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Pathogenesis of PMWS

PMWS can best be described as a multifactorial disease for which PCV 2 is a necessary component. It would appear that PMWS occurs when PCV 2 is inoculated into pigs with other agents. It would appear that stimulation of the immune system of PCV 2 infected pigs by other agents increases the replication of PCV 2 with a resulting increase in viral load in the pig's body. There is also evidence for a role for immunosuppression in PMWS.

The altered functionality of PCV 2 infected respiratory cells makes pigs more susceptible to secondary lung infections.

There is some field evidence to suggest that certain pig strains are more susceptible to PMWS.

Pathogenesis of reproductive disease

Porcine embryos are susceptible to PCV 2 infection and their susceptibility increases with embryonic age. PCV 2 susceptible cells in the embryo include those of the heart and liver and the monocytes/macrophages. Mummification is sometimes seen and foetuses infected late in pregnancy are often stillborn.

Clinical signs and lesions of PMWS

PMWS typically affects 2-4 month old pigs. Morbidity is 4-30% and mortality 4-20%. The viral load is highest at the time PMWS first appears in a herd.

PMWS lesions are mainly found in the lymphoid tissues and the disease is characterised by wasting, skin pallor, respiratory distress, scouring and sometimes jaundice. Enlarged subcutaneous lymph nodes are seen early in the disease. Lung lesions are seen and liver lesions are occasionally seen. In some pigs kidney lesions are seen and these include white foci in the renal cortex that are derived from a non-purulent interstitial nephritis.

Clinical signs and lesions of PDNS

PDNS (porcine dermatitis and nephropathy syndrome) affects pigs of all ages but usually at a prevalence of <1%. Mortality in older pigs is 100% and 50% in younger (<3 months) animals. Acutely affected pigs die in days.

Typically PDNS pigs are anorexic and depressed with little or no fever. They may have a stiff gait, be reluctant to move and some may even become prostrate. PDNS causes reddish purplish macular and popular skin lesions, especially around the animal's rear end.

Pigs that die from the acute form have both kidneys enlarged.

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