Induction of fertile estrus in bitches using eCG followed by hCG

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The aim of this study was to assess the efficacy of eCG followed by hCG to induce a fertile estrus and a CL capable of maintaining pregnancy in the bitch. Twenty-two healthy bitches (Sherman Sheepdog; n=4, Labrador, n=3; Pug, n=9, and West Highland, n=6) aged between 2 and 5 yr, in late anestrous were used in a randomized design. Bitches were divided into two groups. Group I, received a single dose of eCG (50 IU/kg, im; Novormon®, Syntex SA, Argentina) followed seven days later by a single dose of hCG (500 IU, im; Ovusyn®, Syntex SA, Argentina; TRT) and Group II, received 1 ml of saline solution (PLA, im). In TRT group, blood samples were taken to measure serum P4 concentrations before treatment to confirm anestrous, and after first day of diestrus to confirm ovulation by presence of a CL. In PLA group, anestrus was estimated by date of previous estrus. In both groups, estrus behavior (score 1-3) was recorded and vaginal cytology (score 1-5) was obtained before treatment to confirm anestrous and after treatment to confirm estrus or anestrus (PLA, every other week, up to 4 months). All samples were centrifuged and stored at -20°C until P4 was measured by solid RIA. Data were analyzed by ANOVA. Data are represented as least square means ± SEM. Significance was defined as p<0.05. Before treatment, vaginal cytology scores were similar between TRT and PLA (1.21±0.09 vs. 1.00±0.12, P<0.18). After treatment, vaginal cytology scores and estrus behavior scores were higher in TRT compared to PLA (4.78±0.09 vs. 1.00±0.09, P<0.001; 2.92±0.05 vs. 1.00±0.07, P<0.001). While all bitches in TRT group had estrus behavior, none in PLA group had estrus behavior (14/14 [100%] vs. 0/8 [0%], P<0.001). In addition, bitches in TRT group had shorter intervals from treatment to estrus compared to PLA group (4.14±3.38 vs. 74.5±4.48 days, P<0.001). Serum P4 concentrations before TRT were 0.72±0.31 ng/ml and after TRT were 22.85±4.27 ng/ml. The interval from TRT to first day of diestrus was 16.64±0.63 days. Ninety-three percent (13/14) of the bitches were bred (AI, n=6; natural, n=7), 77% (10/13) became pregnant and whelped 3.62±0.41 puppies. From this trial we conclude that 50 IU/kg of eCG combined seven days later with 500 IU of hCG was effective to induce a fertile estrus and corpora lutea capable of maintaining pregnancy in bitches.

Keywords: Bitch, estrus induction, eCG, hCG, pregnancy.