

## **B-mode ultrasonography evaluation of superovulatory response in Brazilian native goats** *Avaliação ultrassonográfica modo-B da resposta superovulatória em cabras nativas brasileiras*

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The use of B-mode and color Doppler ultrasonography may replace the use of surgical methods (laparoscopy or laparotomy) in the evaluation of the superovulatory response in sheep, with an accuracy around 74% and 82%, respectively (Oliveira et al. 2018. *Reprod Dom Anim*, 53:742–750). The ultrasound determination of ovarian response in embryo donor goats still needs to be proven, especially because the non-invasive technique is mandatory when the embryo collection is done by transcervical route. The aim of this study was to correlate the quantification of corpora lutea (CLs) determined by B-mode ultrasound evaluation with the number of recovered structures obtained by transcervical embryo collection of superovulated goats. Canindé (n=15) and Moxotó (n=15) goats received an intravaginal acetate medroxyprogesterone sponge (60 mg of MAP, Progespon®, Syntex, Buenos Aires, Argentina), which was maintained for 6 days. At the time of MAP sponge insert was administrated i.m. d-cloprostenol (37.5 µg, Prolise®, Agener Union, Brazil). The superovulatory treatment started 60 hours before the MAP sponge removal, with six decreasing doses (25, 25, 15, 15, 10 and 10%) of p-FSH (133mg, Folltropin V®, Vetoquinol, Brazil) injected i.m. every 12 hours. Females in estrus were mated by fertile male goats. One day before the transcervical collection was performed the B-mode transrectal ultrasound exam using an equipment (Z5®, Mindray, China) with a stiffened multifrequency linear probe. The uterine flushing was performed by transcervical technique eight days after the MAP sponge removal. The number of corpora lutea and the number of recovered structures were determined and them correlated by Pearson correlation test (P<0.05). Only ten Canindé goats were submitted to transcervical embryo collection, of which four did not manifested estrous and in another one, the uterine flushing was not possible due to vaginal stenosis. Only two Moxotó goats did not manifested estrous after the protocol. It were observed by B-mode ultrasound 104 and 167 CLs and in average 10.4 (range: 1 to 16) and 13.9 (range 7 to 27) CLs per each female, for Canindé and Moxotó goats, respectively. The recovery rates (i.e. CLs count by the number of structures recovered) were 35.5% (37/104) and 53% (88/167), respectively. Only in one goat the number of recovered structures was higher than the number of CLs count, resulting in a recovery rate of 108%, 13/12). As the superovulatory response is highly variable (Oliveira et al., 2018), the recovery rate can vary from 35 to 91% (Fonseca et al. 2016. *Therio*, 86: 144-151). Despite this, there was a significant positive correlation (r=0.57, r<sup>2</sup>=0.33, P < 0.01) between the number of recovered structures and the number of CLs. In view of the above, it is possible to indicate that the B-mode ultrasound evaluation of superovulatory response of goats is feasible and indispensable when the embryos collection is made by non-surgical technique.

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**Palavras-chave:** caprinos, superovulação, colheita de embriões transcervical, diagnóstico por imagem.