

Nipah Virus: The Grim Reaper Appearing From the Disappearing Forests

Dipayan D*

Department of Public Health Dentistry, Tamil Nadu Government Dental College and Hospital, India

***Corresponding author:** Dipayan Datta, BDS, Department of Public Health Dentistry, Tamil Nadu Government Dental College and Hospital, No: 2 Frazer Bridge Road, Park Town, Chennai, Tamil Nadu, India, 600003, Tel: 7358565184; Email: datta.dipayan2@gmail.com

Editorial

Volume 2 Issue 7

Received Date: May 26, 2018

Published Date: May 28, 2018

Editorial

For decades, bats have been depicted as messengers of horror in literature - mostly in the form of vampires. But what if they really become terrifying creatures and cause large number of deaths? Recently Kerala, a state of southern India is on the headlines for being affected by the outbreak of a deadly infectious disease spread by bats through the microbe named Nipah virus.

This is not the first time for the outbreak of Nipah virus infection (NiV) in India. The country had similar experience in 2001 and 2007 - both in the state of West Bengal. Bangladesh, the country which is sharing its border with West Bengal had also reported the outbreak between 2001-2011. The first ever documentation of human transmission of the virus was carried out in Malaysia in the year of 1998 when the virus was isolated from persons living in the Malaysian village named Nipah and thus the virus got its name.

Though the virus is marked for costing human lives, it first appeared in domestic pigs and has been found among several other domestic animals including dogs, cats, goats, horses and sheep. The RNA virus from the family, Paramyxoviridae are usually present in the urine, faeces, saliva and amniotic fluids of its natural reservoir host, fruit bat from the genus Pteropus. But the question arises that, how the nocturnal animals are spreading infection to the domestic animals.

The common hypothesis is that the fruits which were left over by the bats are later consumed by the other animals. The fruits were already contaminated with the virus infected saliva of its natural host which results in the transmission of the virus to the domestic animals. When men come in contact with the animals or consume their meat, most commonly pork, they get infected with the virus and present as an encephalitic syndrome marked by fever, headache, drowsiness, disorientation, mental confusion, coma and ultimately death.

Apart from this straight forward version of the pathogenesis of the disease, there is a serious environmental aspect considered to be the driving force for this lethal outbreak - Deforestation. As mentioned earlier, the virus first infected pigs and other domestic animals in Malaysia. In 1997, roughly 5 million hectares of Malaysian tropical forest were slashed and burned in order to create space for pig farms, resulting in a severe haze that literally covered the region. The haze combined with reduced the number of fruit-bearing trees that the local fruit bats were dependent upon for survival resulted in the destruction of their sources of food and habitat. The bats then sought nourishment in orchards near the pig farms; the pigs in turn ate fruit contaminated with bat saliva and came in contact with the bat urine, transmitting the virus to the livestock as well as the farmers leading to huge number of deaths.

This is not the only incidence of the outbreak of a vector borne disease caused by deforestation. In last few decades different parts of the world suffered from the similar ill effects of deforestation, for example, Malaria in Borneo and Peru; American Cutaneous Leishmaniasis in Costa Rica; Dengue, Chikungunya, Yellow fever in Africa and recent Zika virus infection from the Zika forest of Uganda.

The current NiV outbreaks along with the previous ones are the striking examples of human vulnerability to animal diseases. When the natural habitats of the

creatures are destroyed for urbanization or industrialization, they start searching for new habitats into human communities and carry their illnesses with them. This leads to the zoonotic diseases affecting human life. Till now no vaccine has been developed against NiV. Neither any step has been taken by the governments of the affected countries to stop deforestation to prevent such outbreaks. As we are increasingly altering the previously undisturbed parts of the world and populating them, we must be warned about the upcoming difficult time of illness and suffering and be prepared to have sufficient aids to combat the situation.