REDUCED EARLY PREGNANCY LOSS OF DAY 4 BLASTOCYSTS TRANSFERRED IN ARTIFICIAL FET ON PROGESTERONE DAY 5

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This study investigates whether the transfer of blastocysts developing on day 4 of in vitro culture are better transferred on progesterone+5 or progesterone+6 of artificial FET cycles in freeze-all IVF cycles.
Conventional embryo developmental milestones are important indicators of embryo competence, with fast or slow developing embryos having increased aneuploidy and consequently reduced implantation, however, fine-tuning of culture media and incubation technologies maybe changing the timing of critical embryo developmental milestones. These changes may have important consequences for embryo-endometrium synchronization so critical for optimal implantation.
In this pilot study to a prospective randomized control trial, we retrospectively investigated cycles where blastocysts were vitrified on day 4 of embryo culture, between May-December 2015. The cycles were divided into two cohorts according to the day of embryo transfer, Progesterone d4 (d4-d4 group) or Progesterone d5 (d4-d5 group).
Materials/Methods: SAGE 1-Step™ media was used for embryo culture and incubation conditions set at 6% CO2, 5% O2 and 37.0oC (K-Systems, Denmark). All inseminations were performed using ICSI. On day 4, embryos were checked at 92 hours and 100 hours. Vitrification and warming of blastocysts were performed using ultra-rapid technologies (Cryotop, Kitazato). In the artificial FET cycles endometrium-embryo synchronization was performed using progesterone supplementation (Crinone).
Results: Since May 2015, an increasing number of patients have had blastocysts vitrified after 100 hours on day 4 of embryo culture. The following parameters were comparable between the d4-d5 group and the d4-d4 group, the mean patient age (31.5 ± 6.4 vs 31.5 ± 4.8 years), antral follicle count (16.9 ± 13.5 vs 17.8 ± 9.3), and number of blastocysts transferred (1.26 ± 0.45 vs 1.34 ± 0.48). The pregnancy and clinical pregnancy rates of the two groups were non-significantly different, 82.6% versus 84.9% (p = 0.912) and 69.6% versus 81.1% (p = 0.835), respectively. However, the early pregnancy loss rate was significantly higher (p 0.001) in the d4-d5 group, 15.8% versus 4.4%, respectively.