



DIVISION OF PUBLIC HEALTH

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February 9, 2016

Denise Cardo, MD
Director, Division of Healthcare Quality Promotion
National Center for Emerging and Zoonotic Infectious Diseases
Centers for Disease Control and Prevention
1600 Clifton Road NE, MS A07
Atlanta, GA 30333

Dear Dr. Cardo,

During December 29, 2015, through January 4, 2016, The Wisconsin Division of Public Health (WDPH) was notified of 6 cases of *Elizabethkingia meningoseptica* bloodstream infections. The 6 patients were admitted to 3 different hospitals with signs and symptoms of sepsis. Blood cultures obtained at the time of admission or soon thereafter were positive for *E. meningoseptica*, a rare gram-negative bacillus that is intrinsically multidrug-resistant, and the cause of infections that are associated with high mortality rates (estimates range from 23 to 52%). Most *E. meningoseptica* infections occur in healthcare settings; however, community-acquired cases of sepsis have been reported.

Following identification of the initial cluster, WDPH staff initiated epidemiologic, laboratory and environmental investigations to further characterize demographic and epidemiologic features and determine risk factors and potential reservoirs for infection. WDPH established a statewide surveillance for *E. meningoseptica* infections among infection preventionists and clinical microbiology laboratories by requesting retrospective review for *E. meningoseptica* infections detection among all sterile site specimens processed January 1, 2014 to the present. All available isolates were shipped to the Wisconsin State Laboratory of Hygiene (WSLH) for further testing that included pulsed field gel electrophoresis (PFGE).

Through February 5, 2016, we have received reports of illnesses occurring in 25 patients with at least 1 isolate of *E. meningoseptica* from a sterile site. These have included positive blood cultures from 24 patients (including one patient with a positive synovial fluid specimen) and a positive BAL specimen from 1 patient. The median patient age is 73 (range: 23-86) years. Only 1 patient is aged less than 46 years. Patients were hospitalized in 17 hospitals, 3 hospitals reported infections in more than 1 patient. Among the 25 patients, 2 had illness onsets during 2014 and 23 had onsets since January 1, 2015 including 1 with onset during January, 2 with onsets during September and 20 with onsets since November 23. Prior to onset of symptoms associated with *E. meningoseptica*, patients received healthcare in a variety of healthcare settings (inpatient, ER, interventional radiology, oncology clinic, dialysis, assisted living, and ambulatory surgery center). These patients typically have had serious comorbid conditions.

The WSLH is further characterizing these isolates. To date, among 14 isolates of *E. meningoseptica* for which PFGE testing has been completed, 11 have PFGE patterns that are indistinguishable or very closely related (pattern 1) and 3 have PFGE patterns that differ from

pattern 1 and from each other. Results of testing of 4 additional specimens are pending. The 11 pattern 1 isolates were from specimens collected from patients at 5 different hospitals. Notably, 7 patients were hospitalized at 2 hospitals (4 in hospital A and 3 in Hospital B) and these patients have PFGE pattern 1 isolates. Extensive environmental testing at Hospitals A and B has not revealed a strain implicated in this outbreak. Expanded antimicrobial susceptibility testing (AST) conducted at Wisconsin clinical laboratories for 4 of the pattern 1 isolates demonstrate AST results similar to those of isolates associated with previously reported outbreaks of *E. meningoseptica* infections. These 4 isolates had a broad pattern of resistance including resistance to third generation cephalosporins, carbapenems, aminoglycosides, and monobactams. They did display sensitivity to fluoroquinolones and trimethoprim-sulfamethoxazole. Results of AST of additional isolates are pending.

With rare exception, these patients were all admitted to the hospital with signs and symptoms of infection suggesting that inoculation with *E. meningoseptica* occurred during antecedent healthcare related visits that could be inpatient or outpatient visits. The patients' healthcare visits typically occurred near or within the facilities where they were hospitalized. The 20 patients with onsets since November 23 were hospitalized in facilities among 11 contiguous counties in southern Wisconsin. Despite extensive investigation, the source of the patients' infections has not been identified. The 4 most recent illness onsets have occurred during January 28 to February 4 which suggests that the outbreak is ongoing. Identifying the source of the infection is critical to prevent new infections.

We are requesting technical assistance from CDC to investigate this cluster of *E. meningoseptica* infections. The investigation will include a variety of activities, including case series and case-control analyses, patient interviews, and other activities not yet defined, all of which will remain under the direction and supervision of the Wisconsin Division of Public Health. The Wisconsin Division of Public Health will retain ownership of all data collected.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey P. Davis, MD". The signature is cursive and somewhat stylized, with a small "MD" written at the end.

Jeffrey P. Davis, MD
Chief Medical Officer and State Epidemiologist
for Communicable Diseases and Emergency Response