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Viability of transcervical embryo transfer in goats

L.V. Esteves¹, F.Z. Brandao¹, F.N. Zambrini², J.M.G. Souza-Fabjan¹, M.R. Silva³,
A.L.R. Rodrigues¹, J.F. Fonseca⁴

¹Universidade Federal Fluminense; ²Universidade Federal de Viçosa; ³EMBRAPA Gado de Leite; ⁴EMBRAPA Caprinos e Ovinos - Núcleo Regional Sudeste.

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Embryo transfer consists in the deposition of the embryo in the recipient uterus. The results of recipient's fertility vary widely depending on the origin of these embryos: fresh or cryopreserved and produced in vivo or in vitro. Typically, pregnancy rates ranging from 40 to 80% are reported. The objective of this study was to test the feasibility of non-surgical embryo transfer of goat fresh embryos. Pluriparous goats (n=28) received intravaginal sponges containing 60 mg medroxy acetate progesterone (MAP; Progespon[®], Syntex, Buenos Aires, Argentina) for six days, 30mg d-cloprostenol (Prolise[®], ARSA S.R.L., Buenos Aires, Argentina) latero-vulvar and 200 IU eCG (Novormon[®] 5000; Syntex, Buenos Aires, Argentina) i.m., both at 24 h before sponge removal. After sponge removal, females were teased individually every 12 h to identify the onset and end of estrus. All animals were evaluated by transrectal ultrasound one day before transfer for identification of corpora lutea. At the seventh day of estrous cycle, the females received embryos by transcervical via, through the use of Collin speculum, Allis forceps and urethral catheter (Arq. Bras. Med. Vet. Zoo., 66(2):613-616, 2014). As the technique is minimally invasive, similar to routine procedures as Artificial Insemination, anesthesia was not used. The following end points were evaluated: type (morula/blastocyst) and classification (grade I, II and III) of embryos, the number of embryos transferred per recipient, number of corpora lutea presented per recipient and uterine horn receiving the embryo (right/left). For data analysis, logistic regression models (univariate and multivariate) were performed using the Epi Info version 3.5.3 software. All synchronized females presented estrus. The pregnancy rate was superior (P<0.05) to blastocysts (45.5%; 5/11) when compared with morulae (16.0%; 4/25) and for Grade 1 embryos (55.6%; 5/9) compared to Grade 2 (23.1%; 3/13) or Grade 3 (7.1%; 1/14). There was no effect (P>0.05) in the number of embryos transferred per recipient or uterine horn to which the embryos were transferred on the pregnancy rate. Recipients presented from one to three corpora lutea per ovary and the number of corpora lutea did not affect the pregnancy rate (P>0.05). At parturition, 14 kids were born representing 38.9% of birth (14/36). The results of this study suggest that embryo transfer may be successfully performed by the non-surgical via in goats, representing an alternative to the surgical traditional procedure.

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