not statistically significant, Dr. Cazzadori and his colleagues correctly raise the issue of whether this small increase

Table 1—Relation of PI Phenotype to IgE Level, FEV, Decline, and PDm•

<table>
<thead>
<tr>
<th>PI Phenotype</th>
<th>No. of Men</th>
<th>IgE, IU/ml†</th>
<th>FEV, Decline, ml/yr</th>
<th>PDm, %‡</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM</td>
<td>275</td>
<td>43</td>
<td>40</td>
<td>15 (223)</td>
</tr>
<tr>
<td>MS</td>
<td>40</td>
<td>41</td>
<td>49</td>
<td>20 (35)</td>
</tr>
<tr>
<td>MZ</td>
<td>7</td>
<td>14</td>
<td>63</td>
<td>29 (7)</td>
</tr>
<tr>
<td>FM</td>
<td>1</td>
<td>18</td>
<td>67</td>
<td>0 (1)</td>
</tr>
<tr>
<td>IM</td>
<td>4</td>
<td>9</td>
<td>67</td>
<td>25 (4)</td>
</tr>
<tr>
<td>S</td>
<td>1</td>
<td>40</td>
<td>-21</td>
<td>0 (1)</td>
</tr>
<tr>
<td>MP</td>
<td>1</td>
<td>72</td>
<td>-7</td>
<td>100 (1)</td>
</tr>
</tbody>
</table>

*PDm represents a 20% fall in FEV, with a maximum dose of 6 mg of methacholine.
†Values are expressed as geometric mean.
‡Values in parentheses are number of men who underwent methacholine challenge testing.

they were very few. Furthermore, the results on bronchial hyperresponsiveness in the subsample of patients who underwent methacholine challenge testing do not confirm the observations of Townley et al.1 on the association between the S allele and methacholine sensitivity, as assessed by the area under the dose-response curve. Further investigations in a larger population are needed.

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REFERENCE


Communications to the Editor

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would be clinically significant. This dilemma in patient care is not easily resolved.

Clearly, the greater the number of diagnostic tests performed, the greater the likelihood of establishing the correct diagnosis. Conversely, when employing invasive diagnostic procedures more often, the risk of complications also increases proportionately. Ultimately, the exact risk-benefit ratio is not known for this diagnostic strategy. A study much larger and more comprehensive than either ours or that of Cazzadori et al is necessary to definitively answer this question.

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Primary Pulmonary Disease due to Mycobacterium avium-intracellulare

To the Editor:

I read with interest Dr. Reich’s report of a case of primary pulmonary disease due to Mycobacterium avium-intracellulare, which appeared in the May 1992 issue of Chest. However, in that article Dr. Reich states that “only three cases, all involving children, have been reported.”

In August 1984 we reported a case similar to that of Dr. Reich in a 28-month-old male infant who presented with cough, stridor, and wheeze of 3 weeks’ duration. Bronchoscopy showed a fleshy mass on the anterior wall of the left main bronchus. Acid-fast bacilli were seen on microscopy, but cultures were not done. Later, fasting gastric washings grew M avium-intracellulare scrofulaceum (MAIS) on culture. The Mantoux reaction was 8 mm to 10 IU of human tuberculin purified protein derivative (PPD) and 18 mm to 10 IU of avian PPD. An attempt to trace the source produced MAIS on several cultures of composted soil near the patient’s house, which was in a rural area. However, the strain was not identical with that cultured from the patient. He made a rapid recovery on a regimen of isoniazid and rifampicin, even though the organism was resistant to these drugs, as well as to streptomycin and ethambutol.

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REFERENCES
1 Reich JM. Primary pulmonary disease due to Mycobacterium avium-intracellulare. Chest 1992; 101:1447-48

To the Editor:

I am grateful to Dr. Proust for bringing his case report to my attention. In reviewing his citations and my own, I find that the statement that “only three cases of primary pulmonary disease due to M avium complex, all involving children, have been reported” is erroneous; the correct number is six.

Of considerable interest is that his patient, like ours, had avian exposure, as did one of two cases reported by Lincoln and Gilbert. The individual reported by Kelsey et al resided “in a rural area with many domestic farm animals in the vicinity.” No information concerning avian exposure was provided in the two cases reported by Powell and Walker. Engbaek reported three fatal cases of progressive pulmonary disease due to M avium complex in two siblings and their mother, and indicated that chickens were allowed to wander freely in the kitchen and bedroom.

In summary, there is strong circumstantial evidence that domesticated birds play a direct or indirect role in the causation of primary pulmonary disease due to M avium complex.

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REFERENCES
5 Engbaek H. Three cases in the same family of fatal infection with M. avium. Acta Tuberc Pneumol Scand 1964; 45:105-17

Chronic Bronchial Collapse and Lower Lobe Atelectasis

Computed Tomographic-Bronchoscopic Correlation

To the Editor:

We would like to report the following interesting case.

An 82-year-old man was admitted for cardiopulmonary failure. Thoracic computed tomography showed left lower lobe atelectasis. The left lower lobe bronchus was obstructed by endobronchial tissue of waterlike density. A diagnosis of endobronchial mucus plug was hypothesized. Bronchoscopy was immediately performed and showed diffuse tracheobronchomalacia as well as collapse of the left lower lobe bronchus during all the phases of the respiratory cycle (Fig 1). Specimens obtained by multiple-forceps biopsy of the...