



NIPAH VIRUS

Introduction, Cause, Symptoms, Transmission, Prevention

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NIPAH VIRUS

Introduction, Cause, Symptoms, Transmission, Prevention

Nipah virus is in the headlines of today's news paper, as like other viral disease it is also communicable. Nipah virus is in its early days (In India) and we have very less information about it and that's the reason people are making several rumor of this disease, so its our responsibility to make the people aware about facts and preventive measures.

Such diseases, transmissible from animals to humans through direct contact or though food, water, and the environment, are commonly referred to as “zoonoses”. Nipah virus is Zoonotic disease which is caused and infected by animals, spread from animal to animal and animal to humans too. The interface between humans, animals, and the environments we share can also be a source of diseases impacting public health and the social and economic well-being. Nipah virus is spread from bat to humans and again human to human, Therefore, one should always be aware of possible consequences when working with each species of animals, and take precautions to minimize the risk of infection.

In India and Bangladesh few case were reported in which humans were infected by other humans. Although there is no enough information about Nipah virus but it may have asymptomatic infection to acute respiratory syndrome and fatal encephalitis. There is no vaccine for either humans or animals so the best way to treat Nipah Virus is its prevention and intensive supportive care.

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Nipah virus (NiV) is a member of the family *Paramyxoviridae*, genus *Henipavirus*. Nipah Virus comes into existence in 1999 when few pig farmers came into contact with infected pigs and they showed the symptoms of encephalitis and respiratory infection in Malaysia and Singapore. Its name originated from Sungai Nipah, a village in the Malaysian Peninsula

Encephalitis often causes only mild flu-like signs and symptoms such as a fever or headache or no symptoms at all. Sometimes the flu-like symptoms are more severe. **Encephalitis can also cause confused thinking, seizures, or problems with senses or movement.** We can't exactly say, but changes in weather condition, off season rain and other climate changes in recent years, has played a important role in stimulating and re-emergence of Nipah Virus in India and its Neighbor countries. The main transporter of Nipah virus are bats and due to changes in human activity as well as in climatic condition immune system of bat become poor and they may now easily affected by viral infection. Nipah virus is one of the pathogens in the WHO Research & Development (R&D) Blueprint list of epidemic threats needing urgent R&D action. The Center for Infectious Disease Research and Policy

NIPAH VIRUS

What are the cause and how Nipah Virus get transmitted

It is Zoonotic disease so it is transmitted to humans by animals or humans and is mostly carried by the fruit bat which fall into category of megabat. Fruit bats from the Pteropodidae Family are thought to be the natural carriers of the disease. The virus is basically present in bat urine, faces, saliva, and birthing fluids which might infect via an intermediary. **It is reported that in the year of 2004 in Bangladesh many people get infected by this disease after consuming date palm sap contaminated by infected flying-foxes.** Mangoes bitten and tasted by the bats were found in a Kerala (India) house where three of the most recent victims were found. **All body fluids either of fruit bat or infected person are contaminated with infectious virus and transmitted during sneezing or coughing. In India and Bangladesh, there has been no transmission of the Nipah virus through pigs. Instead, the infection spread from fruit bats that drink sap of the date palm trees to people who drank raw date palm sap as toddy.**

Megabats constitute the suborder Megachiroptera, and its only family Pteropodidae of the order Chiropteran. They are also called fruit bats, Old World fruit bats. Fruit bats have been found to act as reservoirs for Ebola virus. Bats may be acting as a reservoir for the virus.



Image Credit- <http://images.indianexpress.com/2018/05/fruit-bat.jpg>

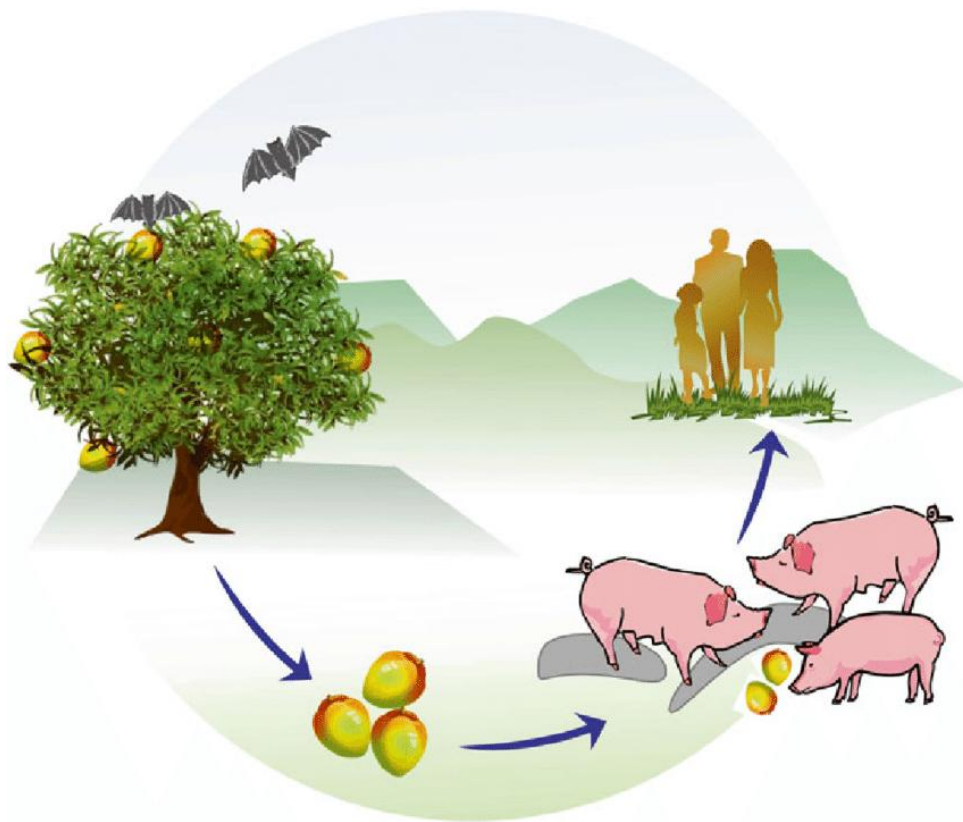


Image Credit- https://www.researchgate.net/publication/283480204_Nipah_Virus_Emergence_Transmission_and_Pathogenesis?_sg=Z6euOa1ifzbf78-t18rieCJHkxt9q5MREVpXZ2h_AbV6WAS5oZShikyqT0qny__amlh3UCRFNA

08

SOCIETY

Get Affected



NIPAH VIRUS

07

Healthy People

06

Sneeze + Body Fluids

NIPAH VIRUS

05

01

Fruit Bat

02

Bites/Scratch

Urine + Stools

Flying Bat Feed them self

Date palm sap tree

Fruits

03

04

Consume by people
And get infected



Flow chart is made by solution-pharmacy

NIPAH VIRUS

Symptoms you must know to save yourself from Nipah Virus

The symptoms of Nipah virus may vary from normal fever to encephalitis, which is inflammation of the brain, and myocarditis also known as inflammation of the heart, it also change from asymptomatic infection to acute respiratory syndrome and could be fatal.

Apart from above symptoms other common symptoms include- fever, chest pain, headaches and drowsiness, nausea, vomiting which can progress to a coma if untreated after 24 to 28 hours. The incubation period in which Nipah virus multiply ranges from 5 to 14 days and symptoms become visible after this period. In some cases, symptoms like choking, stomach pain, and blurred vision is also seen. The chance of contracting encephalitis that affects the brain is also high as the time laps and this could come along with coma. Symptoms associated with Nipah virus infection is very much similar with influenza that's why people may get confuse with these symptoms and this results in delay for the proper treatment. those who may have recovered from an acute episode may also have a chance to re infected. Using MRI of the brain is used for differentiating Nipah Virus Infection from other encephalitis. It also give indication between acute and late onset or a relapsed form of the disease. Some patients may have a respiratory illness while suffering from infections, and few patients shows neurological and pulmonary signs.

NIPAH VIRUS

What are the diagnosis procedure for Nipah Virus Infection

The Nipah virus is classified as a bio security 4 agent and the tests should be carried out in special labs to prevent its spread. Diagnosis is done by-

1. **Virus isolation attempts-** A number of virus isolation systems are in common use, but two of the most efficient are embryonated chicken eggs and sheep. Attempts to isolate virus in cultured cells *in vitro* may be more convenient, but the success rate is frequently much lower than that achieved with *in-vivo* systems.
2. **Real-time polymerase chain reaction** is also performed from throat and nasal swabs, cerebrospinal fluid, urine, and blood because these body fluid posse the infectious virus sample. This test should be performed in the early stages of the disease. Real-time PCR is carried out in a thermal cycler with the capacity to illuminate each sample with a beam of light of at least one specified wavelength and detect the fluorescence emitted by the excited fluorophore.
3. Antibody detection by ELISA (IgG and IgM) can be used later on.
4. **Serology-** blood tests to see the antibodies
5. **Histopathology-** microscopic study of tissues

NIPAH VIRUS

Here are few prevention and treatment methods for Nipah Virus

The Nipah virus is not curable right now. There is no vaccine for it (Work is going on), so the treatment is in the prevention itself. Treatment is mostly focused on managing fever and the neurological symptoms .

There are several prevention methods available for any of the viral infections, these include-

1. Using mask while roaming in suspected area
2. Proper cleaning of hand with soap and sanitizer
3. Avoid shaking hands with any suspicious person
4. Avoiding contact with fruit bats and infected animals such as pigs
5. Reducing bats' access to date palm sap
6. Boiling freshly collected date palm juice and thoroughly washing and peeling fruits before consumption.
7. Have strict monitoring on symptoms if you are in affected area
8. Infected bats shed virus in their excretion and secretion such as saliva, urine, semen and excreta, so try to make your area free from bat.
9. Do not consume date palm sap as the chances of it being contaminated are very high
10. Don't climb trees where bats may have left their saliva or secretions
11. The primary carriers of NiV in humans are the respiratory secretions, so make a distance from such patients.

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