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33 – Porcine Teschovirus I

Introduction

The first occurrence of porcine teschovirus infection was some 75 years ago in what was then Czechoslovakia when Teschen disease, a pig polioencephalomyelitis was seen. Porcine teschoviruses are ubiquitous and all pigs on commercial farms appear to be infected. Usually the infection is subclinical but, from time to time, clinical forms such as polioencephalomyelitis, reproductive problems, pneumonia and enteric disease are encountered.

The virus

Porcine teschoviruses were first classified as enteroviruses but, when these were reclassified, teschoviruses became a new viral species.

Epidemiology

Teschen disease still occurs sporadically in central Europe and Africa. Over the last 50 years or so milder forms of polioencephalomyelitis caused by a less virulent teschovirus have occurred and these are often referred to as Talfan disease or benign enzootic paresis. These have been encountered in Europe, North America and Australia.

The pig is the only known natural host for teschoviruses and transmission of these viruses is by the faecal-oral route or via fomites. Typically piglets acquire infection shortly after weaning when maternal antibodies have declined. Adults rarely excrete the virus but have high antibody levels. Pigs of any age are totally susceptible to infection from a serotype of this virus which they have not previously encountered.

Porcine teschoviruses are very resistant to inactivation in the environment and can survive long periods in slurry. Many disinfectants are not very effective against this virus.

Virus detection

The virus can be isolated from the central nervous system of piglets showing early nervous signs. In SMEDI syndrome mummified foetuses carried to term rarely carry the virus but may contain viral antigen which can be detected by immunofluorescence.

When investigating enteric and respiratory diseases isolation from the enteric or respiratory tracts is possible but results from the former should be treated with caution as enteric infections with teschoviruses are common in healthy animals.

Nowadays PCR can be used to detect porcine teschoviruses and to differentiate them from other viruses.