

Medicine by John Grauerholz, M.D.

Yet another epidemic?

A new form of TB is spreading—this one infecting not just AIDS patients, but those not from any “high-risk group.”

A previously rare form of highly drug-resistant tuberculosis is now spreading insidiously through the U.S. population. The disease-causing organism, *Mycobacterium avium* complex, is related to the more common *Mycobacterium tuberculosis*, which causes classical tuberculosis.

According to an article in the Sept. 28 issue of the *New England Journal of Medicine*, *Mycobacterium avium* complex, which once afflicted primarily individuals with underlying conditions such as chronic lung disease and AIDS, is now infecting otherwise normal hosts in increasing numbers. Over the decade from 1978 to 1987, an increasing number of patients with *M. avium* infection was seen at two hospitals in the Philadelphia area. While patients with AIDS and other conditions accounted for a majority of the cases, more and more are occurring among patients without recognized predisposing conditions.

Commenting on this phenomenon, Dr. Michael D. Iseman, of the National Jewish Center for Immunology and Respiratory Medicine, observes: “An infrequent if not rare event 20 years ago has reached substantial numbers in this decade. It is important to stress that this upsurge is not related to the pandemic of disseminated disease caused by *M. avium* complex in patients infected with the human immunodeficiency virus [the AIDS virus], which is a substantial problem in itself. Nor is it related solely to the well-recognized propensity of environmental mycobacteria, most typically *M. avium* complex, to attack previously damaged lungs. Rather, as

the Philadelphia study highlights, pulmonary disease now occurs in people without apparent predisposing causes. . . . This observation, although salient and vexing, is not really new. It has been the hidden side of the coin, which was steadfastly ignored in earlier reports. Perhaps because of their inability to explain it, investigators have simply emphasized the variety of co-existing predisposing causes and left implicit the fact that 24-46% of their cases occurred among ‘normal’ persons.”

Along with an increasing number of infected persons, there is evidence that the organism itself is becoming more virulent. Studies on strains of *M. avium* isolated from AIDS patients have shown that the virulence of the organism, that is its disease-causing potential, has been enhanced by the infection of the bacterium itself by a virus-like particle known as a plasmid.

The disease can be difficult to detect, since the main symptom is a chronic cough, sometimes of many years’ duration, but fever and weight loss are generally not present as in classic pulmonary tuberculosis. However, once established, the disease can undergo rapid progression, resulting in severe disability and death. The organism is notoriously resistant to antibiotic therapy, frequently requiring four different antibiotics together, in high doses, to establish control of the infection, and relapse after treatment is not uncommon.

Organisms of the *M. avium* complex are found in dust, soil, water, poultry, and other animals. Infection

is assumed to result from environmental exposure, presumably by inhalation of aerosolized bacteria. One possible source is inhalation of infected water droplets, when showering with infected water. This may be relevant to a number of cases in which *M. avium* has been found in hospital hot water supplies.

It is important to realize that the spread of this infection is occurring concurrently with continued dissemination of *Mycobacterium tuberculosis* infection. Infection among otherwise normal persons seems to occur predominantly among older white females, a group which up till now has been relatively spared by both AIDS and the AIDS-associated epidemic of pulmonary tuberculosis.

This development once again highlights the folly of those who contend that the consequences of the present epidemic of HIV infection can be “confined” to certain “risk groups.” Just as in Africa, and in Central and South America, the presence of a large population of immunosuppressed persons, from whatever cause, creates a reservoir in which organisms of low virulence and infectivity can acquire the capability to successfully attack previously resistant groups of the population.

It is also important to note that the number of cases of *M. avium* complex infection and disease among persons with underlying problems other than AIDS, is also increasing. This indicates an increase in non-HIV-related disease which is accompanying, and interacting with, the continued dissemination of HIV in the population. It is precisely the spread of the more classic diseases of poverty which most glaringly exposes the fraud of the present approach to attempting to control the AIDS epidemic without using classic public health measures.