

## Editorial

# Birds of a Feather—Do They Flock Together?

William Schaffner, MD

It is all the vogue to draw attention to communicable diseases that have been newly recognized (“emerging” infections), as well as those that now are resurgent after a period of decline (“reemerging” infections). Try as I might, however, I cannot place psittacosis into either category. The characteristic pneumonia of psittacosis initially was defined back in 1879 by Jacob Ritter, a Swiss physician who noted a cluster of seven illnesses that occurred among the members of his brother’s household.<sup>1</sup> Ritter’s meticulous observations delineated the clinical manifestations of the disease (including splenomegaly, a clinical “pearl”), the often fatal outcome (three of the seven patients died, including his brother), and the gross pathological findings.

Ritter reconstructed the family’s comings and goings during the weeks before the onset of these illnesses and deduced that the disease was an infection and that it emanated from a point source. He deduced further that the source was located within a single room of his brother’s house: his study, the only room to which all the cases had been exposed. Because the study had, of course, always been part of the house, Ritter reasoned that the source must have been something that had been newly introduced into the study. His brother was a bird fancier, and, sure enough, just 3 weeks before the outbreak started, four new birds had been acquired and had been caged in the study. Another bird in the same shipment died shortly after arrival. Although Ritter’s sleuthing was right on the mark, he reported his sus-

picion that the birds were the source of this infectious illness, but refrained from drawing a firm conclusion. It was only after several other outbreaks occurred in Europe that the disease was given its name, derived from the Greek word (*psittakos*) for parrot, the bird that often was implicated as the source of infection. Then, as now, the illness was regarded as a rather rare and somewhat exotic sort of pneumonia.

Psittacosis had its coming-out party in 1929, dramatically emerging on the international scene because of two factors. The first, as with many infectious diseases, had to do with lifestyle. During the good economic times of the 1920s, the hobby of keeping companion birds flourished, with the colorful birds of the tropics being especially favored. The majority of such pet birds were imported from South America. The second factor was an outbreak of psittacosis among bird flocks in Argentina that occurred just before the local breeders held a major auction of pet birds for wholesale distributors. The auction was attended by an international cadre of dealers, and many infected birds were shipped around the world. Over the next 2 years, outbreaks of psittacosis followed the introduction of these birds in the countries of Europe and the Middle East, as well as in the United States and Canada. Case totals could only be estimated, but numbers over 1,000 have been suggested; the mortality rate was thought to be on the order of 15% to 20%.

Psittacosis certainly had emerged. In reaction to this global pandemic, the public health authorities

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of many countries established strict prohibitions against the importation of psittacine birds from South America. The United States banned the commercial importation of such birds in 1946, relaxed these restrictions in 1967, and lifted the ban in 1973. By that time, it had been well established that psittacosis also was endemic in the US domestic bird-breeding industry. Also, it was acknowledged that prohibition stimulated smuggling. An astute public health colleague of mine once observed that, "Weight for weight, smuggling parrots is more lucrative than smuggling marijuana, and, if you get caught, the penalty is much less severe." Even today, bird fanciers will confide that the provenance of some exotic birds is uncertain.

At present, legally imported birds are sequestered for 30 days in quarantine stations for the purpose of preventing the introduction of another infection, Newcastle disease. During that quarantine period, the birds receive medicated feed that contains at least 1% chlortetracycline as prophylaxis against psittacosis. Ideally, however, treatment should continue for 45 days; this obliges distributors to complete prophylaxis voluntarily after the birds have been released for distribution. Perhaps not surprisingly, the program has not been completely successful.<sup>2</sup> Further, there are no federal regulations on chlortetracycline prophylaxis that are applicable to domestic bird breeders. Thus, psittacosis remains endemic in the population of companion birds in the United States.

Approximately 100 to 250 human cases of psittacosis are reported annually to the Centers for Disease Control and Prevention (CDC). This number generally is considered to be an underestimate for several reasons. First, psittacosis is a notifiable disease in only 42 states. More importantly, physicians appear not to ask patients about bird exposure very often or, if the patient is quite ill when first seen, they may not inquire again when the patient is recovering and has a memory less obscured by acute illness. Establishing the diagnosis is cumbersome; it still must be determined serologically. This requires obtaining appropriately timed serum specimens and having the patience to wait for a result. This elaborate and stretched-out process requires special dedication by doctors in an ever more hectic patient-care milieu. Additionally, tetracycline therapy can delay and reduce the antibody response, impairing the utility of serodiagnosis. Finally, not everyone infected with *Chlamydia psittaci* becomes seriously ill; some persons may not seek medical care, and others surely are treated empirically in ambulatory-care settings without a diagnostic evaluation. Thus, some authorities consider psittacosis a "submerged" infection; one in which there are more cases than generally is recognized.

In this issue, Hughes et al<sup>3</sup> raise again a ques-

tion that has long tantalized students of psittacosis: does person-to-person transmission occur? In his initial investigation in 1879, Ritter considered this issue and concluded that there was no evidence of spread to anyone who had contact with the sick persons but who had not been exposed to the birds in his brother's study. "But with the eminent potency of the infection . . . and finally considering the hospital cases: the absence of secondary infections is certainly of decisive significance. Accordingly, there is no reason to assume contagiousness."<sup>1</sup> Note that Ritter had entertained the notion that the hospitalized patients were the most sick and thus would have had the greatest propensity to transmit the infection. Yet, no nosocomial spread was detected.

Subsequent investigations generally have confirmed these seminal observations: psittacosis is regarded as infectious, but not contagious. Nevertheless, from time to time, as with the Hughes report,<sup>3</sup> a provocative cluster occurs that looks for all the world as though psittacosis spread from a particularly infectious index case, usually hospitalized, to caregivers and close family members.

Unfortunately, these reports have limitations that oblige one to be cautious in their interpretation. For example, it has not always been possible to link the index case to a bird source, and some reports lack any laboratory confirmation of infection with *C psittaci*. Indeed, most of these events occurred before *Chlamydia pneumoniae* was distinguished from *C psittaci*. Of course, the former can produce a pneumonic illness indistinguishable clinically from psittacosis and is capable of person-to-person spread. Because isolation of the etiologic agent rarely is attempted, the diagnosis rests on serologic testing. Despite recent refinements, however, serology can be a weak reed; even in the best laboratories the two infections elicit uncertain IgM responses and can produce cross-reacting IgG antibodies. Thus, the interpretation of serologic results is always difficult and all the more so as in Hughes et al,<sup>3</sup> when results from two laboratories must be used. Investigations of suspected clusters of transmission are difficult, and it may not be possible to relate the extent of exposure to the index case with the risk of acquiring disease or with serologic evidence of infection. Pursuing the original avian source also may be hampered by pet store owners who, understandably, are concerned about subsequent litigation. Hughes et al are appropriately cautious when they state that their episode suggests, but does not prove, the person-to-person transmission of *C psittaci*.

How then should infection control personnel respond to a patient with suspected psittacosis? This

question usually arises when a patient with community-acquired and still-unexplained pneumonia, who has a history of exposure to birds, is admitted to the hospital. To my way of thinking, the isolation guidelines of the Centers for Disease Control and Prevention (CDC) are judicious. Because the risk of nosocomial transmission is remote, conventional precautions suffice; there is no need for private quarters, a negative-pressure room, masks, or the like.

If the diagnosis of psittacosis is confirmed, please be sure to report the case to your local health department.

#### REFERENCES

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## Dramatic Drop in AIDS Deaths

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Data presented by the CDC at the Fourth Conference on Retroviruses and Opportunistic Infections, held in Washington, DC, on January 25-26, 1997, indicated that deaths from AIDS in New York City had fallen approximately 50% in the past year.

Mortality from AIDS had increased steadily, from 425 deaths in 1983 to 7,102 deaths in 1994. In 1995, New York's AIDS deaths fell to 7,046, marking the first year that the AIDS death rate did not increase since the epidemic began. In 1996, deaths fell

substantially, to 4,944.

This improvement is largely attributed to new treatments such as three-drug combinations containing a protease inhibitor, which have restored people with advanced HIV infection to better health.

In New York City, says Mary Ann Chiasson, a physician in the New York City's health department "clearly, funds are also having a major effect on access to care." These new funds are for AIDS treatment provided to local governments through the Ryan White CARE Act. In 1994, New York City got \$100 million through the program, compared with \$44 million the

previous year.

The experts noted that this encouraging information was about deaths, not new HIV infections or new cases of AIDS. Other researchers at the meeting presented reports indicating that the AIDS incidence among people between the ages of 13 and 25 rose approximately 17% between 1990 and 1995. It rose 73% among women and 56% among blacks; the greatest increase was among black heterosexual women, a reported increase of 158%.

FROM: Brown D. AIDS toll falls by half in New York City. *Washington Post* January 25, 1997:A1.