



A Monthly e Magazine
ISSN:2583-2212

July, 2023; 3(07), 1503-1505

Popular Article

Rabies: A Threat to Human and Animal Life

Diwakar^{*1}, Akriti², Lokendra³

^{*1}Assistant Professor, Department of Veterinary Microbiology, MJF-CVAS, Chomu, Jaipur, Rajasthan

²Assistant Professor, Department of Veterinary Public Health, MJF-CVAS, Chomu, Jaipur, Rajasthan

³M.V.Sc. Scholar, Department of Veterinary and Animal Husbandry Extension, College of Veterinary Science & A.H., Kamdhenu University, Junagadh, Gujarat

<https://doi.org/10.5281/zenodo.8171959>

Introduction

Rabies is a viral illness that can be prevented but is lethal. It can spread to humans and pets if they are bitten or scratched by a rabid animal. In many other countries, dogs still carry the rabies virus, and dog bites are the leading cause of rabies-related deaths in humans worldwide. The rabies virus affects the central nervous system, damaging the brain and eventually causing death. Rabies is one of the most dangerous and well-known zoonotic diseases, occurring in warm-blooded animals. Symptoms include unusual behavior, nervousness, impaired consciousness, ascending paralysis, and death. The virus is transmitted through bites from animals to humans and vice versa. It can survive in deceased animals for four weeks to several months.

Synonyms: Also known as H alakwa, Jalatank, Hydrophobia, Lyssa, Habhoo, Rabera.

Etiology

Rabies is caused by an RNA virus from the Rhabdoviridae family and Lyssa genus. The incubation period can range from 4 to 8 weeks but may extend to 5 to 7 years. There are two types of the virus:

1. Fixed virus: Incubation period of 6-7 days, does not produce negri bodies, and is absent in the salivary gland and saliva.
2. Street virus: Incubation period of 11-47 days, produces negri bodies, and has an affinity for the salivary gland.

1503



Transmission

Rabies virus is transmitted through direct contact with saliva or brain/nervous system tissue from an infected animal, such as through broken skin or mucous membranes in the eyes, nose, or mouth. There are two types of transmission:

- Urban type: Transmission occurs through dog bites.
- Sylvatic type: Transmission occurs through wildlife bites, such as from foxes, jackals, wolves, or vampire bats. Organ and tissue transplant can also transmit the virus.

Symptoms

Signs and symptoms of rabies may include fever, headache, nausea, vomiting, difficulty swallowing, excessive salivation, and partial paralysis.

Clinical forms of rabies in animals

There are two clinical forms of rabies:

1. Excitative or furious form: The main malfunction is in the brainstem and limbic system. Patients experience hydrophobia in the advanced stage, and death occurs within a week after symptom onset.
2. Paralytic form (Dumb rabies): Paralytic rabies resembles Guillain-Barre syndrome. Patients present with flaccid paralysis. The stage of excitement is absent. Within a few days, paralysis may ascend and involve the respiratory muscles. Fever and profuse sweating are also observed.

Clinical forms of rabies in humans

- The initial signs and symptoms of human rabies resemble the flu and include malaise, fever, and headache.
- Discomfort or tingling at the site of initial exposure.
- After a few days, cerebral dysfunction, anxiety, agitation, and abnormal behavior may occur.
- Attempting to drink causes extremely painful laryngeal spasm of the deglutination muscles, leading patients to refuse to drink. This is why the disease is known as hydrophobia.
- Loss of fear of humans.
- Patients may try to attack inanimate objects and moving objects, such as a fan.
- Patients may attempt to bite other individuals.

Diagnosis

In animals, rabies is diagnosed using the direct fluorescent antibody (DFA) test, which detects the presence of rabies virus antigens in brain tissue.

In humans, saliva can be tested for the virus through virus isolation or RT-PCR.

Prevention And Control

1. Regular rabies vaccination for pets and domestic animals.
2. Protect small pets from predators.



3. Implement bans or restrictions on the import of animals from certain countries.
4. Conduct widespread vaccinations of humans in some areas.
5. Provide educational information and raise awareness.
6. Improve access to medical care for people who have been bitten.

References

Dutta, T. K., Ghotekar, L. H., Sahoo, R. K. (2005). Rabies- an update. In: Gupta SB, editor. API Medicine Update. Mumbai: The Association of physicians of India, 680-683.

