

## 84 – Porcine parvovirus II

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## Pathology

Experimental infection of boars, gilts and sows does not produce visible (gross) lesions. The most common consequence of porcine parvovirus infection is embryonic death followed by resorption of fluids and soft tissues.

Gross lesions in foetuses include stunting. Sometimes congestion is seen and this can be accompanied by haemorrhage with accumulation of serosanguinous fluids in body cavities which become darker after death. Placentas can be brownish grey in colour and dehydrated as well as being accompanied by a reduction in the volume of extra foetal fluids. Once foetuses have become immunocompetent no macroscopic lesions are seen following infection.

Porcine parvovirus infection has been associated with skin lesions – erosions and vesicles in the oral cavity and on the snout. It has also been associated with necrotic and exudative dermatitis in piglets. This association is probably a predisposition rather than an actual cause of the changes seen.

Histopathological lesions in foetuses tend to be widespread and are characterised by necrosis of cells in the various developing organs. Once the piglet has become immunocompetent the microscopic lesions are mainly those of endometrial hypertrophy with mononuclear cell infiltration. A meningoencephalitis has been seen in stillborn or prematurely born piglets.

Porcine parvovirus infection has also been associated with a non-suppurative myocarditis.

## Diagnosis

Porcine parvovirus infection should always be considered when reproductive issues are encountered, especially in gilts or second parity animals. This condition does not normally cause abortions.

The differential diagnosis should include Aujeszky's disease, brucellosis, leptospirosis, PRRS, toxoplasmosis, and non-specific bacterial uterine infections.

Confirmation includes demonstrating viral antigen in foetal tissues by immunofluorescence or the testing of paired sera. Fluids from foetuses or umbilical cord serum (before ingestion of colostrum) can be tested for porcine parvovirus specific antibodies.

Care should be taken when interpreting serological results because of the high prevalence of porcine parvovirus in pig populations and the time lag between infection and observation of reproductive losses. Tests available include HIT and ELISA.

## Immunity

Piglets from seropositive mothers are protected by colostral antibodies. The piglet's own antibodies are produced from the second week of life. Maternal antibody takes about 20 weeks to disappear but in some instances can persist for much longer. Active immunity following infection or vaccination develops quite quickly.

## Control and prevention

As the porcine parvovirus is present in pig populations and highly stable in the environment, difficulties are often encountered in creating and maintaining parvovirus free breeding herds. Historically, the practice was to ensure that gilts had become infected before they reached breeding age. Nowadays, a much more preferable approach is to use a reliable vaccine for the regular vaccination of breeding females.

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