Severe Human Psittacosis Requiring Artificial Ventilation: Case Report and Review

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Severe respiratory failure is an uncommon manifestation of psittacosis. We describe a patient with psittacosis who developed severe respiratory failure and required artificial ventilation. We also review 11 cases reported in the English-language literature over the past 30 years. A history of exposure to birds was reported in 10 of 12 cases and remains the most significant risk factor. Severe hypoxemia or renal impairment was associated with a poor prognosis. Eight patients died of psittacosis or related complications of the infection. Diagnostic aspects, clinical manifestations, and management options are discussed.

The clinical presentation of human psittacosis can vary from an asymptomatic infection to overwhelming illness involving multiple organ systems [1, 2]. We describe an unusually severe case of psittacosis that resulted in respiratory failure, and we review other case reports of severe psittacosis requiring respiratory support that have been published in the English-language literature during the past 30 years [3–7].

Case Report

A 46-year-old man was admitted to our hospital with fever and chills, a productive cough, and myalgias, all of 10 days' duration. At first the family doctor suspected a flu-like illness, but because the fever persisted, empirical antimicrobial therapy with oral amoxicillin/clavulanate acid (500 mg/125 mg every 8 hours) was initiated. The patient had a complex medical history that was remarkable for splenectomy, sarcoidosis, ulcerative colitis, a stomach ulcer, insulin-dependent diabetes mellitus, and chronic relapsing pancreatitis. The patient was receiving insulin, and his medications consisted of prednisone (10 mg), famotidine (20 mg), and loperamide (2 mg), each taken once daily. Diffuse bilateral pulmonary infiltrates were apparent on a chest roentgenogram. The leukocyte count was $13.2 \times 10^9/L$ (92% neutrophils, 7% lymphocytes, and 1% monocytes), and the erythrocyte sedimentation rate was 75 mm/h. A gram stain of purulent sputum showed leukocytes (>25 per high-power field; magnification, $\times 1,000$) but no microorganisms were found, and cultures remained negative. The patient's antimicrobial therapy was changed to erythromycin (1 g iv every 6 hours) and rifampin (600 mg iv every 12 hours); however, the development of respiratory failure prompted transfer to the intensive care unit where he was intubated and artificial ventilation was started. Bronchoalveolar lavage (BAL) was performed, but cultures of the fluid remained negative. Family members reported that he kept psittacine birds, several of which were ill.

Complement-fixing antibodies to *Chlamydia* were found at a titer of 128, but IgM was not detected with use of indirect immunofluorescence (IF). Nevertheless, antimicrobial therapy was changed to doxycycline (200 mg iv once daily), and gentamicin (120 mg iv every 12 hours) was added because the patient began to appear septicemic. During the next 5 days a remittent fever persisted; the patient's respiratory function did not improve, and a repeated chest roentgenogram showed no improvement in his condition.

At that time *Chlamydia psittaci* was isolated from the cloaca of one of the patient's birds, and polymerase chain reaction (PCR) demonstrated the presence of *Chlamydia* in the BAL fluid. Eventually the patient's clinical condition improved, and he was discharged from the hospital in good health after 28 days.

Methods

The complement fixation (CF) test was performed according to the microtiter technique [8] with a commercial antigen containing *C. psittaci* (Behringwerke, Marburg, Germany). For detection of IgM, the serum samples were pretreated with Gullsorb (Biolab, Amersfoort, the Netherlands) to remove IgG and rheumatoid factors [9]. An IF test was performed by means of standard procedures with commercial *C.
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For admission [3, 5]. For the remaining live patients, the mean ent. Seven of the patients presented with neurological mani-


