

Australian Bat Lyssavirus

Description

Australian bat lyssavirus (ABLV) is a virus that can be transmitted from bats to humans, causing serious illness. The virus was first identified in 1996 and has been found in four kinds of flying foxes/fruit bats and one species of insect-eating microbat. Evidence of previous infection has been found in blood tests from a number of other bat species. It is therefore assumed that any bat in Australia could potentially carry the virus. The behaviour or appearance of a bat is not an accurate guide to whether it is carrying the virus.

Since November 1996, three people have died as a result of ABLV infection after being bitten or scratched by bats. ABLV is one of twelve types of lyssavirus which are found around the world. ABLV is the only one of these known to occur in Australia. ABLV is closely related but not identical to rabies virus, which causes a serious and usually fatal disease in humans.

Symptoms

ABLV infection in humans causes a serious illness which results in paralysis, delirium, convulsions and death. Death is usually due to respiratory paralysis.

Transmission

Transmission of the virus from bats to humans is thought to usually be by a bite or scratch, but also potentially by being exposed to bat saliva through the eyes, nose or mouth (mucous membrane exposure). ABLV is unlikely to survive outside the bat for more than a few hours, especially in dry environments that are exposed to sunlight.

Experience with other closely related viruses, including classical rabies virus, suggests that contact or exposure to bat faeces, urine or blood do not pose a risk of exposure to ABLV, nor do living, playing or walking near bat roosting areas.

The time from exposure to the virus to the development of symptoms is variable; of the three known human cases of ABLV infection, one became ill several weeks after being bitten by a bat and another became ill more than two years after a bat bite. The details around exposure of the third case are not confirmed. Classical rabies virus also shows a wide variability in time between exposure and illness.

Treatment

There is no specific treatment available for ABLV. In all potential exposures to ABLV (bites, scratches, mucous membrane exposures), seek medical advice immediately, even if you have been vaccinated.

Proper cleansing of the wound reduces the risk of infection. If bitten or scratched, immediately wash the wound thoroughly with soap and water for at least five minutes. If available, an antiseptic with anti-virus action such as povidone-iodine, iodine tincture, aqueous iodine solution or alcohol (ethanol) should be

applied after washing. If bat saliva contacts the eyes, nose or mouth, it is necessary to flush the area thoroughly with water. Seek medical attention as soon as possible.

Prevention

The best protection against being exposed to the virus is for members of the community to avoid handling any bat or flying fox.

Only vaccinated people who have been trained in the care of bats should ever handle bats or flying foxes. Persons who come across an injured bat should contact the Department of Environment and Heritage Protection (1300 130 372), RSPCA (1300 ANIMAL) or your local wildlife care group/rescuer/carer for assistance. Do not touch the bat and avoid direct contact with any bat saliva.

Rabies vaccine is used to protect against ABLV infection. However, even if you have been previously vaccinated, you should seek medical advice immediately after any potential exposure to ABLV (bite, scratch or mucous membrane exposure) as further vaccinations will be required.

While bat faeces, urine and blood are not considered to pose a risk of ABLV, contact with any bat fluids should generally be avoided. If you have any contact with bat fluids, wash your hands (or other affected area) immediately.

Pre-exposure vaccination

Pre-exposure vaccination is recommended for anyone who is occupationally or recreationally exposed to bats, with a risk of being bitten or scratched. This is a course of three rabies vaccine injections, given over one month (days zero, seven and 28). **The vaccine does not offer protection until after the third dose is given.**

Post-exposure vaccination

Anyone who has been potentially exposed to ABLV, and has never received pre-exposure vaccination, will require four rabies vaccine injections over two weeks (on days zero, three, seven, and 14) and may require, depending on the circumstances, an injection of rabies immunoglobulin. Queensland Health will fund these injections, which are called 'post-exposure prophylaxis', and your local public health unit will arrange for these injections to be delivered to your GP or hospital. These injections are recommended for anyone who has been exposed to ABLV, regardless of how long ago the exposure occurred. People with a weakened immune system will require a further (fifth) dose of vaccine given at day 28 and follow up blood tests to confirm their immunity.

Anyone who has already received pre-exposure vaccination will require two further doses of vaccine (day zero and three). Queensland Health will also fund these injections.

Post-exposure vaccination may be delayed for up to 48 hours if the bat is available for testing, without placing other people at risk of exposure. Testing can be arranged by the local public health unit or the Department of Environment and Heritage Protection. The bat should only be euthanased by an authorised wildlife organisation, state agricultural department or authorised veterinarian. If the bat does not have ABLV, the course of vaccinations will not be required.

Help and Assistance

For further information, please contact your local doctor or nearest public health unit or the 13HEALTH information line (13 432584).

Other Resources

Kids and Bats

<http://www.health.qld.gov.au/communicablediseases/html/kidsandbats.asp>

Bats and human health fact sheet

http://access.health.qld.gov.au/hid/InfectionsandParasites/ViralInfections/batsAndHumanHealth_is.asp

Rabies vaccine and human rabies immunoglobulin (HRIG) fact sheet

http://access.health.qld.gov.au/hid/InfectionsandParasites/ImmunisationandVaccination/rabiesVaccineAndHumanRabiesImmunoglobulin_is.asp

Department of Environment and Heritage Protection website

<http://www.ehp.qld.gov.au/wildlife/livingwith/flyingfoxes/>

Footnotes

Animal Health Australia (2009). *Disease strategy: Australian bat lyssavirus (V3.0) Australian Veterinary Emergency Plan (AUSVETPLAN)*, Edition 3, Primary Industries Ministerial Council, Canberra, ACT.

Heymann, D (Ed) 2008. *Control of Communicable Diseases Manual*, 19th edition. Washington, DC: American Public Health Association, 438-447.

National Health and Medical Research Council, 2008. *The Australian Immunisation Handbook* (9th Ed.) Canberra: National Capital Printing.