Rabies

Description

Rabies is a disease of the nervous system caused by the rabies virus. It is a zoonotic disease - a disease that is transmitted to humans from animals. Rabies infects domestic and wild animals, and is spread to people through close contact with infected saliva (usually from bites or scratches, but potentially from licks to the eyes or mouth). Rabies in humans is fatal almost 100% of the time. The World Health Organization estimates that more than 55,000 people die from rabies worldwide each year.

Rabies virus does not currently occur in animals in Australia or New Zealand, but there is the potential for the virus to be introduced into Australia from neighbouring countries through the illegal importation of unvaccinated animals. A close relative of the classical rabies virus, Australian bat lyssavirus, does occur in bats in Australia.

Symptoms

After being exposed to the saliva of an infected animal, the first symptoms of rabies usually appear in 3 – 8 weeks, but may occur in a few days or after as long as 7 years. This can depend on the amount of virus introduced into the body, how bad the wound is, how close the wound is to the brain, whether the person’s clothes offered any protection from the bite or scratch, and other factors.

The first symptoms of rabies are flu-like, including fever, headache and fatigue. Many people have pain (sometimes itching) or numbness at the wound site. They may complain of feeling anxious. Some people with rabies then become delirious and have convulsions. Others become paralysed. Coma and death usually occur within 1-2 weeks.

Transmission

People are most often infected with rabies by the bite or scratch of an infected animal. The virus in the animal’s saliva enters the person’s body through the broken skin. Potentially, virus present in animal saliva could also enter the person’s body through mucous membranes (the eyes or mouth) when an infected animal licks these areas.

Many animals can carry rabies. Dogs, cats, and monkeys are common sources of potential exposure to rabies while travelling, especially in Asia, Africa and Central and South America. Bats both overseas and in Australia carry viruses very similar to rabies.

Treatment

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

Proper cleansing of the wound is the single most effective measure for reducing transmission. 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 animal 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

Avoid contact with any animal that is capable of biting a human in any country where rabies is endemic. This includes domestic dogs and cats and zoo or pet animals, particularly monkeys who are used to being fed by humans.

Travellers should not attempt to interfere with any wild animal, particularly if it appears to be ill or would not normally be found in an inhabited area or active during the day. Animals which are known to carry the virus are dogs, foxes, coyotes, wolves and jackals, skunks, racoons, mongooses, monkeys and other biting mammals. Bats both overseas and in Australia can carry viruses very similar to rabies, and so should also be avoided.

Vaccination

Pre-exposure vaccination
If you are intending to travel, live or work in a country where rabies is known to be a risk, speak to your medical practitioner about the possibility of being vaccinated against rabies before you leave.

Post-exposure vaccination
The rabies vaccine may be given after exposure to the virus. If rabies vaccine treatment is called for (such as after being bitten by a potentially infected animal), it should be started as soon as possible.

In addition to the vaccine, people who have not previously been vaccinated against rabies should also receive an injection of human rabies immune globulin (HRIG) on the day they get the first vaccine dose, or at least within 7 days.

HRIG is prepared from the blood of people who have been immunised against rabies and contains antibodies to the rabies virus. This ‘passive’ immunity helps protect people during the period before the rabies vaccine causes their own immune system to counter the virus (active immunity). HRIG is often difficult to obtain in many overseas countries, and if this is the case, it is important that the traveller returns to Australia to obtain HRIG as soon as possible.

HRIG (if required) followed by a course of rabies vaccines is the best way to prevent someone from developing rabies if they have been exposed to the virus. An information sheet on rabies vaccine and HRIG is available (see Related Content below).

Help and Assistance

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

Related Content

Queensland Health fact sheets:

References