

Health Advisory: Melioidosis in Minnesota Not Associated with Travel

Minnesota Department of Health, Wed, June 30 14:00 CDT 2021

Action Steps

Local and tribal health department: Please forward to hospitals, clinics, urgent care centers, emergency departments, pharmacies, and convenience clinics in your jurisdiction.

Hospitals, clinics and other facilities: Please forward to infection preventionists, infectious disease physicians, emergency department staff, hospitalists, and primary care clinicians.

Health care providers:

- Consider melioidosis in patients with a compatible illness even if they do not have a travel history to disease-endemic country.
- Culture blood, urine, throat swab, and, when relevant, respiratory specimens, abscesses, or wound swabs if melioidosis is suspected.
- Treat melioidosis with IV antibiotics (i.e., ceftazidime or meropenem) for at least two weeks.
- [Report Melioidosis \(https://www.health.state.mn.us/diseases/melioidosis/report.html\)](https://www.health.state.mn.us/diseases/melioidosis/report.html) to MDH by phone to 651-201-5414 or 877-676-5414.

Summary:

[CDC Health Advisory - Multistate Investigation of Non-travel Associated *Burkholderia pseudomallei* Infections \(Melioidosis\) in Three Patients: Kansas, Texas, and Minnesota—2021 \(https://emergency.cdc.gov/han/2021/pdf/CDC-HAN-00444.pdf\)](https://emergency.cdc.gov/han/2021/pdf/CDC-HAN-00444.pdf)

The Kansas Department of Health and Environment, the Texas Department of State Health Services, and the Minnesota Department of Health, with assistance from CDC, are investigating three cases of *Burkholderia pseudomallei* (melioidosis) infections. Based on genomic analysis, these three cases (one male, one female, and a child) may share a potential common source of exposure. The first case, identified in March 2021, was fatal. Two patients were identified in May 2021, one of whom is still hospitalized. The other has been discharged to a transitional care unit. None of the patients' families reported a history of traveling outside of the continental United States.

Symptoms of melioidosis are varied and nonspecific and may include pneumonia, abscess formation, and/or blood infections. Due to its nonspecific symptoms, melioidosis can initially be mistaken for other diseases such as tuberculosis, and proper treatment may be delayed.

Background

Initial presentation among the three patients ranged from cough and shortness of breath, to weakness, fatigue, nausea, vomiting, intermittent fever, and rash on the trunk, abdomen, and

HEALTH ADVISORY: MELIOIDOSIS IN MINNESOTA NOT ASSOCIATED WITH TRAVEL

face, later diagnosed with infectious encephalitis. The fatal case had several risk factors for melioidosis including chronic obstructive pulmonary disease (COPD) and cirrhosis and died ten days after being hospitalized. Genomic analysis of the strains suggests a common source, such as an imported product or animal; however, that source has not been positively identified to date.

Burkholderia pseudomallei, the causative agent of melioidosis, is a Tier 1 select agent which can affect both animals and humans. Cases are most common in areas of the world with tropical and sub-tropical climates. Most cases in the United States occur in persons returning from a country where the disease is endemic. These three cases are unusual because no recent travel outside the United States has been identified.

Melioidosis symptoms are nonspecific and vary depending on the type of infection. Symptoms may include localized pain or swelling, fever, ulceration, abscess, cough, chest pain, high fever, headache, anorexia, respiratory distress, abdominal discomfort, joint pain, disorientation, weight loss, stomach or chest pain, and muscle pain or joint pain and seizures. Mortality varies depending on disease severity and clinical presentation, with case fatality ranging between 10-50%. People with certain conditions are at higher risk of disease when they come in contact with the bacteria. The most common factors that make a person more likely to develop disease include diabetes, kidney disease, chronic lung disease, and alcoholism. Melioidosis is confirmed by culture and with testing conducted by trained personnel since some automated identification methods in clinical laboratories may misidentify *B. pseudomallei* as another bacterium.

Melioidosis is not considered to be transmitted person-to-person via air or respiratory droplets in non-laboratory settings. There have only been a few documented cases of person-to-person transmission; percutaneous inoculation is probably the most frequent route for natural infection. In contrast to other healthcare personnel, laboratory personnel are at risk because some procedures may aerosolize particles and release *B. pseudomallei* into the air. Laboratory personnel can reduce their risk of exposure by following good laboratory practices¹. Laboratory staff who may have been exposed to *B. pseudomallei* should refer to existing CDC guidance.

Recommendations

- Consider melioidosis in patients with a compatible illness even if they do not have a travel history to disease-endemic country.
- Culture of *B. pseudomallei* from any clinical specimen is considered diagnostic for melioidosis. If melioidosis is suspected, culture blood, urine, throat swab, and, when relevant, respiratory specimens, abscesses, or wound swabs.
- When ordering specimen cultures to diagnose melioidosis, advise the laboratory that cultures may grow *B. pseudomallei*, and the laboratory personnel should observe appropriate laboratory safety precautions.
- Treatment of melioidosis consists of IV antibiotics (i.e., ceftazidime or meropenem) for at least two weeks. Depending on the response to therapy, IV treatment may be extended for up to eight weeks. Intravenous treatment is followed by oral trimethoprim-sulfamethoxazole (TMP/SMX) for 3-6 months to prevent relapse. Amoxicillin/clavulanic

HEALTH ADVISORY: MELIOIDOSIS IN MINNESOTA NOT ASSOCIATED WITH TRAVEL

acid can be used in persons with a contraindication to or who cannot tolerate TMP/SMX3.

- Consider re-evaluating patients with isolates identified on automated systems as *Burkholderia* spp. (specifically *B. cepacia* and *B. thailandensis*), *Chromobacterium violaceum*, *Ochrobactrum anthropi*; and, possibly, *Pseudomonas* spp., *Acinetobacter* spp., and *Aeromonas* spp. Laboratory testing involving automated identification algorithms (e.g., MALDI-TOF, 16s, VITEK-2) may misidentify *B. pseudomallei* as another bacterium. The isolate from the Texas case was initially misidentified as *B. thailandensis* by MALDI-TOF. **Laboratorians please call the MDH PHL on-call phone at: 612-282-3723 with questions about this organism or if you suspect you have isolated it in your laboratory.**
- If *B. pseudomallei* is identified or an organism is suspicious for *B. pseudomallei*, contact MDH by phone within 24 hours (651-201-5414 or 877-676-5414). MDH can facilitate forwarding the isolate for confirmation to the closest reference laboratory and initiate a public health investigation.

For More Information

- [CDC: Melioidosis \(https://www.cdc.gov/melioidosis/index.html\)](https://www.cdc.gov/melioidosis/index.html)
- [MDH Melioidosis \(https://www.health.state.mn.us/diseases/melioidosis/index.html\)](https://www.health.state.mn.us/diseases/melioidosis/index.html)

A copy of this HAN is available at: [MDH Health Alert Network \(http://www.health.state.mn.us/han\)](http://www.health.state.mn.us/han)

The content of this message is intended for public health and health care personnel and response partners who have a need to know the information to perform their duties.