

Abstracts - 35th Annual Meeting of the Brazilian Embryo Technology Society (SBTE)**OPU-IVF and ET**

Morphological classification of cumulus-oocyte complexes and in vitro embryo production outcomes

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Resumo

The morphological classification of embryos usually uses as reference the International Embryo Technology Association (IETS) standards. Conversely, there is no consensus on how to evaluate cumulus-oocyte complexes (COC) aspirated from ovarian follicles aiming at in vitro embryo production (IVEP). Different classification scores have been proposed, most of them based on the numbers of layers of cumulus cells and on the aspect of cytoplasm. However, many commercial laboratories prefer to use a less detailed classification system, such as viable or non-viable. Moreover, the use of transvaginal ultrasound-guided follicle aspiration (OPU) subject COC to higher shear stress, compared with aspiration of follicles from slaughterhouse ovaries, and thus result in COC with less average cumulus cells. Therefore, the aim of this study was to evaluate whether the morphological classification routinely adopted really had a predictive value to estimate blastocyst rates. The work was carried out at the in vitro embryo production laboratory - Norte Embryo, located in the Alta Floresta city, Mato Grosso State. COC recovered at slaughterhouse from Nelore cow ovaries were morphologically evaluated and those classified as grades I (GI, n=458), II (GII, n=344) or III (GIII, n=213) were allocated in separated groups and used for IVEP. Data from COC recovered by OPU from Nelore donors during the same period and classified simply as viable were also used for comparisons. IVM and IVF were performed under the same culture conditions (5.5% CO₂, 38.5 C). The semen used was from an Angus bull of known fertility at IVF. Presumptive zygotes were cultured under low oxygen tension (5.5% CO₂, 5.5% O₂, at 38.5 C). The cleavage rate was determined at day 3, and blastocysts rates at days 6 and 7. Data were evaluated by the Proc Glimmix method using the SAS software (SAS Institute). For the COC recovered at slaughterhouse, quality grade affected neither cleavage (72.1%, 65.4% and 65.7% for GI, GII and GIII, respectively; P=0.0838), nor blastocysts rates at days 6 (24.7%, 25.9%, and 26.3%; P=0.5220) or 7 (32.1%, 33.4% and 35.2%; P=0.7231). The average cleavage and blastocyst rates from slaughterhouse COC (pooled grades I, II and III) were not different from those obtained with COC recovered by OPU (68.5% vs 62.8% and 33.2% vs 30.1%, respectively, P>0.05). In summary, the selection of COC by grade, according to the classification currently adopted, does not improve IVEP outcomes.

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