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Japanese encephalitis in Australia

An outbreak of Japanese encephalitis has been confirmed in Australia

On 1 March 2022, the Department of Health of Australia confirmed that an outbreak of Japanese encephalitis [JE] had been detected in piggeries in the states of New South Wales, Queensland and Victoria [1].

On 4 March 2022, the situation was declared a Communicable Disease Incident of National Significance and as of 16 March 2022, there are 18 confirmed human cases in the states of: New South Wales (6), Queensland (1) South Australia (4) and Victoria (7), including two deaths; one in New South Wales and one in Victoria [2]. The health authorities are conducting enhanced surveillance activities and investigating the implications and risks of human exposure [1].

Japanese encephalitis is a viral infection of the brain, transmitted to humans by *Culex* mosquitoes from animals and birds, in parts of Asia and the Pacific Rim. Whilst animals can be infected with JE, they cannot transmit the virus to humans. JE cannot be spread from person to person. The Torres Strait Islands of Australia reported its first human cases of JE in 1995 [3]. The virus is found there in pigs, and the transmission season in this area is considered to be year round. However, this is the first time that the disease has been detected more widely in Australia.

Country specific information can be found on our Country Information pages and Outbreak Surveillance section.

Advice for travellers

The risk for most travellers is very low, especially for short-term travellers visiting urban areas. The overall incidence of JE among persons from non-affected countries is estimated to be less than one case per 1 million travellers [4]. Risk varies on the basis of: destination, duration, season and activities. It increases for persons who intend to live or travel in risk areas for long periods of time and have rural trips. Certain activities, even during short trips, where there is significant rural, outdoor or night time exposure e.g. fieldwork or camping, or close contact with pigs, can increase the traveller's risk.

The risk of acquiring JE can be reduced by insect bite avoidance, particularly between the hours of dusk and dawn, when *Culex* mosquitoes are most active.

Travellers to rural regions for long stays where JE occurs during the main transmission season or those whose planned activities put them at increased risk should consider vaccination.

Advice for health professionals

Culex spp. mosquitoes become infected by biting JE infected animals (particularly pigs) or birds and are prolific in rural areas where flooded rice fields and marshes provide breeding grounds. However, they are also found in cities and urban locations.

Travellers should be advised on the importance of observing bite avoidance measures and be

offered vaccination [5] if they are travelling to affected regions for extended periods of time or their activities put them at greater risk.

Most human infections with JE virus have no symptoms or mild short-lived symptoms. When symptoms do occur they include fever, headache and confusion. Treatment involves supportive care as the body fights off infection. In symptomatic cases requiring hospitalisation death rates are high and neurological complications are common.

Resources

- Japanese encephalitis factsheet

References

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3. Hanna JN, Ritchie SA, Phillips DA et al. An outbreak of Japanese encephalitis in the Torres Strait, Australia, 1995. Med J Aust. 1996; 165:256-60. [Accessed 16 March 2022]
4. Hatz C, Werlein J, Mutsch M et al. Japanese Encephalitis: Defining Risk Incidence for Travelers to Endemic Countries and Vaccine Prescribing From the UK and Switzerland, J Trav Med. 2009 May; 16(3): 200-3. [Accessed 16 March 2022]
5. Immunisation against Infectious Disease. Chapter 20; Japanese encephalitis. 11 June 2018. [Accessed 16 March 2022]