Effects of two d-cloprostenol administrations given at different intervals on estrus and ovulation in cyclic dairy goats

Efeitos de duas administrações de d-cloprostenol feitas em diferentes intervalos no estro e na ovulação em cabras leiteiras cíclicas

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Goats are seasonal breeders depending on breed and latitude. Among the hormonal methods used in controlled reproduction programs, there are those that mimic the activity of the corpus luteum and those that inhibit it. Prostaglandin (PGF2α) fits the latter, with the advantage of having a better cost-benefit, since it is cheaper and more natural method, as it has fewer side effects than progestin devices. In addition, the literature is incipient regarding follicular and ovulatory data in goats subjected to PGF2α or its analogues. This study aimed to check in dairy goats the efficiency of estrus synchronization treatment using two doses of d-cloprostenol administered in different intervals, during the natural breeding season. Sixteen goats received two doses of 37.5 µg d-cloprostenol (Prolise®; ARSA S.R.L., Buenos Aires, Argentina) by latero-vulvar route at intervals of 7.5 days (T7.5; n=8) or 11.5 days (T11,5; n=8). The administrations were performed at 05:00 a.m. (first dose) and 06:00 p.m. (second dose). After the second dose, estrus was monitored twice a day. Transrectal ultrasound equipment (M5 Vet®, Mindray, Shenzhen, China) coupled with 7.5 MHz linear transrectal transducer was applied to perform ovarian ultrasound evaluations after the second dose every 12 h for four days. For statistical analysis, SAEG® 9.0 software (UFV, Minas Gerais, Brazil) was used. Descriptive statistics was used for follicular and ovulatory data.Non-parametric data were assessed by Fisher's exact test. Pearson's correlation was performed between variables. The significance level adopted was 5%. Overall, there were no differences (P>0,05) between 7.5 and 11.5 groups, respectively: estrous response (87,5% or 7/8 *vs* 75 % or 6/8), intervals from second dose to estrus onset (41.1 ± 6.8 *vs* 48 ± 2.6 h), ovulation (66.8 ± 8.3 *vs* 70.3 ± 8.1 h), estrus onset to ovulation (25.7 ± 5.3 *vs* 25.7± 5.0 h), number of ovulations (2.8 ± 0.3 *vs* 2.5 ± 0.4). A negative correlation was observed (r = - 0.71, P < 0.01) between interval from second cloprostenol administration to ovulation and number of ovulations. The results quoted above suggest that the administration of d-cloprostenol in cyclic dairy goats can efficiently synchronize estrus and ovulation and this fact encourages further studies using these protocols in association with Fixed Time Artificial Insemination in goats.

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***Palavras-chave**: estrus; synchronization; prostaglandin; goat; ovulation.*