Melioidosis

E Stedman, Veterinary Officer, Livestock Biosecurity Branch Darwin

Melioidosis is a disease that can affect several species of animals. It is caused by the bacteria Burkholderia pseudomallei, which are endemic in the Northern Territory (NT). Most commonly affected animals include goats, pigs and camelds. Melioidosis can also affect humans. There is a small risk that people or other animals who come into contact with an infected animal could also become infected. Any person concerned about human health should contact their medical practitioner for advice.

Melioidosis is a notifiable disease in animals and any animal owner, person in charge of an animal or a veterinarian, must report any suspicion or confirmation of melioidosis in an animal to the Chief Veterinary Officer as soon as practicable.

How do animals get melioidosis

B. pseudomallei is found in the soil and in surface water in tropical areas. After rain, the bacteria come to the surface and are found in mud and water on the ground. When it is rainy and windy, the germs can get blown around in the air. The bacteria can enter the body by ingestion, inhalation, or through wounds and abrasions. Trans-placental transmission has been documented in several species, including goats; hospital-acquired infection has been reported in cats in a veterinary hospital. A case of infection in avairy birds was thought to be linked to bore water used in irrigation.

Although melioidosis is not a highly contagious disease, care needs to be taken when handling potentially infected animals. Infected animals can shed the bacteria via wound exudates, nasal secretions, milk, meat, faeces and urine. While infection is usually acquired from exposure to contaminated soil and surface water, a small number of zoonotic infections have been reported.

Which animals are at risk

Some animal species are particularly susceptible to melioidosis. In the NT, melioidosis has been seen (in descending order) in camels, goats, sheep, pigs, captive or exotic birds, dogs, cats, horses and cattle. Native animals are likely to be resistant to infection. Animals with a compromised immune system or concurrent disease, or nursing offspring or neonates of infected animals, may be at an increased risk.

Signs

No signs may be noticed in the early stages of melioidosis. Once the bacteria have spread and infiltrated organs, signs of the disease may become noticeable. Signs will depend on the organs affected, but can include depression, fever, weight loss, lameness and swelling of the joints, followed by death. Neurological signs can be seen when the bacteria enter the spinal column or brainstem.

Image 1. A goat with melioidosis presenting with a swollen hock
Diagnosis

To minimise the risk of infection to humans, post mortem examinations of suspect cases should only be performed by veterinarians or Livestock Biosecurity Officers. A diagnosis of melioidosis in animals is generally confirmed by a post mortem examination and bacterial culture in the laboratory. Abscesses can often be seen in organs, such as the liver, lungs, spleen, udder, joints and the brain, and can vary in size and shape.

Treatment and control

Melioidosis is a fatal disease. Treatment is rarely attempted in animals as it requires long-term antibiotic treatment. Due to the risk to human health, affected animals may be euthanised.

Upon notification of a suspected or confirmed case of melioidosis in an animal, the Chief Veterinary Officer will provide case management advice to minimise risk to humans and other animals. Human health risk cases will be referred to the Department of Health, Centre for Disease Control.

Prevention

As the bacteria are widespread in the environment in the NT, prevention of melioidosis can be difficult. Minimise mud and surface water by providing good water drainage and limit animal contact with these areas where possible. For livestock, this may involve penning animals on dry solid ground or concrete, especially during the wet season.

Please visit us at our website: www.dpir.nt.gov.au

© Northern Territory Government ISSN 0157-8243

Serial No. 840 Agdex No. 463/653

Disclaimer: While all care has been taken to ensure that information contained in this document is true and correct at the time of publication, the Northern Territory of Australia gives no warranty or assurance, and makes no representation as to the accuracy of any information or advice contained in this publication, or that it is suitable for your intended use. No serious, business or investment decisions should be made in reliance on this information without obtaining independent and/or professional advice in relation to your particular situation.