



Efficient transcervical embryo collection in synchronous estrus-induced Lacaune ewes

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Induction of cervical dilation allows efficient non-surgical embryo recovery, depending on the sheep breed, and thus its usefulness needs to be assessed in each breed. This study checked the efficiency of two estrus induction treatments and the feasibility of transcervical embryo recovery in Lacaune ewes. Ewes (n=28) received medroxyprogesterone acetate sponges (60 mg, Progespon[®], Syntex, Buenos Aires, Argentina) for nine (G9, n=14) or six (G6, n=14) days. Both groups received 37.5 µg d-cloprostenol i.m. (Prolise[®], Tecnopec, São Paulo, Brazil) and 400 IU eCG i.m. (Novormon 5000[®], Syntex) 24 h before sponge removal. Ewes were checked for estrus twice daily and were naturally mated by fertile rams (6:1 ratio) while in estrus. Ultrasonography monitoring (Mindray M5VET[®], Shenzhen, China - 8.0 MHz) was performed twice daily from sponge removal to ovulation detection and 5 days after to count the number of corpora lutea (CL). Ewes received 37.5 µg d-cloprostenol and 1 mg estradiol benzoate i.m. (Sincrodiol[®], OuroFino, Cravinhos, Brazil) 16h before plus 50 IU oxytocin (Ocitocina forte UCB[®], São Paulo, Brasil) i.v. 20 min before uterine flushing. Embryo collection was performed at day 6 after ovulation by transcervical technique (Fonseca et al., *Theriogenology*, 86:144-151, 2016). Qualitative data were tested by chi-square test, and quantitative data were evaluated by ANOVA and t-test at 5% significance, using SPSS Statistics (IBM[®] Inc., Chicago, USA). Estrous behavior rate was 85.7% for both treatments. There was no difference (P>0.05) for interval to estrus and estrus duration, respectively for G9 (37.0 ± 2.3 and 22.0 ± 2.9 h) vs G6 (42.0 ± 7.0 and 25 ± 2.3 h). Ovulation rate was 100% (G9) and 92.9% (G6) (P>0.05). The number of CL was higher (P<0.05) in G9 (2.9 ± 0.3) than G6 (1.9 ± 0.3). Overall, cervical transposition was possible in 85.7% (24/28) of ewes and 78.6% (22/28) were successfully collected for embryos. The time to cervical passage was lower (P<0.05) in G9 (3.6 ± 0.5) than G6 (6.4 ± 1.2 min). The total procedure time in G9 (23.8 ± 1.8) and G6 (26.5 ± 2.5 min) did not differ (P>0.05). In G9 ewes, the number of recovered structures was higher (1.6 ± 0.4 vs 0.6 ± 0.2; P<0.05) and there was a tendency (P<0.10) to recover more viable embryos (1.2 ± 0.4 vs 0.4 ± 0.2). Possibly, eCG dosage promoted multiple ovulations (> 2) in 50% of the ewes that ovulated, and two ewes had five ovulations. This is the first report in the literature of transcervical embryo collection in the Lacaune breed. In conclusion, both estrous induction treatments showed a high rate of estrus and ovulation, but the dosage of 400 IU of eCG seems excessive. The protocol for cervical relaxation was efficient to allow the transcervical embryo recovery of Lacaune ewes. CAPES and Vicente M. Munhoz (Cabanha Val di Fiemme). Financial support: EMBRAPA (Project 02.08.02.005.00.04) and Fapemig (Project CVZ-PPM 00201-17).