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Pathogenesis

After entering the pig's body the African swine fever virus sets up its site of primary viral replication in the monocytes and macrophages of the lymph nodes nearest the point of viral entry. From there the virus spreads through the blood and/or lymphatic system to sites of secondary replication – such as lymph nodes, bone marrow, spleen, lungs, liver and kidneys. Some 4-8 days post infection a viraemia is established and, due to the absence of neutralising antibodies, persists for weeks or months.

Haemorrhaging is seen in the acute form and the subacute form.

Clinical signs

Wild African pigs are very resistant to infection and do not usually show lesions. European wild boars and domestic pig breeds exhibit a wide range of clinical signs. African swine fever can look like classical swine fever, acute erysipelas or septicaemic salmonellosis.

Usually morbidity is 40-85%. In cases of highly virulent African swine fever mortality, and hence morbidity, can be as high as 90-100%. Moderately virulent viruses cause a mortality of 20-40% in adults and 70-80% in young animals. Viruses of low virulence cause mortality rates of 10-30%.

In peracute African swine fever the only sign is sudden death.

Acute African swine fever causes a loss of appetite, elevated body temperature (40-42°C), extensive necrosis and haemorrhaging in lymphoid tissues, haemorrhages in the skin, especially the skin of the ears and flanks, and high mortality.

Sometimes a terminal laboured breathing and nasal secretions may be seen and, in some cases, there can be nose bleeding, constipation, vomiting and, occasionally, diarrhoea. Melena or blood in faeces may be seen and a reddening or purpling of the skin is commonly seen and these may contain haematomas and/or areas of necrosis.

Abortion is a common occurrence in pregnant stock.

Lesions

Lesions are very much dependent upon the virulence of the viral strain involved. Lesions are typically seen in the spleen, lymph nodes, kidneys and heart and involve haemorrhagic lesions. The kidneys and sometimes the bladder are riddled with petechial (pin point) haemorrhages and the heart sac is often filled with fluid (hydropericardium).

In the thoracic cavity there are petechial haemorrhages on the pleura and a filling of the thoracic cavity with fluid (hydrothorax) is frequently seen.