Animal Reproduction

OPU and ET

Cervical relaxation protocol without estradiol benzoate is efficient to allow transcervical uterine flushing in Dorper ewes

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This study evaluated the efficiency of non-surgical embryo recovery (NSER) with cervical relaxation protocol using different doses of estradiol benzoate (EB) in ewes. A total of 36 pluriparous Dorper ewes received intravaginal sponges containing 60 mg of medroxyprogesterone acetate (Progespon®, Zoetis, Brazil) for 9 d plus an injection of 300 IU of eCG (Novormon®, Zoetis, Brazil) i.m. 24 h before sponge removal. Ewes were not mated and were randomly assigned to receive i.m. 37.5 µg of d-cloprostenol (Prolise®, Agener União Saúde Animal, Brazil) and different doses of EB (RIC-BE®, Agener União, Brazil) i.m. at 16 h before NSER: 0.0 mg (0.0EB; *n*=12); 0.5 mg (0.5EB; *n*=12) or 1.0 mg (1.0EB, *n*=12). All ewes also received oxytocin (50 IU; Ocitocina Forte UCB®, UCBVet, Brazil) i.v. 20 min before NSER, which was performed 8 days after sponge removal. Corpora lutea (CL) were counted by transrectal ultrasonography 24 h before NSER. After NSER, ewes were kept in natural breeding for seven weeks. Present data were analyzed using R software (version 3.6.1, The R foundation for Statistical Computing). Fisher Exact Test was used for non-parametric data, while parametric data (mean±SEM) were analyzed by ANOVA and Tukey test, considering $P<0.05$ as significant. Average CL count ($P>0.05$) was 2.0±0.3 (0.0EB), 2.1±0.3 (0.5EB) and 1.7±0.2 (1.0EB). NSER was successfully performed in 91.7% [33/36 (0.0EB = 83.3%; 0.5EB = 91.7%; 1.0EB = 100.0%)] of the animals and overall fluid recovery efficiency was over 97% ($P>0.05$). The successful Hegar transposing rate was 100.0, 91.7 and 100.0% for 0.0, 0.5 and 1.0 EB groups, respectively ($P>0.05$) and the duration of cervical transposing with Hegar dilator was longer ($P<0.05$) in 0.0EB (4.2±0.3 min) compared to both 0.5EB (1.7±0.3 min) and 1.0EB (1.5±0.3 min) groups. Similarly, the cervical transposing with mandrel/catheter was longer ($P<0.05$) in 0.0EB (2.4±0.5 min) than 1.0EB (1.3±0.5 min). Mean duration of uterine flushing was 19.2±1.2, 21.4±1.4 and 18.6±1.1 min and the oocyte recovery rate was 52.6, 39.1 and 40.0% for 0.0, 0.5 and 1.0EB groups, respectively ($P>0.05$). Ewes with at least one oocyte recovered represented 70.0 (0.0EB), 60.0 (0.5EB) and 58.3% (1.0EB). The post-NSER fertility differed ($P<0.05$) between 0.0EB (90.0%) and 0.5EB, (36.4%) while 1.0EB was similar to both (58.3%). In conclusion, cervical relaxation protocol without EB could be successfully used for NSER in Dorper ewes without impairing technical viability and the post-NSER fertility. Financial support: Embrapa (22.13.06.026.00.04) and Fapemig (CVZ-PPM 00201-17). KEYWORDS: transcervical, embryo collection, sheep