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Administration of hCG on the seventh day after initiation of estrus may circumvent negative effects of cervical relaxation protocol in sheep: Preliminary results

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Cervical relaxation with association of estradiol benzoate, cloprostenol and oxytocin allows a cervical transposition and embryo collection in sheep by the non-surgical method (Fonseca et al., *Theriogenology*, 86: 144-151, 2016). However, in recipients, the use of this protocol becomes impracticable due to the use of cloprostenol, which is a luteolytic agent. Sheep are known to form accessory luteal bodies after hCG administration seven days after the onset of estrus (Castro et al., *Anim. Reprod.*, 12: 148, 2015). Therefore, the objective of this study was to develop a cervical relaxation protocol in embryo recipient ewes without compromising future gestation. For this, cyclic crossbred sheep (n = 24), with body weight and mean body condition score (ECC) of 50.8 ± 9.0 kg and 3.5 ± 0.35 respectively, were submitted to estrus synchronization by administration of two doses 30 µg of d-cloprostenol (Prolise®, Tecnopec LTDA, São Paulo, Brazil), with an intramuscular (i.m.) interval of 11.5 days. Two rams (Santa Inês and Lacaune), previously submitted to breeding soundness evaluation, were used in the detection of estrus every 12 hours from the second application of cloprostenol for 96 h. The females were mated at the beginning of estrus (D0) and every 12 hours if still in estrus. According to weight, ECC and estrus onset, the mated females were allocated in the following groups: Group 1 = that were not submitted to cervical relaxation protocol (control, n = 4); Group 2 = submitted to cervical relaxation protocol (n = 5) by administering 1 mg of BE (Benzoate HC®, Hertape Calier, Minas Gerais- Brazil) i.m, on day D6 (16:00h) and 50 IU of OX (Oxytocin Forte UCB®, UCB animal health, São Paulo - Brazil), i.m. no D7 (08:00h); Group 3 = submitted to relaxation protocol + 300 IU hCG (Vetecor®, Hertape Calier, Minas Gerais- Brazil) i.m., at D7 at 4:00 p.m.(n = 4). Pregnancy diagnosis was performed on D30 by transrectal mode B ultrasonography using a 7.5 MHz linear transducer (Mindray® M5vet, Shenzhen, China). The data were presented in a descriptive way. Thirteen ewes were observed in estrus out of 24 females submitted to the synchronization protocol. The pregnancy rate were 75.0% (3/4) in G1, 0.0% in G2 (0/5) and 50.0% in G3 (2/4). Preliminary results suggest that the association of estradiol benzoate and oxytocin may compromise the onset of pregnancy and that the use of hCG at the end of the protocol in D7 can circumvent partially these negative effects, allowing the establishment of pregnancy.