

Chikungunya virus

Description:

Chikungunya is a viral disease that is spread to humans by mosquitoes. It was first described in 1952 in Tanzania (in East Africa), and since then outbreaks and epidemics of the disease have been reported from many African countries, as well as from Indian Ocean island nations, the Indian subcontinent and southeast Asia.

Chikungunya has been diagnosed in travellers from affected countries who have recently arrived in Australia. Although locally-acquired Chikungunya has not been detected in Australia (to the end of January 2010), mosquitoes capable of transmitting the Chikungunya virus occur in north Queensland.

Symptoms:

Clinical features

Chikungunya is characterised by an abrupt onset of high fever usually accompanied by joint pains (arthralgia). Other common symptoms include headache, muscle pains, nausea, fatigue and rash. The joint pains are often very debilitating, and may last for several weeks. Most patients recover fully, but in some cases joint pains can persist for months.

Occasionally, more severe complications such as heart and nervous system conditions can occur, particularly in older people who have other pre-existing medical conditions. Sometimes the symptoms in infected people are mild and may go unrecognised, or the disease may be misdiagnosed as, for example, dengue.

Transmission:

Spread of Chikungunya virus

The Chikungunya virus is spread by bites of female mosquitoes. These mosquitoes pick up the virus when they feed on a person who is ill with Chikungunya, and after several days are ready to pass it on to other people, who in turn become ill 3 to 7 days (sometimes longer) later.

The two principal mosquitoes involved in the spread of the Chikungunya virus are *Aedes aegypti* and *Aedes albopictus*; these two mosquitoes can also spread dengue viruses. *Aedes aegypti* only occurs in Australia in north Queensland, and *Aedes albopictus* is only found in a few locations in the Torres Strait.

Aedes aegypti is a very domesticated urban mosquito found in the tropics and sub-tropics; it usually breeds in man-made containers and the preferred resting sites of adults are indoor sheltered dark spaces. Humans are the preferred source of blood-meals for female *Aedes aegypti*; they are day-biting mosquitoes.

Treatment:

Diagnosis and treatment

Chikungunya infection is diagnosed by tests done upon blood samples. There is no specific treatment for Chikungunya. Medications may be required to alleviate the joint pains.

Prevention:

Prevention of Chikungunya

There is no Chikungunya vaccine.

Travellers going to tropical destinations abroad should take precautions to prevent viral infections – dengue as well as Chikungunya – which are spread by *Aedes* mosquitoes. The main precautions are:

- Ensuring hotel (or any other accommodation) rooms are free of mosquitoes, by closing window screens, using insecticide sprays indoors etc
- Wearing long sleeved clothing in urban or residential areas so as to minimise skin exposure to day-biting

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mosquitoes

- Using an insect repellent on exposed skin. Ask a pharmacist for advice on which repellents are suitable for young children.

Someone who becomes unwell with a high fever during, or soon after, travel to tropical destinations should seek medical advice as soon as practicable. If the person is told that they may have Chikungunya (or dengue), the person should use a mosquito repellent and stay in well-screened premises for at least as long as the fever persists. If the person is in north Queensland, an authorised Tropical Regional Services staff member will make contact, and will probably arrange a visit from a mosquito-control team.

Residents of north Queensland should minimise *Aedes aegypti* breeding by either discarding unwanted containers or by turning used containers upside down or by frequently emptying them of water. Fallen palm fronds should be cleared away, as the mosquito can breed in any water that collects in the base of the frond. Roof gutters should be cleared of leaf debris so that pools of water do not collect. The indoor environment – both work and residential – should be kept mosquito-free.

Help and Assistance

Contact your local Queensland Health Public Health Unit.

Other resources

Staples JE, Breiman RF, Powers AM. *Chikungunya fever: an epidemiological review of a re-emerging infectious disease*. Clin Infect Dis 2009; 49: 942-948.

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