CASE REPORT

A 31-year-old female with a history of end-stage-renal disease on hemodialysis, hepatitis C virus infection, and myocardial infarction presented to an affiliate hospital’s emergency department complaining of chest pain and shortness of breath. On physical examination, the patient was afebrile, with a heart rate of 74 beats per minute, a blood pressure of 89/47 mmHg, and a respiratory rate of 38 breaths per minute with an oxygen saturation of 98% on 4 liters via nasal cannula. The patient quickly decompensated and required support for worsening blood pressure and tachycardia for respiratory distress. Blood cultures were drawn in the emergency room, and the patient was transferred to the intensive care unit with a temperature of 39.5°C.

The patient was started empirically on aztreonam, daptomycin, and tobramycin because of reported penicillin and vancomycin allergies. Laboratory studies revealed a white blood cell count of 21.4 mg/dL, a hemoglobin level of 9.1 mg/dL, and a platelet count of 69 × 10^10/L. A chest X-ray revealed bilateral airspace opacities consistent with pneumonia. No sputum culture or bronchial lavage specimen was obtained during the hospitalization. The patient continued to deteriorate and expired 2 days after admission secondary to overwhelming sepsis. Postmortem, the blood cultures drawn on admission were reported to be positive for a Gram-negative rod after 36 h of incubation in 2 sets in the aerobic bottles only. The bacterial isolate was identified as *Weeksella virosa* via the BD Phoenix automated microbiology system. Because this was a rare isolate, the identification was confirmed by 16S rRNA gene sequencing with the B162 forward primer (5′-CGCTCTGTGGCGGGACTTAAACCAACATCTC-3′) and BR16SR reverse primer (5′-GAGAGTTTGATCGTGGCTCAGATTGAACGC-3′), which produced a 100% 936-bp sequence match with *W. virosa* using the SmartGene bacterial sequence database (SmartGene, Inc., Raleigh, NC).

The strain was retested with a MicroScan Gram Negative Combo panel (MicroScan Microbiology Solutions, Tarrytown, NY) in order to obtain the following susceptibility report and MICs (g/mL): amikacin, ≥32, resistant (R); aztreonam, ≤8, susceptible (S); cefazidime, ≤8, S; ciprofloxacin, >4, R; gentamicin, ≤4, S; meropenem, ≤4, S; piperacillin, =16, S; tobramycin, >8, R; and imipenem/cilastin, =4, S.

*Weeksella virosa* is an uncommon aerobic Gram-negative rod that has rarely been reported to cause infection. We describe a fatal case of *W. virosa* sepsis in a young female with end-stage renal disease, report three additional cases of *W. virosa* infection, and review the literature regarding this infection.

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**CASE REPORT**

*Weeksella virosa* is an aerobic Gram-negative rod that has rarely been reported to cause infection. We describe a fatal case of *W. virosa* sepsis in a young female with end-stage renal disease, report three additional cases of *W. virosa* infection, and review the literature regarding this infection.
are varied results in the literature regarding the organism’s sensitivity to tetracycline and trimethoprim-sulfamethoxazole (3, 4).

We report a patient with *Weeksella virosa* bacteremia and suspected pneumonia who presented with overwhelming sepsis. Despite the administration of appropriate empirical antibiotics, the patient expired 2 days after admission. The patient’s severe course was likely exacerbated by ischemic cardiomyopathy complicated by acute on chronic systolic heart failure. A review of our microbiology cultures from 2003 to the present revealed an additional 3 cases of *W. virosa* infection (Table 1). Additionally, there are four case reports in the literature describing *W. virosa* infections (Table 1).

A review of these 8 cases revealed the following comorbidities: female (6/7), end-stage renal disease (3/8), obesity (3/8), liver disease (2/8), and diabetes mellitus (2/8). Of the 6 cases in which antimicrobial use was reported, aztreonam, ampicillin, imipenem/cilastin, trimethoprim-sulfamethoxazole, cefoxitin, and cefepime were used. Success was reported in 4 of 6 patients. In addition, one patient was successfully treated for a labial abscess with incision and drainage alone, and one patient’s treatment history was not reported. From these patients’ isolates, the following antimicrobial resistance rates were noted: amikacin, 5/5; gentamicin, 5/7; tobramycin, 5/5; ciprofloxacin, 5/7; trimethoprim-sulfamethoxazole, 2/2; and ceftazidime, 2/6. All of the organisms tested were sensitive to aztreonam (4/4), meropenem (4/4), and piperacillin (4/4).

*Weeksella virosa* is a rare pathogenic bacterium that has been associated with pneumonia, bacteremia, peritonitis, and urinary tract infections. This organism appears to be more prevalent in females and in patients with comorbidities, such as renal disease, obesity, liver disease, and diabetes mellitus. It is important to consider this organism if your laboratory isolates an aerobic Gram-negative rod that grows after 36 to 48 h of incubation from either blood, sputum, urine, or peritoneal fluid. Piperacillin, aztreonam, and the carbapenems have reliable activity against this organism and should be used empirically once the organism is identified. Trimethoprim-sulfamethoxazole, ciprofloxacin, and the aminoglycosides should not be used unless antibiotic susceptibility results are available. More information is needed on the clinical presentation, diagnosis, and treatment of this uncommon organism.

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**REFERENCES**

10. Reference deleted.