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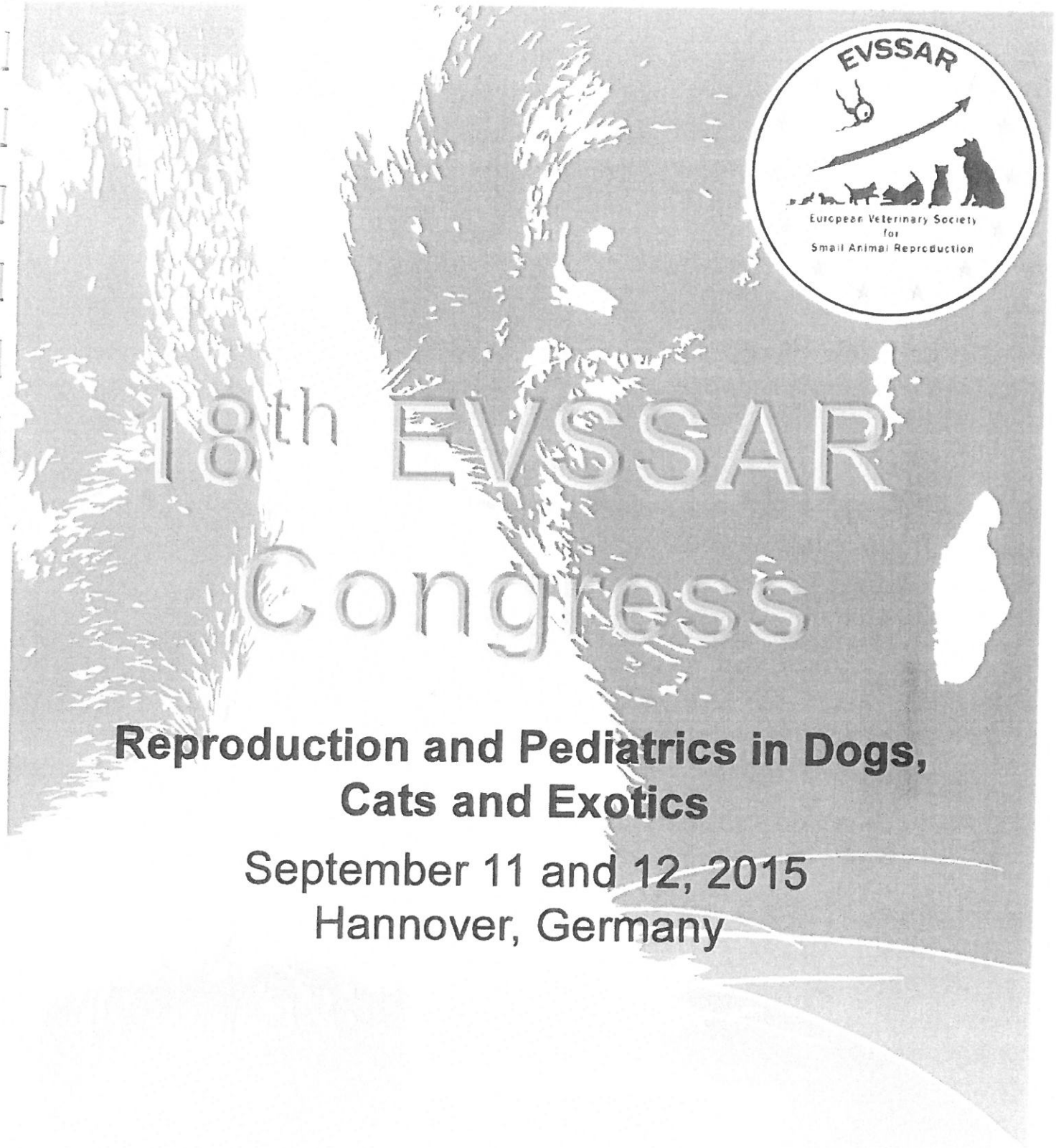

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Effects of aglepristone administration in early estrus – preliminary results

S Bay Kajberg [1], A Wehrend[2], H Körber[1], S Goericke-Pesch[1]
[1]*Department of Large Animal Science, Section for Reproduction and Obstetrics, University of Copenhagen, Frederiksberg, Denmark*
[2]*Clinic for Veterinary Obstetrics, Gynecology and Andrology, Justus-Liebig-University Giessen, Germany*
Email:sgp@sun.ku.dk

Introduction and aim. The canine oestrus cycle has several peculiarities. The preovulatory progesterone increase is one of them. Although widely used for determination of the optimum time for breeding, its role for the oestrus cycle is not understood, but a significant role for ovulation and/or the LH peak has been postulated (1).

Materials and Methods. Five adult Beagle bitches (A) were treated with 10 mg/kg aglepristone in early oestrus at progesterone concentrations of approximately 1 ng/ml (day, D, 0). Injection was repeated 24 hours and 7 days later. On D10, bitches were spayed; uterus and ovaries were measured and processed for further examinations. Blood samples for progesterone and oestradiol-17ß were taken every 12 hours on D0 and from D7-10 as well as every 6 hours on D1-6. Vaginal smears were taken on D0, 1, 2, 4, 6, 8, 10 and stained with Haemacolour®. In all smears, 200 cells were randomly counted and the cell type recorded. Five healthy untreated Beagle bitches sampled and examined at the same intervals served as controls (C).

Results. Fischer's test revealed a significant difference between both groups for the change in cell type identified in the vaginal smears ($p=0.029$). Whereas on days 0 to 6 only superficial cells with large and pyknotic nuclei as well as anucleated cells were identified in both groups, on days 8 and 10 an obvious change in cell type was visible in the control dogs with additionally parabasal and intermediate cells (small and large) being found in the control dogs, but not in the treated dogs. The maximum number of superficial cells with large nuclei was identified on day 0 in both groups (C: 134.67 ± 7.76, A: 98.75 ± 59.97) with a second maximum on day 6 (C: 103.8 ± 34.11, A: 91.75 ± 36.08). Maximum number of superficial cells with pyknotic nuclei was counted on day 2 (C: 96.20 ± 21.85, A: 86.00 ± 26.61). Maximum number of anucleated cells was identified on day 2 in the control group (C: 43.20 ± 36.71), but on day 8 in the treated group (A: 60.40 ± 36.71). Number of superficial cells with pyknotic nuclei as well as anucleated cells was significantly decreased on day 10 in the control group. Different to that superficial cells with pyknotic nuclei were almost as high on day 10 as on days 6 and 8 in treated animals. Besides, a significant difference between groups was identified for estradiol-17ß concentrations using the Wilcoxon-Mann-Whitney Test with concentrations remaining significantly higher in the treated group.

Conclusion. Treatment with an antiprogestin in early oestrus significantly influences the course of oestrus as indicated by estradiol-17ß concentrations and vaginal cytology. Further studies are needed to investigate whether ovulation is influenced by treatment, e.g. prohibited or delayed.

References. Concannon PW, Anim Reprod Sci 2011; 124:200-10