

# Summary of Abstracts Presented at ESHRE 2016

Ten *et al.*, (Spain). Do not disturb the embryos until day 5: preliminary results of a double blind prospective randomized controlled trial (Oral communication)

**Summary:** This is a double blind prospective randomized controlled trial to test the hypothesis that avoiding embryo observation until day 5 may produce an improvement in embryo quality and therefore in implantation and ongoing gestation rates. Couples using anonymous oocyte donation were randomized in either the control (observation on day 2 and 3) or study (non-embryonic observations). All the zygotes were cultured in global Total® medium (LifeGlobal) until day 5. Preliminary results shows similar results in the 2 groups, with no statistical difference. Maintaining the embryos to the blastocyst stage without observation on day 2 and 3 does not have an effect on blastocyst formation on day 5 (60.6% vs 62.1%), on implantation (47.4% vs 44%) and ongoing pregnancy rates (43.1% vs 47.5%).

Campbell *et al.*, (United Kingdom). A prospective multicentre comparison of two different single step culture media using sibling embryos (Poster communication)

**Summary:** This is a prospective multicentre sibling embryo study to compare two different single step culture media. Embryos were randomly allocated to two different media: G-TL (Vitrolife) and global® (LifeGlobal) media supplemented with DSS and cultured in both standard incubators and time lapse system. The data revealed no significant difference in blastocyst formation (60.3% vs 63.3%), in good quality blastocyst (19.9% vs 20.2%) and utilization rate of blastocysts (43.3% vs 45.7%). There was also no significant difference in the implantation (48.5% vs 45.6 %) and pregnancy rates (53.3% vs 54.8%). Although there was a significant difference in miscarriage rate in the transfer of blastocysts cultured in global®, this was not a primary endpoint.

Herrer *et al.*, (Spain). Cinematographic analysis of embryo vacuoles and their impact on reproductive outcome. (Oral communication)

**Summary:** This is a retrospective study of embryo transfers to evaluate the dynamics of the impact of spontaneous appearance of vacuoles in embryo quality and clinical outcome after time-lapse incubation. After ICSI, embryos from the oocytes donation program, were cultured in global® medium (LifeGlobal) in the Embryoscope until transfer at blastocyst stage. Embryo quality, implantation and pregnancy rates were compared between non vacuolated (NVE) and vacuolated (VE) embryos. There was no significant difference of good quality blastocysts (72.4 % vs 74.2 %) between the 2 groups. Also in terms of implantation (49.7% vs 39.9%) and pregnancy (60.2% vs 49.7%) rates, there was no significant difference. The appearance of vacuoles does not seem to affect embryo quality and clinical outcome.

Kahraman *et al.*, (Turkey). Follicle size and synchronicity of follicular development influence morphokinetics variables in the embryos. (Poster communication)

**Summary:** This is a retrospective cohort study to determine whether follicular size in synchronous (follicles of all size) and asynchronous (small and large cohort) follicular development influence morphokinetics parameters of embryo development. Embryos were cultured in global® (LifeGlobal) incubated in the Embryoscope with change on day 3. Embryo selection for transfer was done according to morphology. The time to reach the expanded blastocyst stage (tEB) was 3 hours earlier in small follicles of asynchronous cycles when compared to the other three categories. For implanting blastocysts (KID positive) the mean time for tEB for those developed from small and large follicles in synchronous cycles and from small follicles in asynchronous cycles, was 3 h less than those from large asynchronous follicles.

Whitney *et al.*, (USA). Day 7 blastocysts prove beneficial for pre-implantation genetic screening cycles. (Oral communication)

**Summary:** A single center prospective observation cohort study to determine whether day 7 blastocysts result in similar aneuploidy and implantation rates compared to day 5/6. All cycles included PGS with trophoctoderm biopsy for aneuploidy determination and only vitrified-warmed single euploid blastocyst transfers were performed from both autologous and donor oocyte cycles. Embryos were cultured in global® medium (LifeGlobal) supplemented with LGPS protein (LifeGlobal). Although blastocyst formation on day 7 accounted for only 6.3% of all blastocyst development and the euploidy rate was 36%, the transfer of a day 7 euploid embryo achieved an implantation rate (63.6%) that was not statistically different than day 5 or day 6. The ongoing pregnancy rate from day 7 was significantly lower than that of day 5 and day 6, however all top quality blastocysts maintained the same euploidy rate (49.4%) showing no statistical difference between day 5, 6 or 7. Day 7 blastocysts could add more blastocysts to the utilization rate for an infertile patient.

Schiewe *et al.*, (USA). Comparative assessment of human blastocyst resiliency to vitrification solution toxicity and osmotic stress associated with re-vitrification (Poster communication)

**Summary:** Research consented, discarded blastocysts were randomly assigned to experimental groups to evaluate the cryotolerance of human blastocysts to repeated re-vitrification and varying exposure to different vitrification solutions as sources of osmotic injury and cytotoxicity. Biopsied blastocysts were used to determine the tolerance of repeated vitrification with or without elution/equilibration; or to compare exposure intervals post-warming in a commercial EG/DMSO (15/15% solution; LifeGlobal), EG/PPG (16/16% solution; Vitrolife) or our control Glycerol/EG ( $\geq 7.9M$ ; Innovative Cryo Enterprises) vitrification solutions. There is no differences in post-warming or developmental survival after repeated vitrification. At 24hr, the development was significantly reduced with  $\leq 5$  min exposure in the EG/DMSO group (83.3%), compared to EG/PPG (93.3%) or Glycerol/EG (96.7%). However, the developmental integrity of Glycerol/EG treated blastocysts was reduced (75%;  $p < 0.05$ ) by 10 min and was significantly lower at 15/20min (30-35%) than either EG/DMSO (55-70%) or EG/PPG (55-60%). Human blastocysts proved to be highly tolerant to extended vitrification solution exposure and repeated vitrification.