R.No. 1627985/Epi/S1/2023

Office of the Director of Public Health and Preventive Medicine, Chennai -06
Dated : 13.09.2023

Sub	:	Public Health and Preventive Medicine- Communicable Diseases -Epidemics-Nipah virus outbreak in Kerala- Instructions to Deputy Director of Health Services on Prevention and Control of Nipah virus infection- Regarding.
Ref	:	Nipah virus outbreak declared by Central Surveillance Unit, NCDC, Government of India on 12.09.23

The Central Surveillance Unit, National Centre for Disease Control, Ministry of Health and Family Welfare have declared Nipah virus outbreak in Kozhikode and Malappuram districts of Kerala on 12.09.23 and the National Institute of Virology, Pune is investigating the outbreak, 2 deaths due to suspected Nipah virus infection has occurred in Kozhikode district of Kerala and one more patient who is relative of the deceases is also admitted with similar complaints and suspected to have Nipah virus infection.

Guidelines for the Prevention and Control of Nipah virus infection

Human Nipah virus (NiV) infection is an emerging zoonotic disease which was first recognized in a large outbreak in Malaysia and Singapore in 1998.

In India, during 2001 and 2007 two outbreaks in human were reported from West Bengal. There is circumstantial evidence of human-to-human transmission in India in 2001. During the outbreak in Siliguri, 33 health workers and hospital visitors became ill after exposure to patients hospitalized with Nipah virus illness, suggesting nosocomial infection.

In 2018 an outbreak of Nipah virus was reported in the same Kozhikode and Malappuram districts of Kerala with 18 confirmed cases and 17 deaths.

Epidemiology

Agent: Nipahviru (NiV) is a highly pathogenic paramyxovirus

Natural Reservoir:

- Large fruit bats of Pteropus genus are the natural reservoir of NiV
- Presumably, pigs may become infected after consumption of partially bat eaten fruits that are dropped in pigsties.

Seasonality:

- Strongly implicated in NiV outbreaks in Bangladesh and India. All of the outbreaks occurred during the months of winter to spring (December-May).

Incubation period varies from 6-21 days.

Mode of Transmission:

- Transmission of Nipah virus to humans may occur after direct contact with infected bats, infected pigs, or from other Nipah virus infected people.
- Two routes of transmission of Nipah virus have also been identified from its natural reservoir (bats) to human: drinking of raw date palm sap contaminated with NiV and close physical contact with Nipah infected patients.
- The person-to person transmission may occur from close physical contact, especially by contact with body fluids.

Diagnosis:

- Laboratory diagnosis of a patient with a clinical history of NiV can be made during the acute and convalescent phases of the disease by using a combination of tests
    - Identification of NiV RNA by RT-PCR respiratory secretions, urine and CSF
    - Virus isolation from respiratory secretions, urine and CSF
    - Identification of IgM antibody against NiV in serum or CSF
- Nipah virus is classified internationally as a biosecurity level (BSL) 4 agent
- In India, testing facility is available at National Institute of Virology (NIV), Pune

Clinical features:

- Fever, Altered mental status, Severe weakness, Headache, Respiratory distress, Cough, Vomiting, Muscle pain, Convulsion, Diarrhoea
- In infected people, Nipah virus causes severe illness characterized by inflammation of the brain (encephalitis) or respiratory diseases
- In general, the case–fatality rate is estimated at 40–75%; however, this rate can vary by outbreak and can be upto 100%.

Treatment:

- Currently there is no known treatment or vaccine available for either people or animals
- Ribavirin, an antiviral may have a role in reducing mortality among patients with encephalitis caused by Nipah virus disease
- Intensive supportive care with treatment of symptoms is the main approach to managing the infection in people

Case Definitions

Suspect Nipah Case

Person from a community affected by a Nipah virus (NiV) disease outbreak who has

- Fever with new onset of altered mental status or seizure and/or
- Fever with headache and/or
- Fever with Cough or shortness of breath

Probable Nipah Case

- Suspect case-patient/s who resided in the same village/ward, where suspect/confirmed case of Nipah were living during the outbreak period and who died before complete diagnostic specimens could be collected

OR

- Suspect case-patients who came in direct contact with confirmed case-patients in a hospital setting during the outbreak period and who died before complete diagnostic specimens could be collected

Confirmed Nipah Case

Suspected case who has laboratory confirmation of Nipah virus infection either by

- Nipah virus RNA identified by PCR from respiratory secretions, urine, or cerebrospinal fluid

- Isolation of Nipah virus from respiratory secretions, urine or cerebrospinal fluid

Definition of a Contact

A Close contact is defined as a patient or a person who came in contact with a Nipah case (confirmed or probable cases) in at least one of the following ways

- Was admitted simultaneously in a hospital ward/ shared room with a suspect/confirmed case of Nipah
- Has had direct close physical contact with the suspect/confirmed case of Nipah during the illness including during transportation
- Has had direct close contact with the (deceased) suspect/confirmed case of Nipah at a funeral or during burial preparation rituals
- Has touched the blood or body fluids (saliva, urine, vomitus etc.) of a suspect/confirmed case of Nipah during their illness
- Has touched the clothes or linens of a suspect/confirmed case of Nipah

These contacts need to be followed up for appearance of symptoms of NiV for the longest incubation period (21 days)

Who are at high risk of developing Nipah virus infection?

- People who are exposed to areas inhabited by fruit bats/ articles contaminated by secretions such as, unused wells, caves, fruit orchards, etc are likely to be at higher risk of infection
- Persons with direct contact with sick pigs or their contaminated tissues
- Persons in close contact with a Nipah virus affected deceased during burial or cremation rituals
- Health care workers having direct contact with probable or confirmed cases without using standard precautionary measures

What measures of prevention should be taken in high risk areas?

- Wash hands with soap and water after coming in contact with a sick person or animal
- Avoid consuming raw date palm sap or toddy
- Consume only washed fruits
- Avoid consuming half eaten fruits from the ground
- Avoid entering into abandoned wells
- Handling of dead bodies should be done in accordance with the government advisory

Advisory for Health care personnel

- Wash hands thoroughly with soap and water for 20 seconds after contact with a sick patient
- While handling Nipah cases (suspected/ confirmed), standard precautions for infection control should be practiced
- For aerosol generating procedures, PPE such as individual gowns (impermeable), gloves, masks and goggles or face shields and shoe cover and the procedure should be performed in airborne isolation room
- Dedicated medical equipment should be used (preferably disposable whenever possible)
- All non-dedicated, non-disposable medical equipment used for patient care should be cleaned and disinfected as per manufacturer's instructions and hospital policies
- Use of injections and sharps should be limited
- If the use of sharp objects cannot be avoided, ensure that the following precautions are observed
    - Never replace the cap on a used needle
    - Never direct the point of a used needle towards any part of the body
    - Do not remove used needles from disposable syringes by hand, and do not bend, break or otherwise manipulate used needles by hand
    - Never re-use syringes or needles
    - Dispose of syringes, needles, scalpel blades and other sharp objects in appropriate, puncture-resistant containers
    - Ensure that containers for sharps objects are placed as close as possible to the immediate area where the objects are being used ('point of use') to limit the distance between use and disposal, and ensure the containers remain upright at all times
    - Ensure that the containers are securely sealed with a lid and replaced when ¾ full
    - Ensure the containers are placed in an area that is not easily accessible by visitors, particularly children (e.g. containers should not be placed on floors, or on the lower shelves of trolleys in areas where children might gain access)
- Closed, resistant shoes (e.g. boots) should be used by all individuals in the patient care area to avoid accidents with misplaced, contaminated sharp objects
- Safe waste disposal for potentially infected material including used PPE, linen, clothing of patient according standard biomedical waste management guidelines

- Admit all suspected cases of Nipah to the isolation ward/ facility in the hospital. Once the case is suspected of Nipah, attendants should not be permitted in the ward
- Segregate all suspected cases of Nipah patients from all patients in the isolation ward/ facility
- Avoid unnecessary contact with suspected Nipah cases or use barrier nursing
- Any spillage of body fluids in the OP/Ward should be managed as per Infection control guidelines
- Mortuary staff should wear PPE while handling corpse of Nipah. Air sealed bag should be used for transportation of the dead body.

All the Deputy Director of Health Services especially the bordering districts of Kerala are instructed to

- Strengthen the surveillance on Acute Encephalitis Syndrome (Fever with altered sensorium)
- AES cases admitted from the bordering districts of Kerala, especially from Kozhikode and Malappuram should be followed up
- Government and major private hospitals should be alerted on the Nipah virus outbreak and instructed to ensure timely notification of the AES cases to the District Surveillance Officers through IDSP-IHIP portal.
- Health teams to be deployed at border check posts 24x7 to screen all symptomatic cases with necessary protective equipments especially in the following districts The Nilgiris, Coimbatore, Tiruppur, Theni, Tenkasi and Kanniyakumari.

13/9/23

for Director of Public Health and
Preventive Medicine, Chennai-06.

To

1. All the Deputy Director of Health Services,
2. All the Corporation Health Officers,
3. All the City Health Officers,
4. All the Municipal Health Officers
5. The City Health Officer, Greater Chennai Corporation

Copy to

1. The Director of Medical Education, Kilpauk, Chennai-10
2. The Director of Medical Services, Teynampet, Chennai-06.

Copy Submitted to

1. The Principal Secretary to Government, Health and Family Welfare Department, Secretariat, Chennai-09
2. The Mission Director, National Health Mission, Tamil Nadu state, Teynampet, Chennai
3. The Additional Chief Secretary/ Commissioner, Greater Chennai Corporation, Ripon Building, Chennai-03.