Comparing deslorelin implants or oral diethylstilbestrol to induce estrus in the bitch
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Estrus induction is sometimes requested when prolonged interestrus intervals have occurred, or to produce more embryos in a shorter time period. The objective of the study was to determine the efficacy of estrus induction in bitches using deslorelin implants (OVUP) or oral diethylstilbestrol (DES) in an embryo transfer project. The hypothesis was that DES would be as efficacious at inducing estrus as OVUP. Estrus induction was attempted 29 times in 19 adult, Walker-type hound (~30 kg) bitches housed at the Louisiana State University School of Veterinary Medicine. The true interestrus was not always known before the initial induction protocol, and if unknown, was calculated based on the date of a progesterone concentration of < 2ng/mL after enrollment in the study. Subsequent cycles had interestrus intervals calculated from the previous day one of cytologic diestrus. All bitches had estrous cycles monitored by vaginal cytology every other day until day one of cytologic diestrus and serum progesterone until a value confirming ovulation (>5 ng/mL). Oviductal embryo recovery following ovariectomy at 10 d post-LH peak (progesterone rise > 2 ng/mL) was attempted in nine bitches following estrus induction using 5 mg oral DES daily for 5 to 7 d (n=5; OVX-DES), or a single subcutaneous deslorelin implant (Ovuplant®, Wyeth Animal Health, Guelph, Ontario, CA) inserted into the vulvar mucosa (n=4; OVX-OVUP). Non-surgical or surgical embryo recovery 13 to 15 d after an initial rise in progesterone > 2 ng/mL was attempted following estrus induction using OVUP (n=10; OVUP-1) followed by a second attempt (n=8; OVUP-2); and a single bitch had four attempts (OVUP-3). Results for each group were compared to the OVX-DES group by Fisher’s exact tests. Corpora lutea were found after ovariectomy in two of five bitches in the OVX-DES group, however progesterone only increased to 3 ng/mL after day one of cytologic diestrus. Because of this abnormal progesterone pattern, these cycles were not considered normal. The interestrus intervals, estrual response rates (P value), and days to LH peak from treatment were 22.2 ± 9.0, 0% (0/5), 26.5 ± 13.4 for the OVX-DES group, 24.8 ± 8.8, 100% (4/4) (P=.0079), 8.8 ± 0.5, for the OVX-OVUP group, 68.2 ± 29.4, 60% (6/10) (P=0.044), 11.4 ± 0.8, for the OVUP-1 group, and 22.2 ± 9.0, 100% (8/8) (P=0.0008) 11.6 ± 2.9 for the OVUP-2, group, respectively. No embryos were recovered from either of the OVX groups, and embryos (n=1) or pregnancies (n=4) were found in 33.3% (5/15) of the successful deslorelin estrus inductions.

The hypothesis that DES is as efficacious at inducing estrus as OVUP was not supported. The OVUP treatment was more efficacious than DES.

Keywords: Estrus, estrous induction, deslorelin, canine, diethylstilbestrol

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