NT HEALTH

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Health Alert: Melioidosis

Dear Colleague,

Since 1st October 2022 there have been 22 cases of melioidosis reported in the NT with eight of these cases occurring in the past seven days.

Melioidosis is a disease caused by the bacterium, *Burkholderia pseudomallei*, which is found in tropical soil and water. People come in contact with these bacteria in the wet season, when the bacteria increase after heavy rains and concentrate in the soil surface layers. Most commonly this occurs by percutaneous inoculation but inhalation of aerosolised bacteria is also possible, particularly during severe weather events with heavy wind and rain.

Around 80% of the cases of melioidosis in the Top End occur during the wet season (1 October to 30 April). The incubation period is 1-21 days (average nine days) in those with an acute illness (around 85% of cases), however some present with chronic symptoms or even with a latency period of months or years that results in subsequent clinical disease.

Around 50% of melioidosis cases present with pneumonia, either as a severe sepsis, a less severe unilateral pneumonia mimicking other causes of community-acquired pneumonia, or sometimes as a chronic non-resolving pulmonary infection similar to tuberculosis.

Other presentations include overwhelming sepsis, skin lesions, prostate, bone, joint and neurological infections and abscesses in multiple internal organs. Around ten per cent of infections lead to death.

Over 80% of patients who develop melioidosis have at least one significant risk factor for the disease. The most important risk factors include:

- Diabetes mellitus (most common)
- Hazardous alcohol use
- Chronic kidney disease (particularly dialysis patients)
- Chronic lung disease (including COPD and bronchiectasis)
- Other immunosuppression e.g. steroids, immunosuppressive therapy, malignancy

Education and prevention during the wet season is therefore particularly important for high risk patients in the community.

Patients with risk factors should be advised to:

- stay inside during heavy wind and rain
- wear waterproof footwear when outside and avoid pools of water
- wear gloves when handling soil or muddy items and to protect hands from cuts
- avoid binge and heavy alcohol use
- wear protective masks when using high pressure hoses

Brief interventions regarding alcohol use and improved diabetes management can also have a significant impact on a patient's melioidosis risk. Dialysis patients in the Top End are now being given prophylaxis during the wet season with co-trimoxazole after each dialysis session.

Culture is the mainstay of diagnosis. Diagnosis of melioidosis (i.e. active disease) is NOT made based on a positive serology (IHA) result, although melioidosis serology should be ordered if melioidosis is suspected. Serologic testing alone is not a reliable method of diagnosis and culture confirmation should always be sought in patients with suspected melioidosis.

If you have a patient with suspected melioidosis, in addition to other investigations, it is recommended to perform all of the following if available (see CARPA Standard Treatment Manual, p. 357)

- Blood cultures (prior to antibiotics)
- Sputum culture (if any productive sputum)
- Urine culture
- Throat and rectal swabs (each placed into Ashdown broth bottles or if these not available using separate blue-top swabs with gel)
- Swab of skin lesion or aspirate of abscess for culture

Mention "possible melioidosis" on the request form so that the laboratory knows to use specific culture media. Serology for melioidosis should also be performed, although a positive result does not confirm disease as it may reflect past infection and serology is often negative in the first week of illness. A chest x-ray is useful where possible.

All cases of confirmed melioidosis, and all patients with suspected melioidosis who are unwell, should be referred to hospital for inpatient management.

A fact sheet with more information on melioidosis is available at Melioidosis (nt.gov.au)

Yours sincerely,

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