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LETTER

Flare-up of Nipah Infection in India

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INTRODUCTION

Nipah infection gives a standout amongst the most striking cases of a rising infection and delineates a considerable lot of the pathways driving from a natural life repository to human diseases. After Zika [1] and Ebola [2], it's one more frightening zoonotic infection with a snappy name. Fruit Bats of the order Chiroptera, *Pteropus* genus are the natural host of this deadly microbe [3]. However, the zoonotic cycle of this infection also includes pigs as intermediate hosts only in the first occurrence in Malaysia [4,5]. The recent upsurge of this rare, brain-damaging virus in the state of Kerala, India, for the first time, infecting at least 19 people and killing 17 of them, has raised many concerns [6].

The severe upsurge of febrile encephalitis appeared in several villages engaged in raising and breeding of pig of Malaysia during September 1998 and June 1999. The infection was identified for the first time in a huge flare-up of 265 cases in Malaysia which began in 1998; out of which 108 are reported to be died of acute febrile encephalitis [7-9]. This resulted in a huge set back to the pig-farming industry as the pig population reduced through selective slaughtering to control the outbreak. Consequently, this led to the shutting down of the farms. In Singapore, several slaughter house workers were also affected [10,11]. The etiological agent was identified from the cerebrospinal fluid obtained from the patients and subsequently named Nipah virus (NiV), an enveloped non-segmented, negative-stranded RNA paramyxovirus [7]. Afterward, few cases were also reported in Bangladesh amid the winters of 2001, 2003 and 2004 and two outbreaks in India during 2001 and 2007 [12,13]. Initial findings of nucleotide sequencing points that Hendra virus shows close resemblance to Nipah virus. However both are not identical. Hendra virus was responsible for causing disease among horses in Australia and three patients were also reported/affected [14].

NiV can be found in the saliva, urine and faeces of the bats however, being the normal hosts; they stay unaffected by this deadly infection. During the outbreak in Bangladesh, it was reported that the infection can spread from the patient to a healthy person [15].

The patients affected with the Nipah infection are having symptoms ranging from a typical pneumonia with gentle neurological disease to deadly occurring encephalitis. The infectivity time of the virus isn't reported in the literature till now, and the incubation period of the virus was found to be lie in between 4-14 days [16]. Besides, an incubation period up to three and a half months has also been documented [17].

Month/Year	Place	No. of cases	No. of Deaths
February-2001	Siliguri	66	45
April-2007	Nadia	5	5
June* 2018	Kozhikode and Malappuram	19	17
*As of 2 June, 2018			

Table 1: Deaths due to nipah virus infection in India.

The two districts of Kerala i.e., Kozhikode and Malappuram have been affected by the recent outbreak of Nipah virus disease in India. As per the update given by the Ministry of Health and Family Welfare during press release on 2 June, 2018 [18], there are 19 reported cases, out of which 18 are lab confirmed. The number of cases and deaths resulting from Nipah virus breakout in India is mentioned in Table 1.

Since, the initial symptoms of this infection are nonspecific, therefore, the diagnosis is often not suspected at the time of introduction. This deadly infection may be diagnosed to have clinical history amid the intense and recuperative period of the disease. Enzyme-linked immunosorbent assay (ELISA) and polymerase chain reaction (PCR) particularly real time PCR (RT-PCR) from bodily fluids are the fundamental techniques utilized for its detection [19].

Since there is no vaccine for Nipah virus therefore, prevention is the key to stop the outbreak of the virus. The preventive steps given by the National Centre for disease control (NCDC) India include periodic thorough cleaning and disinfection of piggery with appropriate detergents. Therefore, intensive supportive care becomes the only option to manage the infection. In case of a suspected outbreak, the complete farm should be quarantined immediately. In order to reduce the chances of transmission to humans, selective slaughter of the infected animals along with its proper burial or incineration should be done under proper supervision. One of the foremost preventive strategy is to restrict or completely banning the movement of the animals from the infected farm to other areas. This will be crucial in

limiting the spread of the infection. Since NiV flare-ups involve pigs or fruit bats, thus, building up an animal health/wildlife reconnaissance system is of utmost importance. This will help public health authorities in giving early alerts/warnings.

CONFLICT OF INTEREST

Nil.

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