

## Nipah Outbreak in India

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### Review Article

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**Abstract:** Nipah virus is an emerging zoonotic disease which is responsible for high fatality rates in human beings. Fever, altered mental status, cough, vomiting, respiratory difficulty, and convulsion are the most common signs and symptoms reported. The pteropus species of bats are mainly responsible for spread of such infections. Health care professionals are at a higher risk for being infected and should take special precautions while treating such patients.

**Keywords:** Nipah virus, zoonotic, Fever.

### INTRODUCTION

Nipah virus (NiV) infection is an emerging zoonosis that causes severe disease in both animals and humans [1]. It is a recently-recognized, zoonotic paramyxovirus that causes severe disease and high fatality rates in people. The outbreaks of Nipah virus infections have occurred in Malaysia, Singapore, India and Bangladesh [2]. Nearly every year since 2001, NiV has caused outbreaks among humans in Bangladesh; cases are also reported in bordering areas of India [3].

### Etiology

Nipah virus can be transmitted to humans from animals (such as bats or pigs), or contaminated foods and can also be transmitted directly from human-to-human [4]. The Pteropus bats species and contact with sick pigs have been identified as primary risk factor for human Nipah virus infection [5, 6]. Investigations of Pteropus spp. in Malaysia, Cambodia, and Thailand have consistently identified antibodies against Nipah virus [7].

### Clinical features

Nipah virus infection in humans causes a range of clinical presentations, from asymptomatic infection (subclinical) to acute respiratory infection and fatal encephalitis [4]. Fever, altered mental status, cough, vomiting, respiratory difficulty, and convulsion are the most common signs and symptoms reported in Nipah virus infections [8]. The case fatality rate is estimated at 40% to 75%. This rate can vary by outbreak depending on local capabilities for epidemiological surveillance and clinical management [4]. The characteristics of Nipah virus that increase its risk of becoming a global pandemic include: humans are already susceptible; many strains are capable of limited person-to-person transmission; as an RNA virus, it has an exceptionally high rate of mutation; and that if a human-adapted strain were to infect communities in South Asia, high population densities and global interconnectedness would rapidly spread the infection [9].

### Outbreak in India

In India, there was a recent outbreak of Nipah virus in the Kozikode district in the state of Kerala which spread further to other parts of the country thereby causing alert and anxiety [10]. The three deaths occurred in a family cluster and a fourth death was subsequently reported in a health care worker who was involved in treatment of the family in the local hospital [10].

### Public Health Significance and Prevention

The 2018 annual review of the WHO R&D Blueprint list of priority diseases indicates that there is an urgent need for accelerated research and development for the Nipah virus [4]. Currently, there are no specific treatments available for Nipah virus disease and care is supportive. Intensive supportive care is recommended to treat severe respiratory and neurologic complications. NiV infection can be prevented by avoiding exposure to sick pigs and bats in

endemic areas, and by avoiding consuming fruits partially-eaten by infected bats or drinking raw date palm sap/toddy/juice [10].

In health care settings, staff should consistently implement standard infection prevention and control measures when caring for patients to prevent nosocomial infections. Health care workers caring for a patient suspected to have NiV fever should immediately contact local and national experts for guidance and to arrange for laboratory testing [10].

Research is needed to better understand the ecology of bats and NiV. WHO advises against the application of any travel or trade restrictions on India based on the information currently available on this event [10].

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