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Introduction

Rotaviruses are important enteric pathogens of the young of many species, including pigs. Porcine rotaviruses are capable of producing a gastroenteritis and villous atrophy and are frequently found in pigs with diarrhoea. Subclinical infections are common, suggesting that the clinical entity requires interactions with host, agent and environment to occur.

Rotaviruses were first seen in calves in 1969 and since then have been found in man and other animals, including pigs in the mid-1970s.

Aetiology

Rotaviruses have a distinct round shape under the electron microscope hence their name (rota in Latin means a wheel). Rotaviruses are antigenically quite diverse. Serogroups are identified by serological testing using tests such as immunofluorescence and ELISA. At least seven different groups of rotavirus have been identified.

Epidemiology

Rotaviruses are ubiquitous and up to 100% of herds are serologically positive for rotavirus. Antibody levels are lowest in 3-8 week old pigs for group B and C rotaviruses, yet all pigs of this age have antibodies to group A rotavirus.

Rotavirus spreads by the faecal-oral route and following infection pigs become immune to infection by homologous rotavirus. Young piglets are protected by maternal antibody until 3-5 weeks of age and piglets born to gilts are more susceptible to rotavirus infection.

After infection virus is soon shed in the faeces and this is a source of infection for other pigs. Rotavirus is shed on average for seven days (1-14 days). Recurrent infections have been seen and these could be infections with a different serotype or serogroup. Normally adults do not shed rotavirus except near farrowing and this is a source for susceptible pigs/piglets.

Contamination of the environment plays an important role in keeping rotavirus infection in herds. Rotaviruses are resistant to some of the commonly used disinfectants. This virus is quite capable of surviving for at least three months in empty pig housing.

Clinical signs

Disease is severest in the youngest piglets (if no maternal antibody protection) and has an incubation period of 12-24 hours. Pigs become listless, anorexic and sometimes vomiting occurs. A severe profuse diarrhoea commences 1-4 hours later. The faeces are watery and yellow-white in colour. Pigs become dehydrated and die 2-5 days after the onset of diarrhoea. Mortality can be 50-100%.

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