d6 biopsied blastocysts suggest that the difference in IR seen for non-PGS blastocysts is not likely due to an increase in the aneuploidy rate of d6 embryos. However, blastocysts vitrified without PGS is typically selected based on a minimum morphology grade; whereas, blastocysts biopsied for PGS are vitrified with much less emphasis on standard morphology. The aneuploidy rate of d5 and d6 blastocysts that met minimum morphology criteria (non-PGS blastocysts) may not necessarily be the same as those of PGS blastocysts when less attention is paid to standard morphology. Further studies are needed to confirm that there are also no difference in aneuploidy rates of d5 and d6 blastocysts that meet a minimum morphology score.

P-260 Tuesday, October 20, 2015

COMPARISON OF VITRIFICATION MEDIUM WITH TREHALOSE AND HYDROXYPROPYLCELLULOSE TO THAT WITH SUCROSE AND COMPLEX PROTEIN SUPPLEMENTATION. T. Schlenker,[a] S. McCormick,[a] R. Smith,[a] W. B. Schoolcraft,[b] R. L. Krisher.[c] [a]Fertility Labs of Colorado, Lone Tree, CO; [b]Colorado Center for Reproductive Medicine, Lone Tree, CO; [c]National Foundation for Fertility Research, Lone Tree, CO.

OBJECTIVE: Human oocytes have historically been difficult to cryopreserve. Optimizing vitrification solutions is one method to improve outcomes. Our objective was to compare the efficacy of two solutions for the vitrification of donor eggs, one containing trehalose and hydroxypropylcellulose (HPC) and the other with standard sucrose and complex protein supplementation.

DESIGN: Prospective randomized donor egg split.

MATERIALS AND METHODS: Eggs from each donor (n=33) were randomly assigned to vitrification using either Cryotech (CT; n=244) or an In House prepared (IH; n=260) medium. IH vitrification solution consisted of standard Tissue Culture Medium 199 (TCM199) with HEPES, bicarbonate, serum protein substitute (SPS; Origio), sucrose, DMSO and ethylene glycol (EG). Cryotech vitrification solution also contains DMSO and EG, but substitutes trehalose for sucrose and HPC rather than SPS. Eggs were vitrified using the CryoTop (Kitazato).

RESULTS: There was no difference in egg survival post-warm (CT, 95.5%; IH, 96.2%). Fertilization was significantly higher for eggs vitrified and warmed in IH solutions (2PN/eggs survived, 85.2%) compared to those in CT (74.2%). There were no differences between CT and IH in the percentage of good quality blastocysts (GQ, $\geq$3BB) produced per 2PN (CT, 54.3%; IH, 51.3%) or per total eggs vitrified/warmed (CT, 41.8%; IH, 44.0%), or GQ blastocysts produced on D5 per 2PN (CT, 29.3%; IH, 29.0%). Pregnancy data was analyzed from those cases in which only embryos produced from a single treatment were transferred (CT, n=10, 1.3 embryos/ET; IH, n=14, 1.4 embryos/ET). There were no significant differences between % positive hCG (CT, 80%; IH, 64.3%) or % implantation (CT, 84.6%; IH, 52.6%).

CONCLUSIONS: Both commercially available (Cryotech) and In House prepared vitrification media are equally effective for egg vitrification, despite differences in non-permeating cryoprotectants and protein content. Although IH solutions resulted in higher fertilization success, the proportion of blastocysts produced per fertilized zygote and per vitrified/warmed egg was equivalent. In summary, trehalose with HPC or sucrose with complex protein can both be used for egg vitrification, resulting in successful embryo development and pregnancy.

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INFLUENCE OF SEMINAL QUALITY IN DONOR EGG IVF PROGRAM USING VITRIFIED OOCYTES. B. Barros,[a] T. S. Domingues,[b] A. S. Belo,[a] R. Mazetto,[b] A. P. Aquino,[b] E. L. Motta.[c] [a]Embryology, Huntington Medicina Reprodutiva, Sào Paulo, Brazil; [b]Huntington Medicina Reprodutiva, Sào Paulo, Brazil; [c]Medical, Huntington Medicina Reprodutiva, Sào Paulo, Brazil.

OBJECTIVE: To evaluate the influence of different seminal parameters to fertilize donor banking oocytes and correlate to blastocyst development, implantation and pregnancy rates.

DESIGN: Retrospective study.

MATERIALS AND METHODS: From July 2013 to April 2015, 320 cycles of donor banking oocytes were fertilized by ICSI with ejaculated sperm and split into three different groups: G1: Normozoopermia (n=77); G2: Oligoteratozoospermia (n=34); G3: Teratozoospermia (n=209). All oocytes were vitrified using open system and warmed following standard protocols. After fertilization, embryos were cultured as routine and blastocyst transfer placed on days 5 or 6. Endometrium preparation was performed with 4 mg of estradiol valerate plus 800mg of micronized progesterone according to standard protocols.

RESULTS: A total of 2846 vitrified donor oocytes were used. The mean numbers for sperm concentration were respectively (x106/mL): (107.4 vs 8.0 vs 64.8, $p<0.001$); motility (71.3 vs 3.8 vs 37.1, $p<0,001$); normal Kruger morphology (4.4% vs 1.4 vs 2.0, p0.05) were observed between numbers of oocytes used (8.9 vs 8.5 vs 9.0; fertilization rate (77.9% vs 77.8% vs 77.2%); number of blastocyst transferred (2.0vs 2.1 vs 2.1); implantation rate (40.3% vs 31.6% vs 34.0%) and pregnancy rate (63.8% vs 50.0% vs 54.3%). The number of post-cycle surplus embryos were also similar between groups, although a significantly number of good blastocyst (grades 3 to 5) formation were observed on groups G1 and G3 compared to G2 (58.8% vs 38.2% vs 56.8%, $p<0,05$). Statistical analysis was performed by ANOVA or qui-square as appropriated.

CONCLUSIONS: Our findings demonstrated that using a mean number of 8 banking oocytes is possible to achieve at least 2 expanded blastocysts for transfer, resulting in similar implantation and pregnancy rates, regardless the spermatozoa influence. However, when extreme low quality sperm parameters were utilized (G2), less viable blastocysts were formed, suggesting an individualized offer, on egg banking, for those specific men.

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DO YOU DISCARD SLOW GROWING BLASTOCYSTS WITH POOR QUALITY? M. Ono, K. Iwahashi, H. Hamai, M. Shigeta. Advanced Fertility Center of Fuchu Nozomi, Izumi, Japan.

OBJECTIVE: Frozen-thawed blastocyst transfer (FT-BT) has become common procedure in assisted reproductive treatment. Blastocysts with poor quality are often discarded without cryopreservation because they are more likely to be damaged during the cryopreservation process, to result in low pregnancy rates and to have a higher chance of chromosomal abnormalities. However, should we not try to cryopreserve all of them? The aim of this study is to evaluate pregnancy rates using day 6 blastocysts which were graded C (very few cells) in both inner cell mass and trophectoderm grading (CC) with or without assisted hatching (AH).

DESIGN: Prospective case control study.

MATERIALS AND METHODS: This study included 97 frozen-thawed single blastocyst transfer (FT-sBT) cycles in 92 women (age: 27-46) who were administered for FT-sBT at a single private IVF center in Osaka, Japan between April 2009 and October 2014. Cases were randomized to perform AH (AH cycles) or not (no AH cycles). 19 FT-sBT cycles were cancelled due to no surviving blastocysts. Day 6 CC blastocysts were cryopreserved, but degenerated blastocysts were not. Several months later, those blastocysts were thawed and the one surviving blastocyst was transferred in to the patient's uterus. In AH cycles, AH was performed prior to blastocyst transfer. Clinical outcomes were compared between AH cycles and no AH cycles. Statistical analyses were carried out by Wilcoxon rank sum test or Fisher's exact test.

RESULTS: The two groups were comparable with respect to their characteristics and reproductive history. The two groups, respectively the AH cycles and the no AH cycles, were homogeneous for the age of the patients at the time of oocyte retrieval attempts (mean age 36.3±3.9 vs. 36.5±3.9), the number of previous oocyte retrieval attempts (2.4±1.8 vs. 1.9 ±1.1), and the embryos survival rates (75.9% vs. 84.9%). The rates of overall pregnancy, clinical pregnancy and on-going pregnancy rates per FT-sBT cycles were 22.0% (9/41), 14.6% (6/41), 9.8% (4/41) in the AH cycles and 5.4% (2/37), 0% (0/37), 0% (0/37) in the no AH cycles, respectively. All of the on-going pregnant women delivered healthy infants. A significant difference was observed only in the clinical pregnancy rate ($p<0.05$).

CONCLUSIONS: Our results suggest that some slow growing blastocysts with poor quality still possess survival and implantation capacity after frozen-thawed, with AH procedure being essential for clinical pregnancy. The morphological selection has limitations due to the difficulty in determining which blastocysts have potential to become a healthy infant. Consequently, cryopreservation of slow growing blastocysts with poor quality might be useful and should not be discarded even though the clinical pregnancy rate is not so high. Further research is needed to find indicators, for example PGS.

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