

Effects of intrafollicular transfer of immature oocytes in the bovine follicular environment – Preliminary results

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Intrafollicular transfer of immature oocytes (IFTIO) is a promising technique but the results obtained to date are not satisfactory for use on a commercial scale. Therefore, this study aimed to evaluate the impact of the injection and the number of oocytes injected into the follicle on the biochemical profile of the follicular fluid (FF). Animals were synchronized (Faria *et al.*, *Reproduction, Fertility and Development* 33(5) 372-380, 2021) and 30 h after removal of the P4 implant, those that had follicles larger than 10 mm were used for the experiment. Groups of 25 and 50 COCs recovered from slaughterhouse ovaries were used for IFTIO. On the day of the experiment, animals were distributed into four treatments: 1. NIFTIO: FF was aspirated by OPU 18 hours after IFTIO time (n = 7); 2. IFTIOM: FF was aspirated by OPU 18 hours after IFTIO being performed only with PBS medium (n = 7); 3. IFTIO25: FF was aspirated by OPU 18 hours after IFTIO being performed with PBS medium containing 25 COCs (n = 8); 4. IFTIO 50: FF was aspirated by OPU 18 hours after IFTIO being performed with PBS medium containing 50 COCs (n=8). After recovered FF samples were centrifuged and stored at -80°C for posterior analysis. FF of all treatments were evaluated for hormone concentrations (P4, E2, Testosterone and Cortisol) by chemiluminescence, Glutathione (GPx) concentration by Glutathione Peroxidase Assay Kit (Cayman® Chemical®, MI, USA) and concentration of total antioxidant activity by iron reducing/antioxidant power assay (FRAP). Data were analyzed by ANOVA or Kruskal-Wallis test (P<0.05). Of the four hormones analyzed, only P4 showed a lower concentration (P<0.05) in the NIFTIO (107.06 ng/mL) compared to IFTIOM (172.37 ng/mL) which was similar to the other groups. As for E2, a higher concentration (P<0.05) was observed in NIFTIO (300.23ng/mL) compared to the IFTIOM (68.92 ng/mL), the others groups did not differ from each other (P>0.05). No changes were observed among all treatments on the levels of cortisol, which change from 5.56 to 9.21 ng/mL, and testosterone levels that varies between 9.96 and 23.15 ng/mL (P>0.05). Regarding to total antioxidant activity, no difference (P>0.05) between treatments were observed by FRAP analyses, but a higher GPx activity (P<0.05) was detected in IFTIO 25 group compared to IFTIO 50, being similar among the others groups (P>0.05). Even though some changes were observed among treatment in the biochemical parameters, there was no clear effect of the injection or the number of COCs on those changes. Therefore, more samples should be analyzed to better clarify this effect on the biochemical profile of the FF. Financial Support: FAP-DF, Embrapa, CAPES and CNPq.