



Emerging Disease Notice Update

Nipah Virus, Malaysia, November 1999

The purpose of this update is to provide new information that has become available since the "Emerging Disease Notice, Nipah Virus, Malaysia, May 1999" was sent. This information will assist veterinarians to maintain awareness concerning the epidemiologic characteristics and the clinical signs of this new disease.

Key Points

- The proposed clinical name of the pig disease caused by Nipah virus is Porcine Respiratory and Encephalitis Syndrome (PRES) and the proposed common name is "Barking Pig Syndrome" (BPS).
- The clinical signs, morbidity and mortality vary by age of the affected pig (see below).
- Infection can be asymptomatic and the incubation period in pigs is estimated to be 7 to 14 days.
- In addition to pigs and humans, other species reported to have been infected during the outbreak are dogs, cats, horses and goats.
- Transmission occurs through direct contact with infected pig's excretory and secretory fluid such as urine, saliva, pharyngeal and bronchial secretions.
- Most transmission was via direct contact. Although not definitively known, indications are that other modes of transmission within herds included semen and use of contaminated needles or equipment for health treatments and artificial insemination. Another management practice implicated in disease spread was failure to house growers and breeders in separate barns.
- Active trading between farms and movement of pigs over large distances facilitated virus spread during the outbreak. Movement of semen was also implicated in spread of infection between farms.
- In addition to Perak, Negri Sembilan, and Selangor, other Malaysian states found during the surveillance program to have been infected are Malacca, Penang, and Johore. About 5.6% of all pig farms in Peninsular Malaysia were found to be positive for antibodies.
- Additional surveillance and control is planned based on monitoring of pigs at slaughter and trace back of pigs which test positive for infection.

- At the end of July 1999, swine stocks in Malaysia were approximately 55% of stocks prior to the outbreak and the number of farms had dropped by 44%. Stringent government controls on the location of pig farms and re-stocking are in place.

Additional information on clinical signs and mortality rate by age of pig

Pigs aged 4 weeks to 6 months usually exhibited an acute febrile illness with respiratory signs varying from open mouth breathing to rapid and labored respiration and loud barking cough. One or more neurological signs were also present including trembles and neurological twitches, muscle spasms and myoclonus, rear leg weakness and varying degrees of spastic paresis or lameness, uncoordinated gait when driven and hurried, and generalized pain especially in the hind quarters. There was a range in severity of disease from asymptomatic to fulminant, with mortality between less than 1 to 5% and incidence of infection approaching 100%.

Sows and boars also exhibited acute febrile illness with respiratory signs. Other signs included increased salivation and nasal discharge. Sudden death of sows and boars occurred as well as possible first trimester abortion. Neurological signs included agitation and head pressing, tetanus-like spasms, seizures, nystagmus, chomping of the mouth, and apparent pharyngeal muscle paralysis.

Clinical signs in infected piglets included open mouth breathing, leg weakness with muscle tremors and neurologic twitches. Mortality in piglets was approximately 40%, however affected sows inability to nurse may have contributed to mortality in the piglets.

Source: "Nipah virus infection of pigs in peninsular Malaysia" submitted to the OIE Chapter of Scientific and Technical Review, August 8, 1999 by M.N. Mohd. Nor, CH Gan, and B.L. Ong. The full report can be accessed at <http://agrolink.moa.my/jph/dvs/nipah/oie990808.html>

If you seek more information or wish to comment on this update, please reply to this message or contact Judy Akkina at (970) 490-7852 or Chris Koprak (970) 490-7819.

Prepared by: Center for Emerging Issues, Centers for Epidemiology and Animal Health

Animal and Plant Health Inspection Service, USDA