

WEST NILE VIRUS – Birds, Horses & Humans

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The West Nile Virus (WNV) is a cause of Encephalomyelitis (an infection of the central nervous system) and affects mainly birds, horses and humans. It was first identified in a woman's blood in Uganda in 1937 and by 1999 it had spread to the Western hemisphere, particularly throughout the USA and parts of Canada, with over 39,000 human cases being reported up to 2013, including over 1,600 deaths according to the Centers for Disease Control.



Birds act as the reservoir hosts for the virus having high viral loads but although deaths do occur, most do not become ill. Mosquitos (*Culex* sp.) are the vector and transmit the virus from birds to humans and horses. In the latter two however, the viral load in the blood is very low and so they are not a source of infection for mosquitoes. Ticks have also been found to carry the virus and there has been a reported case of transmission from a human mother to her unborn child.



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Horses of all ages are susceptible but the disease is usually seen in older animals. Most horses do not show any signs, while others become ill 5-15 days after being infected. Signs include fever, feed refusal, lameness, colic, incoordination, muscle weakness and twitching, impaired vision, increased excitability, inability to swallow, paralysis, convulsions and coma. One in three affected horses die but in those which do recover, the likelihood is high for impaired athletic potential.

In humans, most experience no symptoms, however, severe disease occurs in a small percentage, particularly the elderly, and is characterized by flu-like symptoms including fever, headaches and weakness or sometimes more serious neurological signs such as convulsions, tremors and coma.

There is no specific antiviral therapy for WNV therefore treatment is usually supportive with anti-inflammatories being commonly used.

WNV activity in an area is dependent on the presence of the bird hosts and competent mosquito vectors. It is mostly spread from one location to another via the migration of infected birds. Prevention and control is normally through vector control and vaccination of horses which has resulted in a decline in horse infections in the US. There is no vaccine for humans. In Jamaica, there have been no reported cases of WNV in horses or humans and vaccination of horses against West Nile Virus is not currently practiced, although surveillance is carried out.

