

SWINE HEALTH

Title: Is Porcine Circovirus Vertically Transmitted - **NPB #98-202**

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Abstract: In order to determine if vertically transmitted porcine circovirus (PCV2) plays a role in reproductive failure in pigs, frozen and fixed tissues were examined by polymerase chain reaction (PCR), immunohistochemistry and virus isolation. Tissues tested were routine cases submitted between 1995-1999 from 30 high health herds in the provinces of Alberta and Saskatchewan comprising a total of 38 individual submissions. PCV1 was not detected by PCR in any submissions. PCV2 was detected by PCR in two submissions involving several stillborn piglets and non-viable neonates presenting with severe diffuse myocarditis, cardiac hypertrophy and evidence of chronic passive congestion. The two positive submissions were the same farm in Alberta, but occurred at two different times. The presence of PCV2 in the hearts and other tissues of affected piglets was confirmed by immunohistochemistry and virus isolation. The effect of extended formalin fixation on the detection of PCV2 by PCR was assessed and tissues fixed for up to one week had no gross effect on sensitivity of detection using this PCR technique. Failure to detect porcine circoviruses in cases of reproductive failure prior to 1999 in areas of endemic infections, suggests that these cases may represent a new disease presentation of PCV2 infection and that vertical transmission may not have been the primary mechanism of initial dissemination in the pig population.

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