We analyzed 373 hospitalized patients with suspected CAP in a 3-year prospective study in Hungary.[2] Pneumonia was suspected if a patient had an acute illness with fever and/or purulent sputum and/or a localized auscultatory abnormality. Pneumonia was diagnosed if the chest radiograph showed new pulmonary shadowing and if no other pulmonary disease could be established during a 6-month follow-up period.

In our 373 patients with suspected CAP, the presumed diagnosis could not be proved in 115 cases (30.8 percent). In 43.5 percent of the latter cases, *no new radiologic abnormality was found*. However, in 65 (20.1 percent) of the 323 patients with new pulmonary shadowing, an illness other than pneumonia was diagnosed, most frequently tuberculosis, lung cancer, or pulmonary embolism/infarction. The correct diagnosis was established in the first 10 days of the acute disease except in five cases (three cases of pulmonary embolism/infarction, two cases of lung cancer).

I think these data prove the importance of differential diagnostic work when there is a clinical suspicion of CAP.

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Another Possible Risk Factor for Airway Disease

To the Editor:

The article by Annesi et al,[1] which appeared in the March 1992 issue of *Chest*, is the most recent of several epidemiologic studies to associate adult lung dysfunction, including asthma, with markers of atopy such as elevated serum IgE concentrations[1-3] and eosinophilia.[2] These studies agree that no association between adult reactive airway disease and skin-test positivity exists, which suggests that the antigens responsible for adult asthma are yet to be discovered.[3] In an editorial that also appeared in the March 1992 issue of *Chest*, Casterline[4] therefore asks "Will the real risk factor for airway disease please stand up?" I have a nomination for a possible culprit, who appears to be trying to get up, but will need some prodding from investigators.

Chlamydia pneumoniae, a respiratory pathogen that is capable of causing chronic lung infection, has recently been associated with wheezing, asthmatic bronchitis, and adult-onset asthma.[5] Between July 1991 and June 1992 I evaluated 128 patients with symptoms (cough, wheeze, or dyspnea) consistent with reactive airway disease, and was able to document a 12 percent or greater increase in FEV_1 following bronchodilator treatment in 71 (55 percent) of them. The mean age of the patients with evidence of reactive airways on pulmonary function tests was 44 years (range, 9 to 80 years). Fifty-five percent of the patients were female. The mean age at diagnosis of asthma was 37 years (range, <1 to 79 years). Sixty-eight percent of the patients were primary-care patients at one four-physician (family practice) office site, and the remainder were referred for evaluation. Sixty-six of these asthmatic patients had serologic testing for *C pneumoniae* infection, and 56 (85 percent) of them had evidence of either definite or possible current infection (Table 1). In most patients, the serologic profile was not useful in distinguishing previous infection from current secondary infection.

Table 1—*Relation Between* C pneumoniae *Serologic Category and Clinical Presentation in 66 Asthmatic Patients

Clinical Presentation	*C pneumoniae* Serologic Category† ≥1:16: Diagnostic of Acute Infection (n=6)‡	≥1:16: Not Diagnostic of Acute Infection (n=50)§	<1:16
Following bronchitis or pneumonia	4 (67)	30 (60)	3 (30)
Wheezing exacerbation of COPD	2 (33)	8 (16)	2 (20)
Other	0 (0)	12 (24)‖	5 (50)¶

*Values are expressed as number of patients (%).
†Microimmunofluorescence test seroreactivity (polyvalent antibody).
‡IgM titer of 1:16 (4 patients) or fourfold titer decline (2 patients).
§IgM titer of less than 1:16 and polyvalent antibody of 1:16 or more but less than 1:512.
‖Five patients with atopic asthma, three with exercise-induced asthma, and four with miscellaneous disorders.
¶Five patients with atopic asthma.

These data suggest that serologic evidence of *C pneumoniae* infection should be included as an independent variable in future epidemiologic studies of reactive airway disease. Testing of stored serum specimens from previous epidemiologic investigations (historical cohorts) would also be of interest.

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To the Editor:

Additional potential risk factors for airway disease have been suggested by Dr. Hahn and Dr. Casterline. Our epidemiologic data do not allow us to test the interesting hypothesis raised by Dr. Hahn according to which *C pneumoniae* infection may be involved in the development of COPD. However, we do have preliminary results on one factor mentioned by Dr. Casterline in her editorial: the PI phenotype, a potential marker of a genetic predisposition to airway disease, was assessed in our population of workers. Table 1 presents mean values for the total IgE level, the 5-year FEV_1 decline, and methacholine reactivity (as indicated by the percentage of patients who displayed a 20 percent decrease in FEV_1 with a maximum dose of 6 mg of methacholine) for this phenotype.

The PI phenotype was not significantly related to FEV_1 decline or to total IgE level. The lower the total IgE level, the greater the FEV_1 decline among men with MZ, FM, and IM phenotypes, but

Table 1—*Relation of PI Phenotype to IgE Level, FEV_1 Decline, and PD_{20}**

PI Phenotype	No. of Men	IgE, IU/ml†	FEV_1 Decline, ml/yr	PD_{20}, %‡
MM	275	43	40	15 (223)
MS	40	41	49	20 (35)
MZ	7	14	63	29 (7)
FM	1	18	67	0 (1)
IM	4	9	67	25 (4)
S	1	40	−21	0 (1)
MP	1	72	−7	100 (1)

*PD_{20} represents a 20% fall in FEV_1 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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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 would also consider 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 seen only 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 administration of 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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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 (sputum 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