MELIOIDOSIS AND THE MONSOON IN TROPICAL AUSTRALIA

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A number of cases of melioidosis can be expected in the tropical north of the Northern Territory, Western Australia and Queensland with the onset of the wet season.

Between December 1 1995 and January 18 1996, 12 cases of melioidosis were admitted to the Royal Darwin Hospital, two being relapses in previously diagnosed patients. There have been no deaths from melioidosis so far this wet season.

In the Northern Territory in previous wet seasons (November to April) the numbers of cases reported were: 21 in 1994-5 (with 3 deaths), 28 in 1993-4 (6 deaths) and 33 cases in 1990-91 (12 deaths).

Key facts about melioidosis

1. Melioidosis is caused by *Burkholderia* (formerly *Pseudomonas*) *pseudomallei*. It is the commonest cause of fatal community-acquired bacteraemic pneumonia at Royal Darwin Hospital (and possibly also Katherine and Gove Hospitals).
2. Other presentations of melioidosis include skin abscesses or ulcers, abscesses in internal organs such as prostate, spleen and liver, fulminant septicaemia with multi-organ abscesses and an unusual neurological illness (such as brainstem encephalitis). Persons without symptoms or a known history of disease have also been found to be serologically positive.
3. An ongoing prospective study has documented over 100 cases of melioidosis at Royal Darwin Hospital. Of these, around 40% are diabetic and 50% heavy alcohol consumers. Virtually all fatalities have been in patients with these or other risk factors such as renal disease.
4. Occasional cases occur in children.
5. The likelihood of diagnosis is increased by using selective culture media (modified Ashdown's broth), frequent sampling (sputum, throat, rectal and ulcer swabs) and collection of blood cultures. Clinicians should liaise with laboratory staff to ensure selective media are available.
6. Mortality is decreased by early diagnosis and appropriate antibiotic therapy.
7. Follow up of cases and ensuring compliance with eradication therapy (usually three months of antibiotics after discharge) is critical to prevent relapse, which can be fatal.
8. The Top End empirical treatment protocol for adult community-acquired pneumonia is devised to cover both melioidosis in patients with risk factors, as well as other important pathogens (Table).
9. Once melioidosis is confirmed the treatment recommended is[1]:

   Initial intensive therapy for seven to 14 days of

   – intravenous high dose ceftazidime

   plus either

   – high dose cotrimoxazole

   or

   – high dose doxycycline.

   This is followed by

   Eradication therapy for at least three months of

   – oral monotherapy with either high dose cotrimoxazole or doxycycline.
10. Each monsoon, cases of melioidosis occur in travellers returning from tropical Australia to southern states or overseas countries.

Reference

1. Victorian Drug Usage Advisory Committee. *Antibiotic guidelines, 9th edition.* Melbourne: Victorian Medical Postgraduate Foundation Inc, 1996-7.

Table. Initial therapy of adult community-acquired pneumonia in the Top End[1]

	Mild pneumonia	Moderate pneumonia	Severe pneumonia
No risk factors[2] present	Penicillin	Penicillin	Ceftriaxone
Risk factors[2] present	Penicillin	Ceftriaxone plus gentamicin	Ceftriaxone or ceftazidime plus gentamicin

1. For 'atypical pneumonia' consider erythromycin.
2. Risk factors include: alcohol, diabetes, chronic lung disease, chronic renal failure and steroid therapy.