Murray Valley Encephalitis

Description:
Encephalitis is an inflammation of the brain tissue and is usually caused by an infectious agent such as a virus. Murray Valley encephalitis (MVE) is caused by the MVE virus. This virus is named after the Murray-Darling River Basin in south-eastern Australia, where outbreaks of the disease have occurred. The most recent and largest outbreak in this area occurred in 1974.

How is the disease spread?
The MVE virus is spread by the bite of an infected mosquito. The most important species of mosquito to carry the virus is the common banded mosquito, Culex annulirostris. This mosquito is widespread throughout Australia and breeds in surface pools of water. It prefers to bite at dusk and during the night and has a flight range of several kilometres.

Water birds such as herons are an important natural reservoir of MVE virus. These birds enable the virus to spread to new areas, where the mosquitoes that feed on infected birds can pass the virus on to humans.

Symptoms:
MVE has an incubation period of 5-15 days from the bite of an infected mosquito to the onset of symptoms. While most infected people do not develop any symptoms at all, others may experience:

- high fever
- headache which is often severe
- seizures or fits, especially in young children
- neck stiffness
- irritability
- confusion
- drowsiness.

Anyone with these symptoms should seek immediate medical advice. Coma and even death can occur in severe cases, and some of those who recover are left with ongoing problems such as deafness or epilepsy.

Where does MVE occur?
Although the MVE virus is occasionally found as far south as New South Wales, it is much more common in the north of Western Australia, and the Top End of the Northern Territory. In these areas it appears in most years during the wet season (from February onwards) when mosquitoes are abundant. During very extensive and heavy wet seasons the virus occasionally extends further south from these areas, for example into central Australia.

MVE is a rare disease in Queensland. Only three cases occurred in the region in the 1990s: in Cape York in 1991, near Burketown in 1994 and at either Karumba or Mount Surprise in 1997. A severe case occurred in a child in Mt Isa in 2001, and in 2005 a case occurred in Karumba.

Who is at risk of developing MVE?
The risk of developing MVE after being bitten by a mosquito carrying the virus is very small: about 1 in 1000. Although babies and young children are most at risk of developing the disease, adults, particularly those new to an affected region, can also develop MVE.

Treatment:
There is no specific treatment for MVE.

Prevention:
There is no vaccine against MVE. The only way to prevent MVE is to avoid being bitten by mosquitoes. This is particularly important during the wet season. Everyone should use anti-mosquito measures, especially for young children and babies, those visiting or camping near swamp or river systems, and those in rural areas near mosquito breeding sites.

To avoid being bitten by mosquitoes:

- avoid being outside when mosquitoes are most active, from just before sunset until dawn
- wear loose-fitting, light-coloured clothing with long sleeves, long trousers and socks (mosquitoes can bite through tight-fitting clothes)
- use insect repellent when outdoors and reapply regularly. Lotions and gels are more effective and longer lasting than sprays. Ask a pharmacist for an insect repellent that is suitable for young children and babies
- make sure flyscreens and doors are in good order
- if camping out sleep under a mosquito net.

Help and Assistance

For further information please contact your local doctor, community health centre or nearest public health unit.

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