

82 – Porcine adenoviruses

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Introduction

Adenovirus was first isolated in 1964 from pigs with diarrhoea. Since then this virus has also been isolated from pigs with nephritis and respiratory disease; from apparently healthy pigs; and from aborted foetuses. As a rule porcine adenoviruses have a low to moderate pathogenicity and do not cause serious diseases with major economic consequences.

The virus

At least three species and five serotypes are currently known to exist. Serotype 1 was isolated from a pig with diarrhoea, serotypes 2 and 3 were isolated from pigs with normal faeces, serotype 4 from pigs with nervous signs and enteritis and serotype 5 was isolated from the nasal secretions of pigs with respiratory disease.

Epidemiology

As a rule the host range of adenoviruses is restricted and there is no known transmission of porcine adenoviruses to man. Serological surveys show that most adult pigs have antibodies to adenoviruses but as clinical signs are rare this suggests that infections are frequently subclinical. The majority of naturally acquired adenovirus infections are horizontal via the faecal-oral route, although some scientists think that the respiratory route can also be implicated. Transmission via fomites is possible. Most epidemics of diarrhoea caused by porcine adenoviruses occur between 7-28 days of age. Adenoviruses are often isolated from rectal swabs of weaned animals but rarely from adult pigs. Pigs have been known to shed porcine adenoviruses for up to 3-4 months of age.

The disease

Porcine adenoviruses are frequently associated with gastro-intestinal disease although respiratory, neurological and reproductive diseases have, on occasion, been attributed to porcine adenoviruses. Piglets with serotype 4 develop a watery diarrhoea 3-4 days post infection that lasts for 3-6 days. Infection of colostrum can induce pneumonia and lesions in lymph nodes, thyroid and kidneys. Infection can cause abortion in pregnant animals. Adenoviruses are involved in co-infections with organisms like *Mycoplasma hyopneumoniae* and porcine circovirus. There are no pathognomonic lesions for porcine adenoviruses.

Diagnosis

Porcine adenoviruses should be considered in the differential diagnosis of gastrointestinal disease and possibly respiratory diseases.

Treatment

As the disease produced is so mild with little economic impact there is no incentive to produce commercial vaccines. Control and prevention thus centres around good hygiene practices that limit faecal spread.