Queensland Health

Clinician Communique No. 2

Japanese encephalitis virus (JEV)

KEY POINTS

- JEV was declared a Communicable Disease Incident of National Significance in March 2022, with widespread detections of JEV in humans, mosquitoes, and pigs in Queensland, New South Wales, Victoria, Northern Territory and South Australia. Further presentations are anticipated in Queensland following recent heavy rainfall events, with conditions favourable for mosquito vector breeding over the summer months.
- **Consider the diagnosis of Japanese Encephalitis (JE) in persons with a clinically compatible illness and exposure risk factors, or in the absence of other causes for meningoencephalitis.** Any suspected encephalitis/viral meningoencephalitis patients should be urgently directed to the local Emergency Department.
- Discuss any suspected cases of JEV infection with your local public health unit, infectious diseases physician or clinical microbiologist.
- JE is preventable through mosquito control measures, mosquito bite prevention and vaccination. Education is encouraged for people to adopt personal protective measures such as using repellents, long loose-fitting clothing, mosquito coils and vaporisers.
- Vaccination is currently recommended and funded for certain at-risk groups.

Signs and Symptoms

- The majority of people (about 99%) infected with JEV have either no or only mild symptoms such as fever and headache.
- Severe disease is characterised by an acute encephalitis, with sudden onset of high fever and chills, severe headache, photophobia, neck stiffness, nausea, vomiting, convulsions, and coma.
- Of these severe cases, approximately one-third die, and one-third are left with permanent neurological sequalae.

Transmission

- JEV can only be spread by the bite of an infected mosquito, with development of symptoms usually occurring 5 to 15 days later
- JEV does not spread directly between humans and there is no risk from consuming pork or pork products.

Testing information

The following advice is in addition to usual investigations for encephalitis/viral meningoencephalitis including Herpes Simplex Virus (HSV), Enterovirus and Varicella Zoster Virus (VZV) PCR on CSF and serology.

For both adults and children, the following samples should be collected:

1. Blood (serum tube – 2-5mls for children, 5-8mls for adults)

- Acute period: flavivirus antibodies ("suspected JEV, acute phase") AND JEV PCR
- Convalescent period (3-4 weeks post onset): flavivirus antibodies ("suspected JEV, convalescent phase")
- To assist with results interpretation, please indicate on request forms for serology:
    - vaccination status for JE/yellow fever,
    - past flavivirus infection (e.g. dengue), *and*
    - any autoimmune disease.

2. Where a lumber puncture procedure is in scope, collect CSF (at least 1ml)

- Flavivirus IgM ("suspected JEV")
- JEV PCR

Transport specimens at 4°C. Ensure appropriately labelled request forms. Send urgently (next day).

Management

- There is no specific treatment for patients with JE
- Treatment of patients with meningoencephalitis is supportive aimed at controlling intracranial pressure, maintaining cerebral perfusion, and preventing other complications

Vaccination

Queensland Health continues to undertake surveillance to better understand the extent of JEV risk in Queensland.

JEV vaccination eligibility criteria have expanded, and it is strongly encouraged that at risk individuals are offered vaccination:

- people who work at, live near or have a planned, non-deferable visit to:
    - a piggery, including farm workers and their families (including children aged 2 months and older) living at the piggery, transport workers, veterinarians and others involved in the care of pigs
    - a pork abattoir or pork rendering plant
- pig doggers and hunters
- personnel who work directly with mosquitoes through their surveillance (field or laboratory based) or control and management such as:
    - environmental health officers and workers (urban and remote)
    - entomologists
- diagnostic and research laboratory workers who may be exposed to the virus
- people who live or work in the local government areas of Balonne, Goondiwindi, North Burnett, Quilpie, South Burnett, Western Downs or southwest area of Toowoomba Regional Council (surrounding and including Millmerran) **and**;

    - are at risk of JEV infection due to occupational or recreational outdoor activities undertaken near potentially productive mosquito habitat, such as areas near rivers, ponds and marshes, including flood zones and wherever there are bodies of standing water
- people who live or work in the Torres Strait and/or Northern Peninsula Area of Cape York.

Please note: For the above eligible groups, Queensland Health provides the vaccine at no cost to the recipient however, the fees associated with the consultation may vary depending on the Vaccine Service Provider.

Vaccination is also recommended if you are travelling to Asia and the Torres Strait region of Australia and will be:

- travelling in rural areas
- undertaking certain activities with increased risk of exposure
- spending a month or more in the region.

Please note: Vaccine costs will apply for individuals who are travelling outside Australia to JEV risk areas.

A full list of JEV vaccine service providers can be located on the Queensland Health Immunisation clinic finder map. To register your interest in becoming a JEV vaccination provider, please contact QHIP-ADMIN@health.qld.gov.au

Further information

Japanese encephalitis virus fact sheet | Queensland Health

Japanese encephalitis virus (JEV) | Australian Government Department of Health

Japanese encephalitis virus (JEV) vaccines | Australian Government Department of Health

Japanese encephalitis | The Australian Immunisation Handbook (health.gov.au)

Public health units | Queensland Health