# *Mycoplasma hominis* Septicemia

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We report a case of *Mycoplasma hominis* septicemia in a patient with chronic lymphocytic leukemia and prostatic obstruction. Signs of sepsis followed urinary catheterization, and *M. hominis* was recovered repeatedly from blood, urine, and pleural fluid. Detection in blood was accomplished by routine subculture from grossly negative blood culture bottles.

The role of *Mycoplasma hominis* as a pathogenic agent in humans is not well understood. Although its association with postpartum or postabortal fever and some cases of pyelonephritis has been documented, its causative role in nongonococcal urethritis and prostatitis is still controversial (2, 13). In addition, little is known of its potential as a pathogen in producing systemic disease in immunosuppressed patients. We report the case of a patient in whom *M. hominis* was isolated from multiple samples of blood, pleural fluid, and urine.

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The patient was a 74-year-old man with chronic lymphocytic leukemia and massive retroperitoneal lymphadenopathy of 2 years duration.

After an initial favorable response to cytoxan, oncovin, and prednisone he suffered a recurrence and concurrently developed chronic urinary retention due to prostatic hypertrophy. Onset of acute urinary retention required hospitalization, and fever (101.4°F) developed 1 day after urinary catheterization.

Chest X ray revealed a loculated pleural effusion with subsegmental atelectasis in the lower lobe of the left lung. Cultures of urine and sputum were negative. *M. hominis* was isolated from two sets of blood cultures collected 5 days apart. Each set was composed of one BACTEC 6B (aerobic) and one 7C (anaerobic) bottle (Johnston Laboratories, Cockeysville, Md.). All bottles were negative by visual inspection. One set remained negative by radiometry; the other showed a borderline growth index after 5 days of incubation. *M. hominis* was isolated on routine subculture of both sets after 6 and 3 days of bottle incubation, respectively. Both aerobic and anaerobic bottle cultures were able to support growth. Subcultures were inoculated to prereduced sheep blood agar plates supplement-

ed with hemin and vitamin K and incubated anaerobically for 48 h. Colonies were pinpoint and semitranslucent, but Gram-stained smears failed to reveal organisms. Preliminary identification of mycoplasma species was obtained by the stained-agar technique of Dienes (7).

Three subsequent urine cultures also yielded *M. hominis* after anaerobic incubation of blood agar plates. Oral administration of erythromycin was followed by prompt defervescence in the patient, but cultures of pleural fluid and urine obtained 4 to 12 days after the institution of treatment still yielded *M. hominis*. Transurethral prostatic resection showed diffuse hyperplasia and focal prostatic carcinoma. The pleural effusion persisted, and the patient was discharged on prednisone and erythromycin. He remained afebrile, and blood and urine cultures were sterile 1 month after hospitalization.

The blood, urine, and pleural fluid isolates were identified as *M. hominis* in the mycoplasma section of the bacteriology laboratory of the Massachusetts General Hospital by the growth inhibition method described by Clyde (3). The identification was confirmed by the epifluorescence antibody test (5). Susceptibility testing (12) showed susceptibility to tetracycline and doxycycline and resistance to erythromycin. Acute- and convalescent-phase sera were negative for cold agglutinins and for antibody to *Mycoplasma pneumoniae* by complement fixation. An attempt was made to detect antibody to *M. hominis*. Acute- and convalescent-phase sera were negative for antibody to the patient's strain of *M. hominis* by the complement-dependent mycoplasmacidal test (6).

Recent reports have implicated *M. hominis* in tissue abscesses and hematomas following severe trauma (1, 9). Isolation of this organism from blood has been previously documented in women with postpartum fever (8, 10, 15), in infants (4), and in adult males after multiple

trauma, urinary obstruction, and surgery or catheterization of the urinary tract (11, 14). Although fever and constitutional symptoms are often present, mycoplasmemia is usually transient, characteristically lasting less than a week, after which the organism can no longer be isolated from the blood even in the absence of effective treatment (11). The case we report was characterized by a relatively long persistence of viable mycoplasma in body fluids. Although defervescence accompanied erythromycin therapy, *M. hominis* was recovered from both urine and pleural fluid collected 1 to 2 weeks afterward. Whether the organism had any role in causing the persistent hydrothorax cannot be determined. The absence of antibody directed against *M. hominis* might be related to the immunosuppression associated with chronic lymphocytic leukemia and might be partly responsible for the prolonged course in this patient.

*M. hominis* should be considered as a potential pathogen in immunosuppressed patients, especially in the setting of unexplained fever after urinary obstruction. Although *M. hominis* can be cultivated in many conventional blood culture broths and in blood agar plates (13), its presence may not be detected unless laboratory workers are alerted to this possibility. The organism's rate of growth is somewhat slower than that of most bacteria, and no turbidity develops in broth. Although the radiometric system we currently use for detection of bacteremia gave a borderline result after several days in one of two positive sets of blood cultures, routine subculture detected the organism earlier and more consistently. Colonies on blood agar plates were pinpoint, nonhemolytic, and translucent and might easily be discounted as moisture droplets by inexperienced workers, especially in view of the negative Gram stain. The stained-agar technique of Dienes is a simple procedure which allows rapid preliminary identification of mycoplasma. Familiarity with this technique should prove useful in any clinical microbiology laboratory.

Greater awareness of the possible role of mycoplasmas in human disease on the part of both physicians and laboratory workers should enable us to reach a better understanding of the pathogenic potential of these organisms.

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