

NIPAH VIRUS INFECTION

Human Nipah virus (NiV) infection is an emerging zoonotic disease which was first recognized in a large outbreak of 276 reported cases in Malaysia and Singapore from September 1998 to May 1999.

In India, during 2001 and 2007 two outbreaks in human were reported from West Bengal, neighbouring Bangladesh. Large fruit bats of *Pteropus* genus are the natural reservoir of NiV. There is circumstantial evidence of human-to-human transmission in India in 2001. During the outbreak in Siliguri, 33 health workers and hospital visitors became ill after exposure to patients hospitalized with Nipah virus illness, suggesting nosocomial infection. Nipah cases tend to occur in a cluster or as an outbreak.

Epidemiology

Agent: NiV is a highly pathogenic paramyxovirus

Natural Reservoir: Large fruit bats of *Pteropus* genus are the natural reservoir of NiV.

Presumably, pigs may become infected after consumption of partially bat eaten fruits that are dropped in pigsties.

Seasonality was strongly implicated in NiV outbreaks in Bangladesh and India. All of the outbreaks occurred during the months of winter to spring (December-May).

Incubation period: varies from 6-21 days.

Mode of Transmission: Transmission of Nipah virus to humans may occur after direct contact with infected bats, infected pigs, or from other Nipah virus infected people. Two routes of transmission of Nipah virus have also been identified from its natural reservoir to human: drinking of raw date palm sap contaminated with NiV and close physical contact with Nipah infected patients. The person-to person transmission may occur from close physical contact, especially by contact with body fluids.

Diagnosis:

Laboratory diagnosis of a patient with a clinical history of NiV can be made during the acute and convalescent phases of the disease by using a combination of tests. Nipah virus is classified internationally as a biosecurity level (BSL) 4 agent. In India, testing facility is available at National Institute of Virology (NIV), Pune.

Clinical features

Fever, Altered mental status, Severe weakness, Headache, Respiratory distress, Cough, Vomiting, Muscle pain, Convulsion, Diarrhoea

In infected people, Nipah virus causes severe illness characterized by inflammation of the brain (encephalitis) or respiratory diseases. In general, the case–fatality rate is estimated at 40–75%; however, this rate can vary by outbreak and can be up to 100%.

Currently there is no known treatment or vaccine available for either people or animals.

Treatment: Currently there is no known treatment or vaccine available for either people or animals. However Ribavirin, an antiviral may have a role in reducing mortality among patients with encephalitis caused by Nipah virus disease. Intensive supportive care with treatment of symptoms is the main approach to managing the infection in people.