



Powassan (POW) virus is transmitted to humans by infected ticks. The virus is named after Powassan, Ontario where it was first discovered in 1958. Many people who become infected with Powassan (POW) virus do not develop any symptoms. The incubation period (time from tick bite to onset of illness) ranges from about 1 week to 1 month. POW virus is not transmitted directly from person-to-person. Humans do not develop high enough concentrations of POW virus in their bloodstreams to infect feeding ticks. Humans are therefore considered to be “dead-end” hosts of the virus. POW virus is maintained in a cycle between ticks and small-to-medium-sized rodents.

POW virus can infect the central nervous system and cause encephalitis (inflammation of the brain) and meningitis (inflammation of the membranes that surround the brain and spinal cord).

Symptoms can include:

Fever, headache, vomiting, weakness, confusion, loss of coordination, speech difficulties, and seizures.

Approximately half of survivors have permanent neurological symptoms, such as recurrent headaches, muscle wasting and memory problems. Approximately 10% of POW virus encephalitis (inflammation of the brain) cases are fatal.

If you think you or a family member may have POW virus disease, see your health care provider for evaluation and diagnosis. People with severe POW illnesses often need to be hospitalized.

Treatment may include respiratory support, intravenous fluids, and medications to reduce swelling in the brain. Diagnosis is based on a combination of signs and symptoms and laboratory tests of blood or spinal fluid. These tests typically detect antibodies that the immune system makes against the viral infection.

The best way to prevent POW virus disease is by protecting yourself from tick bites. There is no vaccine against POW virus.