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FIVE THINGS TO KNOW ABOUT ...

West Nile virus infection

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1 West Nile virus is endemic in many parts of Canada

First identified in North America in 1999, West Nile virus is now endemic in Canada, excluding the Atlantic provinces and the North.[1] Infection in humans peaks in late summer after the transmission cycle between birds and mosquitoes has increased the prevalence of infected mosquito vectors; 428 clinical cases were reported in 2012.[1] In rare cases, transmission can occur via blood products or organ transplantation, or transplacentally.[2]

2 Although most infections are asymptomatic, severe disease can occur

Only 1 in 5 patients with West Nile virus infection will show symptoms.[3] The most common manifestation of infection is West Nile fever, a constellation of nonspecific symptoms (e.g., fever, malaise and, sometimes, a diffuse macular rash) that occurs after 2–14 days' incubation. Neurologic disease occurs in less than 1% of patients,[3] presenting as aseptic meningitis, encephalitis or acute flaccid paralysis.[4]

3 Patients who are immunocompromised have the greatest risk of severe disease and death

Risk factors for neurologic disease include older age and immunocompromise, particularly after solid organ transplantation or in cases of malignant disease.[5,6] Thus, the threshold to evaluate for neuroinvasive disease in these patients should be lowered to allow for close monitoring and supportive care.

4 Serologic testing may be used to diagnose West Nile virus infection

Serologic testing for immunoglobulins M and G should only be done when patients show symptoms consistent with acute West Nile virus infection. Antibodies are usually detectable 8 days after the onset of illness and may persist for several months.[7] Owing to rapid viral clearance and low levels of viremia, polymerase chain reaction tests of serum and cerebrospinal fluid for the virus lack sensitivity and are seldom useful in diagnosing the infection.[7] Immunoglobulin M does not cross the blood–brain barrier; therefore, the detection of these antibodies in the cerebrospinal fluid is specific for central nervous system infection.[2]

5 There are no specific therapies for this infection, only prevention

The only treatment for West Nile virus infection is supportive care.[2] Antibody or antiviral therapies play no role. People should take normal precautions to avoid mosquito bites. Public health prevention strategies include surveillance of dead birds, mosquito-control programs and screening of blood products. Additional information about West Nile virus and up-to-date Canadian surveillance data are available from the Public Health Agency of Canada.[1]

Additional resources

- Centers for Disease Control and Prevention (www.cdc.gov/ncidod/dvbid/westnile)
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