Animal Reproduction

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# EXPOSURE TO PROGESTERONE PRIOR TO TAI DOES NOT INTERFERE WITH OOCYTE QUALITY AND GENE EXPRESSION OF CUMULUS CELLS OF Bos indicus IN ANESTRUS COWS

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## Resumo

The objective was to evaluate the oocyte and cumulus cell quality in Bos indicus cows supplemented with injectable progesterone prior to the FTAI protocol. Bos indicus multiparous cows (n=30) were randomly assigned to two experimental groups (Control and P4i). Control group cows did not receive treatment prior to the FTAI protocol. In the P4i group, cows received 150 mg of injectable progesterone ten days before the start of the follicular emergence synchronization protocol (D-10). On D0, the cows received 2mg of estradiol benzoate and an intravaginal progesterone device. Five days later (D5), the cows were submitted to follicular counting and aspiration (OPU). After follicular aspiration, oocytes were evaluated for quantity and quality (color, homogeneity and integrity of the cytoplasm, as well as the number and degree of compaction of cumulus cells) and stored for gene expression evaluation. The relative expression of target genes in oocytes (GDF9 and BMP15) and cumulus cells (BAX, BCL2 and HAS2) were evaluated by real-time PCR. Statistical analyses were performed by SAS. There was no difference among treatments in the number of aspirated follicles (Control=25.8±2.6; P4i= 27.4±5.4; P=0.63), in the total of retrieved oocytes (Control=15.4±1.6; P4i=13.1±1.8; P=0.15), in the number of grade 1 oocytes (Control=2.3±0.6; P4i=1.8±0.5; P=0.32), grade 2 (Control=4.1±0.4; P4i=3.7±0.9; P=0.70), grade 3 (Control=3.6±0.7; P4i=3.6±0.7; P=0.90), degenerate (Control=5.3±0.9; P4i=3.9±0.5; P=0.15), the oocyte quality index (Control=2.8±0.1; P4i=2.9±0.1; P=0.86) and the rate of viable oocytes (Control=65.3%; P4i=69.9%; P=0.36). Similarly, no differences were observed in the quantification of GDF9 transcripts among groups (P=0.52); as well as BMP15 (P=0.74), BAX (P=0.62), BCL2 (P=0.78), BAX/BCL2 (P=0.59) and HAS2 (P=0.55). It is concluded that injectable progesterone prior to the FTAI protocol does not improve oocyte quality and does not interfere with the metabolism of cumulus cells evaluated according to this methodology.