

# CHIKUNGUNYA (CHK) VIRUS : SOME FACTS

## The disease :

The name “**Chikungunya**” is derived from the Swahili word meaning “ that which bends up” , in reference to the stooped posture developed as a result of the arthralgia (severe joint pains)

## Period of Illness :

Illness is often acute and last for 3 to 5 days. In few cases it may be upto 10 days or more. Convalescence is usually prolonged and characterized by marked weakness and pain in joints.

Incubation period : It is usually 2 to 12 days (commonly 3 to 5 days)

Age group : The disease affects all age groups.

Morbidity : Ranging from 30% to 70% of population in affected Village/wards.

Mortality : Negligible

## The Virus :

CHK virus belongs to family Togaviridae, genus Alpha virus and subgroup Semliki Forest Venezuelan (SFV) .equine encephalitis.

## Distribution and Epidemiology :

Basically recognized as an urban disease, clinically very similar to Dengue, mis-diagnosis is not unusual . The virus was first. Isolated from the serum of febrile human case in **Tanzania in 1953**. Chikungunya have spread to tropical parts of Africa, America & Asia.

In India first outbreak was recorded in Kolkata in **1963** followed by East coastal area like Chennai, Pondichery Vellore and Vishakapattanam in **1964**. Later it was recorded in **1965** in central part of India i.e Rajmundri, Kakinada (A.P) and Nagpur (M.S).

Epidemiological investigation of a febrile illness episode at Nagpur in 1965 showed that incidence was as high as 40% to 70% in certain wards. Mortality was negligible. The Sera from contacts showed antibodies to CHK virus in 45% cases. All the age-groups were affected.

In Maharashtra State, sporadic cases were reported in 1973, 1983 & 2000 . Morbidity in Barsi, Maharashtra (1973) was about 37.5% .Recently the cases of Chikungunya are reported from villages Mungi, Balamtakli & Madhi (District Ahamadnagar). Malegaon city (district Nashik) and Purna town (district Parbhani).

In India the virus was known to be involved in large scale epidemics. However, in recent studies the virus has been isolated in Dengue endemic areas, suggesting involvement of virus in endemic situations.

### **Maintenance of CHK virus in nature :**

The virus is maintained in nature at a low level in man-mosquito-man cycle. The survival of CHK virus in nature is also through transovarial transmission (TOT) in *Aedes aegypti* mosquitoes.

### **Diagnosis :**

- 1) Isolation of virus.
- 2) Demonstrating four fold or greater rise in antibody titer
- 3) ELISA testing for IgM antibody (HI,CF & N antibody)
- 4) Diagnosis by RT-PCR Test.

The antibody titer will be positive after 5<sup>th</sup> day of illness only.

### **Vectors :**

In India *Aedes aegypti* is the principal vector of this virus. It can be transmitted by *Aedes albopictus* & *Aedes vitatus*.

### **Prevention , Treatment & Control :**

No vaccine is available for prevention of CHK. So measures for prevention and control are the avoidance of mosquito bites and reduction in density of vector.

The treatment of patient is symptomatic particularly by anti inflammatory drugs. The steroids are not to be used in treatment.

### **Symptoms of Chikungunya :-**

After the entry of the virus in human body, Chikungunya symptoms are seen in 3 to 5 days. This disease occurs at all persons & all ages.

**Symptoms :** Low Grade Fever, Body Ache, Head ache , Acute joints pain, Some Patients develops rashes.

This symptoms continues for about 7 to 10 days. Near about 80% to 85% infected patients are recovered in about 7 to 8 days & rest 15 to 20% patients continue to suffer from joint pain for about 3 months.

### **Treatment :**

Since it is a viral fever, there is no specific treatment, but generally anti-pyretic/ analgesics is prescribed .Such treatment is available at Primary Health Centers & Govt. Hospitals.

Since there is no dehydration process, therefore there is no need of I/V fluids.

- No need of antibiotics.
- Use of steroids may lead to complications.
- Vaccine is not available.

## **Preventive Measures :**

### **A) Anti Larval**

- 1) Prevention of breeding places – allow water flow, dumping.
- 2) Empty Water Container's once a week- "Dry Day"
- 3) When it is not possible to empty the water containers, use Temiphos for disinfections. It is commonly called as "Abet".
- 4) Fill ponds and lakes with Guppy Fish.
- 5) Keep house and environment clean & tide.
- 6) Destroyed un-used Tyres & Drums.
- 7) Change water of coolers once a week.

### **B) To Reduce density of Mosquito.**

- 1) Infected villages to be fogged twice in 8 to 10 days.
- 2) Fogging work to be under taken from 8 to 10 A.M and 5 to 7 P.M

### **C) Personal Protections :**

- 1) Use Mosquito Net.
- 2) Cover hole body at sleeping.