Prevalence of *Chlamydia trachomatis* Lung Infection in Patients with Acquired Immune Deficiency Syndrome

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Brush biopsies and lung lavages were obtained from 263 individuals with acquired immune deficiency syndrome who collectively had 658 hospitalizations for pneumonia. *Chlamydia trachomatis* was isolated during three (0.5%) of the episodes, indicating that it was not an important respiratory tract pathogen in this population.

Chlamydia trachomatis is recognized as a leading cause of pneumonia in infants (5). The role of this organism in respiratory disease in adults is less clear. Serologic data have suggested that *C. trachomatis* may cause pneumonia in normal adults (2), and there have been anecdotal reports of recovery of the organism from the lower respiratory tract of immunocompromised individuals (1, 3, 6).

Pneumonia is a major problem among patients with acquired immune deficiency syndrome (AIDS), and historically, homosexual males have a high rate of exposure to sexually transmitted agents. Therefore, it seemed reasonable to test AIDS patients with pneumonia for the presence of chlamydial infection. In the course of this study (March 1982 through April 1985), a total of 263 (260 male, 3 female) patients with AIDS were tested. The patients ranged in age from 19 to 48 years, and each had an average of 2.5 episodes of pneumonia (the maximum number of episodes for any patient was three). Transbronchial biopsy and bronchial wash specimens were collected from each patient; thus, a total of 1,316 specimens were processed for chlamydial culture. The biopsies were ground with a mortar and pestle and were diluted approximately 1:50 with chlamydial isolation medium containing antibiotics. Bronchial lavages were similarly suspended in this medium. Chlamydial isolation was performed by a modification of the method of Ripa and Mårdh (4). Antichlamydial antibodies were measured by the microimmunofluorescence test (7).

C. trachomatis was isolated from lung specimens of three different male patients. Thus the organism was recovered from the respiratory tract of 1% (3 of 263) of the cases, but was only associated with 0.5% (3 of 658) of the pneumonia episodes. All three isolate-positive patients had concomitant infection with *Pneumocystis carinii*. They were complement fixation negative with a chlamydial group antigen. All had microimmunofluorescent antibodies in the immunoglobulin G (IgG) class. A specimen from one patient had a titer of 1:32 (DEL pattern) and a positive biopsy. A second patient with a titer of 1:512 (DEL pattern) had *C. trachomatis* recovered from a bronchial wash specimen. A third patient had *C. trachomatis* recovered from a bronchial wash specimen, had an IgG titer of 1:4,096, and was the only one of the three isolate-positive patients to show an IgM titer (1:64 to the CJ serovars). Because of bacterial and fungal contamination in the tissue culture system, only one of the three *C. trachomatis*

isolates could be purified and serotyped, and it was a serovar J.

The isolation of *C. trachomatis* from these lung specimens does not prove an etiologic association with these men's disease. All had *P. carinii* infection, and AIDS patients are susceptible to respiratory disease caused by a variety of opportunistic pathogens. One might predict a relatively low isolation rate for chlamydial infection in this population; because of their debility, patients with AIDS are less likely to be acquiring new sexually transmitted infections, and they have a high rate of exposure to trimethoprim-sulfamethoxazole, which is probably effective chemotherapy for chlamydial infection. The mere fact that it was recovered from the respiratory tracts of three men adds to the evidence that *C. trachomatis* can infect the respiratory tract in adults, but at the same time the recovery rate suggests that it is not an important respiratory pathogen among AIDS cases.

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