ABSTRACTS

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**Canine herpesvirus during pregnancy and non-pregnant luteal phase**

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**OBJECTIVES AND METHODS:** Canine herpesvirus (CHV) is common in Europe, and seroprevalences of 40-90% have been described (1-3). Although canine herpes virus (CHV) is a widespread infection among dogs, the consequences of the infection largely remain unknown. It is well known that CHV causes mortality in neonatal pups (4), especially when the bitch is infected late in pregnancy. As a large proportion of the canine population is latently infected, they can reactivate the infection during for instance oestrus, pregnancy, lactation or other stressful situations. Clinical effects related to a reactivation of a latent CHV-infection have not been clarified, although reproductive disturbances have been suggested. In kennels with many infected bitches, a variety of reproductive disorders during pregnancy has been described, such as resorptions, mumifications and abortions (5).

CHV has also been proposed to be a possible cause of infertility. 17-beta estradiol promotes herpes simplex virus type 1 reactivation in mice (6) and medroxyprogesterone acetate also induced herpes simplex type 1 reactivation (7), although via different mechanisms. Appearance of vulvovaginal papules in bitches, related to CHV infection, has been associated with stage of the oestrous cycle (8). Thus it seems to be an association between viral reactivation and sex hormones. The aim of the present study was to study the effects of CHV infection during pregnancy and to investigate if there is a relationship between antibody titres against CHV and viral excretion.

Twenty bitches were included in the study; 12 case bitches that were mated or inseminated and eight control bitches. Samples were collected from the bitches at optimal mating time: a fully cornified vaginal smear and progesterone concentrations above 30 nmol/L (Day 1) and then on dag 8, 15, 22, 29 and 43. Control bitches were additionally sampled on days 57 and 71. Each time, a blood sample was taken for analysis of antibodies to CHV, and a vaginal swab for PCR analysis of CHV. For antibody analysis, an immunoperoxidase monolayer assay (IPMA) was used (9). Antibody titres were categorised as 80=weakly positive, 160 and 320 = moderately positive, 640 and 1280 = strongly positive. For detection of canine herpesvirus in vaginal swabs, an in-house PCR for glycoprotein B was used. The study was approved by the Uppsala Ethical Committee of Animal Experimentation (C23/9) and the Swedish Board of Agriculture (31-1365/09).

**RESULTS:** All bitches that were mated or inseminated conceived and delivered puppies. All bitches had antibodies to CHV. No consistent changes in antibody titres were seen that could be attributed to pregnancy or luteal phase. Of the case bitches, nine had moderate, two had high and one had low titres on day 1. Of the control bitches, six had moderate and two had high titres on day 1. During the study period, antibody titres varied by two or more dilution steps in five mated and two control bitches. CHV could not be detected from any vaginal sample.

**CONCLUSION:** CHV is a common infection among Swedish dogs. There is no consistent variation in antibody titres due to pregnancy or non-pregnant luteal phase. In this limited material, level of or increase in antibody titre did not affect pregnancy. Changes in antibody titre were not associated with vaginal excretion of CHV.


