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### **Cervical dilatation in Santa Ines ewes induced with misoprostol, oxytocin and estradiol for development of non-surgical method for embryo recovery**

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The objective of this study to develop a pharmacological protocol cervical dilatation in ewes Santa Ines aimed at collecting embryos transcervical. Multiparous ewes were used (n=30), cyclic, aged 24 and 48 months, with an average weight of  $50.7 \pm 5.4$  kg and body scores between 2.75 and 3.5 (1-5) in design experimental model in "cross-over". The oestrus of the females was synchronized with short protocol and collection procedures were performed on the 14th day after estrus. Each animal received a dose of 0.5 ml of D-cloprostenol 12 hours before the procedure. All groups received epidural injections of 2.0 mg / kg ketamine (ketamine Agener® Agener Animal Health Union - São Paulo, Brazil) administered in the intervertebral space L7-S1. The experimental groups were: CG = control; GMI = misoprostol; GMiOE = misoprostol, estradiol and oxytocin; GOE = estradiol and oxytocin. The groups who used misoprostol received 5h before the procedure, 200µg of the drug (Prostokos®, Hebron Laboratory, Caruaru, Brazil) diluted in 1.5 mL of saline deposited directly on the cervical ostium. The estradiol benzoate (RIC-BE® Tecnopec, São Paulo, Brazil) was administered intravenously at a dose of 100 ug per animal, diluted in saline 2.5 mL + 2.5 mL of ethanol, 12 hours before the procedure. Oxytocin (Oxytocin Strong UCB®, Centrovét, Goiania, Brazil) was administered intravenously at a dose of 100 IU per animal, 15 minutes before the procedure. The animals were sedated with acepromazine association (0.1mg / kg Acepran®, Vetnil, Louveira, Brazil) and diazepam (0.2 mg / kg diazepam, Teuto Anapolis, Brazil) via IV and after ten minutes, received the injection epidural. The cervix was pinched, pulled to the vulvar commissure and fixed with two clamps to the side Pozzi cervical ostium. Cervical transposition attempts were made with a Hegar candle 10, 20 and 40 minutes after the epidural each trial persisted five minutes. The transposition was confirmed by injecting and recovering from 20 to 40 ml of saline. Data were analyzed in SAEG program (Statistical Analysis System, Version 9.1: Arthur Bernardes Foundation - UFV - Viçosa, 2007) and submitted to Fisher's exact test with 95% significance level. The cervical transposition rate varied between the groups, in which GOE introduced rate of 90% (27/30) did not differ from GMiOE, with a rate of 86.2% (25/30), but demonstrated superiority to other groups. In GMI group was possible to transpose 68.9% (20/29) of cervixes equivalent value ( $P > 0.05$ ) GMiOE and GC (62.1% - 18/29). The study proved the possibility of increasing the cervical transposition rate in ewes Santa Ines with the use of hormonal associations, enabling the collection of embryos transcervical in sheep, avoiding surgery.