Fatal Case of Endocarditis Due to *Weissella confusa*

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This is the first reported case of endocarditis due to the Lactobacillus-like vancomycin-resistant gram-positive bacillus *Weissella confusa*. Full identification and susceptibility testing of Lactobacillus-like organisms recovered in blood culture should be performed for patients with clinical presentations that suggest endocarditis.

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**CASE REPORT**

A 49-year-old man presented with a 100-lb weight loss over the preceding year and weakness, memory loss, and rash but no fever during the previous 6 months. Three months prior to admission he experienced sudden loss of vision in his right eye. A year previously he had been treated with oral corticosteroids for transverse myelitis. He had a history of chronic alcohol abuse. Recently his diet contained large quantities of milk. Clinically, the protracted and atypical course of this patient’s disease, evidenced by weight loss and weakness over many months without fever, initially suggested an occult malignancy rather than endocarditis. On examination, his temperature was 37.0°C. A petechial rash was present on his abdomen and all four extremities, including the palms and soles, and the rash was confluent with palpable purpura over his shins. His oral cavity had palatal petechiae, and there were multiple carious and missing teeth. He had right eye blindness except for slight nasal sparing. His right pupil did not constrict to light and was larger than the left, and his right fundus appeared pale, consistent with central retinal artery thrombotic occlusion. A loud holosystolic murmur was present over the entire precordium, and his spleen was palpable. Laboratory examination showed a hemoglobin level of 6.3 g/dl, and a serum creatinine level of 4.0 mg/dl. Human immunodeficiency virus type 1 antibody tests were negative. A skin biopsy showed leukocytoclastic vasculitis. A catalase-negative gram-positive coccobacillus that demonstrated alpha hemolysis on sheep blood agar was recovered from both the aerobic and anaerobic bottles in three sets of blood cultures obtained at different times. The vancomycin MIC for this organism in cation-supplemented Mueller-Hinton broth with lysed horse blood was 512 µg/ml. Transthoracic echocardiography revealed moderate-to-severe mitral insufficiency and a nodular echogenicity on the mitral valve. He refused antibiotic therapy and further care despite intensive counseling and was found dead approximately 4 days after leaving the hospital. Autopsy examination revealed cardiomegaly (720 g) and hepatosplenomegaly (2,400 and 1,200 g, respectively). Microscopically there were septic emboli with bacterial colonies in multiple organs, most notably the heart, but also the brain, lungs, liver, kidneys, spleen, adrenals, and skin. Multiple microscopic abscesses were noted in the myocardium, with bacterial colonies in central regions of the abscesses. There were large areas of acute coagulative necrosis of the myocardium despite minimal coronary atherosclerosis. His mitral valve was sclerotic and calcified, with microscopic infiltrates of polymorphonuclear leukocytes, as well as deposits and fragments of fibrin consistent with a detached vegetation.

The blood culture isolate was a nonmotile, pleomorphic gram-positive coccobacillus that produced small (1- to 2-mm) alpha-hemolytic colonies on rabbit blood agar after 2 days of incubation in air at 35°C. There was no growth on MacConkey agar. The organism was negative for catalase and cytochrome oxidase activity and was unable to reduce nitrate. Tests for esculin and arginine hydrolysis were positive, and a test for gelatin hydrolysis was negative. Acid was produced from cellobiose, galactose, maltose, sucrose, and xylose, but not from l-arabinose, melibiose, raffinose, or trehalose. The Special Bacteriology Reference Laboratory of the Centers for Disease Control and Prevention identified this organism as *Weissella confusa* on the basis of these key reactions (6, 17).

The 16S rRNA cistrons of this isolate were amplified with the bacterial universal primers F24 (9 to 27, forward; 5‘-GAG TTTGATYMTGGCTCAG-3‘) and F25 (1525 to 1541, reverse; 5‘-AAGGAGGTGWTCCARCC-3‘). Purified DNA from PCR was sequenced with an ABI Prism cycle sequencing kit (BigDye terminator cycle sequencing kit with AmpliTaq DNA polymerase FS; Perkin-Elmer). The primer F15 (519 to 533, reverse; 5‘-TTACCGCCGGTCTG-3‘) was used for sequencing. Sequence data were entered into RNA, a program set for data entry, editing, sequence alignment, secondary structure comparison, similarity matrix generation, and den-
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