

Enterovirus encephalomyelitis - Teschen Disease

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Nature of the disease

Teschen disease is a viral disease caused by a the highly virulent strain of the virus of of the Picornaviridae family from the Enterovirus genus, serotype 1 (PEV1). The virus causes a virulent manifestation of porcine polioencephalomyelitis with a high morbidity and high mortality.

In addition further porcine enteroviruses from the serotype 1 cause porcine polioencephalomyelitis, including Talfan virus and begin enzootic paresis which cause a milder, more sporadic and less contagious disease. There are 11 serotypes of porcine enterovirus potentially causing encephalomyelitis (PEV 1-7 and PEV 11-13) and, recently, they have been grouped under enterovirus encephalomyelitis.

Classification

OIE List B disease

Susceptible species

Pigs

Distribution

Central and Eastern Europe, Madagascar and Uganda have the highly virulent strain of PEV1 (Teschen disease).

Talfan disease is more widely distributed, it is present in Australia as well as PEV2, PEV5 and PEV8. Some forms of the disease were suspected in the Cooks Islands and in Wallis and Futuna.

Clinical signs

The highly virulent strain of PEV1 (Teschen disease) can occur in pigs of all ages, with the highest incidence in piglets up to 3 months.

Symptoms include:

The lower virulent viruses cause a milder disease. They usually affect piglets and do not cause a total paralysis.

Post-mortem findings

No characteristic gross lesions. Histologically, lesions are confined to the central nervous system.

Differential diagnosis

Specimens required for diagnosis

For virus identification a range of samples from brain and spinal cord from pigs that have just died or been killed for post-mortem. Both fresh and preserved (in solution of equal part of phosphate buffered isotonic saline pH 7.4 and glycerol) samples should be collected. techniques include virus neutralisation and indirect fluorescent antibody test.

Serological diagnosis, based virus neutralisation or ELISA can be performed from serum collected from sick or recumbent animals.

Transmission

The virus is a gut inhabitant. Virus is excreted in faeces and oral secretions. Clinically recovered animals may continue to shed the virus for up to 7 weeks. Virus can survive in the environment for 3 months.

Transmission is made by direct or indirect contact, swill feeding and fomites

Risk of introduction

The disease could be introduced through the importation of infected pigs, or through contaminated product being fed to pigs (swill feeding) or husbandry material. Because of its limited world distribution and lack of imports from these countries, the risk of introducing Teschen

disease would appear low. However the risk to introduce other strain of the virus from Australia must be subject to a risk analysis.

Control / vaccines

Live attenuated and inactivated vaccines are effective in controlling the disease. Quarantine and hygienic measures should be applied.

Swills should be sterilised before fed to pigs.

References

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