

Nipah transmission route unclear

The NIV has confirmed that the virus was found in fruit bats. G. Ramakrishna

Another piece of the puzzle in Kerala's Nipah virus outbreak has fallen into place, with Pune's National Institute of Virology (NIV) confirming that the virus was found in fruit bats captured in Kozhikode. Out of the 51 *Pteropus giganteus* bats sampled by the NIV team from the Kozhikode epicentre of the outbreak, 11 had genetic material from the Nipah virus.

Strongly indicated

These portions of the viral genome were detected through a test called Reverse Transcriptase Polymerase Chain Reaction, and were 99.68% similar to the virus in patients, NIV Director Devendra T. Mourya told *The Hindu*. This indicates strongly that the bats were the carriers in the Kerala outbreak.

This is an "important, though not unexpected, finding," Jonathan Epstein, an epidemiologist studying the Nipah virus at the New York-based EcoHealth Alliance told *The Hindu*. But researchers still don't know how the bats transmitted the infection to humans. This information is needed to prevent future outbreaks. In Bangladesh, which has seen multiple Nipah epidemics, patients tend to acquire the infection from drinking raw date-palm sap. But date-palm sap is not consumed in Kerala.

The new finding also highlights the urgent need to step up surveillance of animal reservoirs of disease in India, such as bats and pigs.

The NIV recently found the Nipah virus in fruit bats in West Bengal and Assam, according to a report published in March in the *Indian Journal of Medical Research*.

Wider surveillance

For the study, the researchers sampled 107 bats from Cooch Behar and Jaipauri districts in West Bengal and Dhubri in Assam, all of which are close to Bangladesh, raising the probability that the virus is circulating there. They found nine out of the 107 samples to be positive for the virus. "This indicates that there are several States in India with the virus, which means we need wider surveillance in animals," said Arunkumar Govindakarnavar, a virologist who heads the Manipal Centre for Virus Research, and wasn't part of the NIV study.

Low viral load

But the researchers cautioned against bat culling in light of the NIV's findings. In NIV's investigations, the number of virus particles in the bats, or viral load, was very low. This means the possibility of a spillover to humans is extremely small.

"Even when viral load is high, direct bat-to-human transmission is very rare, unless you have a scenario like Bangladesh, where people drink palm-sap. That's why we had only one case of infection from bats in Kozhikode," said Dr. Arunkumar.

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