



A044 OPU-IVF and ET

### **Effect of the anticipation of intrafollicular transfer of immature oocytes (IFIOT) in the nuclear maturation of bovine oocyte**

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Previous results in our laboratory demonstrated that when intrafollicular transfer of immature oocytes (IFIOT) is performed 52 to 54 hours after the removal of the progesterone implant, the time that CCO's remain in the follicle is insufficient for them to complete nuclear maturation. Therefore, the objective of this study was to evaluate nuclear maturation of bovine oocytes submitted to IFIOT 30 hours after the removal of the progesterone implant. Twenty-six Nelore ovulators (*Bos taurus indicus*) were synchronized on day 0 (D0) with the insertion of an intravaginal progesterone implant (1g) and 2mg benzoate estradiol. On day 8 (D8), the implant was removed and 500 µg Cloprostenol sodium (PGF) was administered (i.m.). Thirty hours after implant removal (D9<sup>1/2</sup>), grades 1 and 2 COC's, were injected into the dominant follicle (diameter > 10mm). The CCOs were obtained from slaughterhouse ovaries and in each replicate part of the oocytes were used for IFIOT and part for IVM. All manipulation of the oocytes was performed in follicular fluid. After the IFIOT, the animals were distributed into two groups: Group LH, animals (n = 5) received a dose of an analogue of LH (1.25 mg) after IFIOT or Group GnRH (n = 7), that received a dose of GnRH (50 µg). After 22 hours, oocytes from both groups were retrieved by ovum pick up (OPU). For the IVM group, immature oocytes (CT 0) and oocytes matured *in vitro* for 22 hours (CT 22) were used. Oocytes from all groups were denuded, fixed and stained with Lacmoid for the evaluation of the meiosis stage. The oocytes were classified as: germinal vesicle (VG), germinal vesicle breakdown (VGBD), metaphase I (MI), anaphase I (AI), telophase I (TI), metaphase II (MII) and abnormal. Data were analyzed by chi-square test (P < 0.05). The mean size of the dominant follicle at the time of IFIOT was 11.93 (± 0.98) mm. The mean recovery rate (OPU) after 22 hours of IFIOT was 67.25%, being 76% for the LH group and 62% for the GnRH group. A total of 379 oocytes (CT 0, n = 81, CT 22, n = 56, LH 22, n = 106 and GnRH 22, n = 136) were evaluated. At 0 hour, 98.76% of the oocytes were in VG. At 22 hours of maturation, the percentage of oocytes that reached the MII was similar (P > 0.05) between the groups (CT 22 = 75%, GnRH = 72.05%, and LH = 67.92). The results demonstrated that the 22 hours intrafollicular maturation period is adequate for oocyte maturation within the follicle. Further studies need to be performed to evaluate the competence of these oocytes. Support: CAPES