

Japanese Encephalitis

Japanese encephalitis is a mosquito-borne viral disease that affects horses, donkeys, pigs and humans. Birds are reservoir hosts. Japanese encephalitis can be a very serious disease: although most infections mild it can manifest as severe, often fatal encephalitis.

Epidemics, which occur periodically in endemic regions, can cause significant mortality in unvaccinated humans and animals. Approximately 4,000 people died during the 1924 epidemic in Japan, and nearly 2,500 died in South Korea in 1949. In Japan, close to 3,700 horses died in 1949.

During the last fifty years, Japanese encephalitis virus has gradually expanded its geographic range within Asia. It has also occurred in parts of Australia, Papua New Guinea and Indonesia. When this virus becomes established in a new region, major epidemics can occur.

paralysis or impaired vision. Jaundice or petechial haemorrhages may be found on the mucous membranes. These horses often recover within a week.

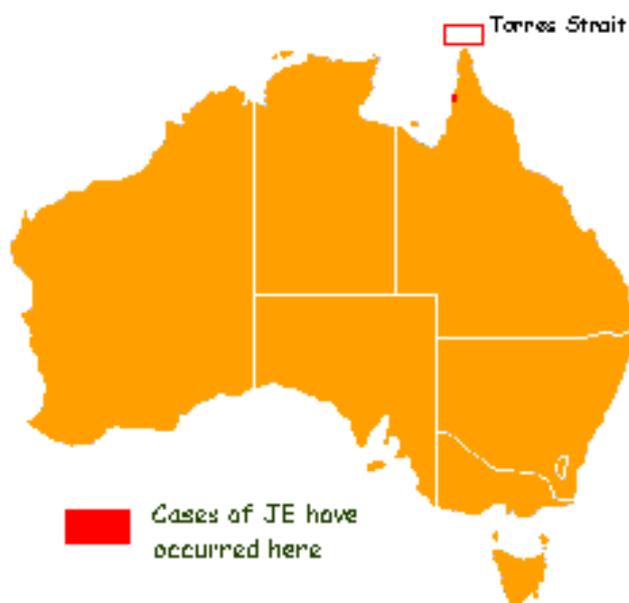
A more severe form, called the “hyperexcitable form,” is characterized by high fever, aimless wandering, violent and demented behaviour, occasional blindness, profuse sweating and muscle tremors. Although some horses recover, these symptoms are often followed by collapse and death in 1 to 2 days. The hyperexcitable form is uncommon, and occurs in less than 5% of symptomatic horses. In some horses, neurologic defects such as ataxia may persist after recovery.

In temperate regions of Asia, the Japanese encephalitis season usually begins in late Spring and ends in Autumn, equine and human cases peak in late summer and autumn when the virus spills over into these hosts.

In tropical regions, Japanese encephalitis virus circulates year-round in mosquitoes, birds and swine, but there may be seasonal peaks of disease associated with irrigation, rainfall or other factors that affect the local abundance of mosquitoes and hosts. In some tropical areas, epidemics may be seen at the end of the rainy season. Wild and feral pigs also serve as reservoir and amplifying hosts.

Japanese encephalitis vaccines can prevent disease in horses. Vaccinating pigs can also decrease the amplification of the virus, and help protect horses and humans. However, Japanese encephalitis virus is also amplified in birds, and some infections will still occur.

Stabling animals in screened barns can be partially protective, particularly during outbreaks. Peak mosquito biting activity is usually from dusk to dawn. Barn fans are helpful, as mosquitoes do not fly well in strong winds. The walls may also be sprayed with insecticides. Insect repellents can help protect individual animals. In some climates, horses may be rugged and hooded in lightweight permethrin-treated material.



Cases where Japanese Encephalitis have occurred in Australia

In horses symptoms vary in severity. In the milder form, the horse is lethargic and anorexic, with a fluctuating fever and neurological signs that commonly include difficulty swallowing, incoordination, transient neck rigidity, radial