Melioidosis

Traveler Summary

Key Points

- Meliodosis is a bacterial infection acquired when infected soil or water enter the skin through small cuts or puncture wounds (especially feet) and occurs mostly in Southeast Asia, South Asia, and northern Australia.
- Risk is generally low for travelers going to affected countries, but those with diabetes and other chronic diseases are most at risk, as are persons in regular contact with soil, mud, and ground water, especially after recent rainfall.
- Symptoms include high fever, respiratory distress due to pneumonia, and sometimes skin sores.
- Consequences of infection include shock, organ failure, and inflammation of the brain. Untreated infection is often rapidly fatal.
- Prevention includes wearing protective footwear when walking in rural areas or in mud, especially during the rainy season.
- No vaccine or preventive drugs are available.

Introduction

Melioidosis is caused by bacteria (***Burkholderia pseudomallei***) often found in contaminated soil and water. The infection most commonly occurs in Southeast Asia, South Asia, and northern Australia and may be acute or chronic, resulting in high fever, pneumonia, painful skin sores, or death.

Risk Areas

Melioidosis is prevalent in the hot wet tropics and sub-tropics of Southeast Asia (especially Thailand and neighboring countries), South Asia, and northern Australia. Melioidosis is seasonal during the monsoon season in Asia; most cases occur in rice farmers who work without protective footwear. Other affected areas include other parts of Asia. Sporadic cases are reported in the Pacific and Indian Ocean islands, the Americas, and Africa. Most travel-related cases have been associated with rural travel in affected Asian countries (rarely in African and American countries).

Transmission

Melioidosis is mainly transmitted via contact with contaminated soil or water (especially in association with recent rainfall or flooding) when bacteria enter the skin (especially feet) through small cuts or puncture wounds or infrequently through inhalation and aspiration.

Risk Factors

Risk is generally low for travelers, but those with diabetes and other chronic diseases are most at risk, as are persons in regular contact with soil, mud, and ground water, especially after recent rainfall. In most travelers who have acquired melioidosis, the source and routes of infection are unknown but may include walking without protective footwear on farms or in mud during or after heavy rains in risk areas. Previously healthy travelers are at less risk of a fatal outcome as long as appropriate medical care is available.

Symptoms

Symptoms commonly appear about 1 to 21 days (acute) or may be present for more than 2 months (chronic) following exposure and may include fever, pneumonia, cough, sputum, shortness of breath, and sores at the site of infection. In about 4% of cases, symptoms may re-appear months or years after initial infection. Observed symptoms may differ based on the risk area, and disease severity may vary depending on the individual's risk factors.

Consequences of Infection

Melioidosis can result in spread of bacteria to other parts of the body, resulting in pus-filled internal organs or skin sores, arthritis, bone pain, inflammation of the brain and spinal cord, muscular weakness, overwhelming sepsis, and death. Death occurs in

about 40% of symptomatic cases in countries with limited resources, but rates may decrease to 10% in countries where rapid diagnosis, appropriate treatment, and excellent intensive care therapy are available.

Need for Medical Assistance

Travelers, especially those with chronic diseases, who develop high fever or symptoms of pneumonia during or after an exposure to mud or soil in a risk area, should seek rapid medical assistance. The medical provider should be informed of the travel itinerary, activities, and the possibility of melioidosis.

Prevention

Nonvaccine

Wear protective footwear when walking in rural areas or in mud, especially during the rainy season. Cleanse open sores, cuts, or wounds properly after possible contamination with soil or surface water.
