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MONKEY FEVER

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ABSTRACT

Monkey fever is medically term as Kyasanur Forest Disease (KFD), is a viral haemorrhagic fever caused by the Kyasanur Forest Disease Virus, is a virus family member of Flaviviridae.

Key Words: Kyasanur Forest disease, Flaviviridae, Flavivirus, Haemaphysalis Spinigera, nymphs, Kernig sign, Hemagglutination Inhibition Assay.

INTRODUCTION

Monkey fever is a tick borne viral haemorrhagic fever and zoonotic fever endemic to the belt of Western Ghats of India.

EPIDEMIOLOGY:

The disease is first reported to from Kyasanur Forest in the Western Ghats of Karnataka in the year of 1957, where several monkeys were affected and died due to this virus, hence its commonly called as Monkey Fever or Monkey Disease.

Fatality rate is 3 – 10%.

Fatality rate is high in elderly patients.

400 – 500 people affected annually.

The states have the incidence is Karnataka, Kerala, Tamil Nadu, Goa, and Maharashtra.

Epidemic period is usually beginning in October or November and peaks between January to April and declines by May and June.

MATERIALS AND METHOD

CAUSES:

VIROLOGY:

Monkey Fever is caused by Kyasanur Forest Disease Virus that belongs to flavivirus genus coming under Flaviviridae family. The genome of the virus consists of 10,774 nucleotides of single stranded, positive sense RNA encoding a single polyprotein that is cleaved post translationally into three structural proteins and seven non-structural proteins.

TRANSMISSION:

The Monkey Fever is transmitted through the vector Haemaphysalis Spinigera, a forest tick. The variety of animals thought to be a reservoir hosts like monkey, porcupines, squirrels, rats, mice and shrews. Human transmission through the bite of nymphs (immature form) of the ticks and contact with sick or dead infected monkey. There is no transmission from human to human because the human domestic environment does not sustain the ticks.

SYMPTOMS:

- Incubation period is 3 – 8 days.
- Sudden onset of
- High grade fever (104ºF / 40ºC) and chills,
- Intense frontal headaches
- Severe myalgia (pain in muscles)
- Body aches
- Muscle tenderness
- Photophobia (fear of light)
- Nausea and vomiting
- Diarrhoea
- Respiratory symptoms like
- Persistent cough with blood-tinged sputum
- Haematological problems (which appear after 3 to 4 days of onset) like
- Bleeding though nose, gums and intestines
- Low platelet count
- Low red blood cells
- Low white blood cells
- Low blood pressure
- After 1 – 2 weeks of some people recover without complications
- Some patients (10-20%) who experience a second wave of symptoms during the 3rd week like
- Febrile exacerbation
- Neurological symptoms like
- Mental disturbance
- Coarse tremors

- Giddiness
- Transient disorientation
- Confusions
- Rarely convulsions
- Loss of consciousness
- Positive Kernig sign
- Abnormal ankle reflexes

The convalescence period is prolonged and long lasting for several months. Muscle aches and weakness occur during this period.

DIAGNOSTIC EVALUATION:

Hemagglutination Inhibition Assay (HI)

Complement Fixation test

Neutralization test

RT-PCR at initial stage (8-10 from the onset of symptoms)

ELISA to detect IgG and IgM at later stage (5^{th} day of onset of symptoms to 3 months)

TREATMENT:

No specific treatment for Monkey fever.

Immediate medical attention is needed to avoid further complication

Rehydration therapy – intravenous fluid, blood products transfusions

Complete bed rest

Symptomatic management

Diet rich in protein

PREVENTION:

Formalin-inactivated tissue culture vaccine can be given. Vaccine is usually given to people within a range of 5 KM of the affected area. The schedule of vaccine is two doses, one month to all people under age group of 7 – 65yr and second dose at 6 – 9 months. Booster dose to be taken annually for five years.

Treating forest floor with gamma-hexachlorocyclohexane to control tick populations

Tick repellents like N, N-diethyl meta-toluamide (DEET) and dimethyl phthalate (DMP) oil.

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