BORNA DISEASE VIRUS

Introduction
Borna Disease – the disease due to the Borna virus – was first described more than 200 years ago in southern Germany as a fatal neurological disease of horses and sheep. It owes its name to the town of Borna in Saxony, Germany, where a large number of horses died during an epidemic in 1885.

The Borna virus, which has been linked to mental disorders in animals has been isolated from humans. The humans who had evidence of this virus were diagnosed with mood disorders and schizophrenia. There is no research to suggest that a human can be infected with Borna Disease Virus from an animal.

What is Borna Disease Virus (BDV)?
Borna Disease Virus is unique among animal RNA viruses in its molecular biology and capacity to cause persistent, non-cytolytic CNS-infection in a wide variety of host species. Unlike other non-segmented negative-strand RNA animal viruses, BDV replicates in the nucleus of the host cell where splicing is employed for expression of a very compact genome. Epidemiological studies indicate a broad host range and geographical distribution.

Infection in Animals
For Central European vets, BDV has been known for a long time as a sporadically occurring, progressive viral polioencephalomyelitis predominantly affecting horses and sheep, and as discovered in the last decade, an increasing number of domestic and zoo animals.

Source of Infection in Animals
The source and means of transmission are unknown. There is some evidence that BDV is transmitted through inhalation but this is not confirmed.
Diagnosis in Animals

Although most Borna Disease Virus infections are subclinical, some infected sheep and horses show agitated, aggressive behaviour, which lasts for weeks and which progresses to paralysis and inanition. Although it is fatal in horses and sheep, it is non-fatal in rats. Infected rats exhibit hyperactivity and exaggerated startle responses during the inflammation period. After several weeks, the virus persists and the animals begin to show stereotyped motor behaviour, dyskinesias, and dystonias. After infection of the central nervous system, BDV has been shown to progress to ganglia and peripheral nerves.

Treatment and Prevention in Animals

Treatment for BDV is currently unknown although a recent study found that ribavirin inhibits BDV replication, in the transcript step. Conventional immunisation with inactivated virus or purified virus-specific antigen does not provide immunity to the disease.

Borna Disease Virus and Humans

A study done in 1985 provides evidence that humans can contract BDV. Researchers picked a group of mental patients that showed behaviours similar to animals infected with the virus. It was found that people with mental disorders have 20% higher amounts of the specific antibodies than people without mental disorders. There is no research to show that BDV is transmissible from animals to humans.

Treatment and Prevention in Humans

Treatment for Borna Disease Virus is currently unknown.

Conclusion

While humans have been found to carry the Borna Disease Virus, there has been no research to show that the virus is transmittable from animals to humans. Pet owners should keep the issue in perspective, continue to follow the usual and well-established hygiene routines with their pet and remember the benefits, including health, that pets provide.
Pets are Good for People

Pets provide us with loyalty, companionship, love and affection, as well as the many physical and psychological benefits. The least we can do to repay this is to ensure that we keep them in the best of health. A healthy pet is a happy pet and a happy pet can help us enjoy a much fuller and more rewarding life.

- ends -

For further information, please contact the Pet Health Council on:

Telephone: 020 7379 6545
Email: enquiries@pethealthcouncil.co.uk
Website: www.pethealthcouncil.co.uk