

The Influence of Delayed Blastocyst Development on the Outcome of Frozen-Thawed Transfer of Euploid and Untested Embryos

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Abstract:

Objective: The primary objective is to compare live birth rates (LBRs) following frozen embryo transfer (FET) of euploid day 5 with day 6 blastocysts. We also compared LBRs following FET of untested blastocysts vitrified on day 5 and day 6 in self-oocyte and ovum donation (OD) cycles. **Design:** This was a retrospective observational study. **Setting:** Nova IVF Fertility, Ahmedabad. **Materials and Methods:** Ninety-seven FET using self-oocytes following preimplantation genetic testing A (PGT-A), 464 FET following OD, and 907 FET using self-oocytes without PGT-A testing between January 2016 and December 2017 were included in this study. **Main Outcome Measures:** LBR following FET in day 5 versus day 6 blastocysts in euploid embryos using self-oocytes and in untested embryos using both self and donor oocytes. **Results:** In PGT-A cycles, no statistically significant difference was observed in LBRs following transfer of euploid blastocysts developed on day 5 or day 6 (D5: 53%; D6:40%, $P = 0.83$). However, the LBRs with day 5 blastocysts were higher compared with day 6 group in untested group using both self and donor oocytes (self D5: 52.7%; D6: 38.2%; $P = 0.001$ and OD D5: 44.7%; D6: 29.8%; $P = 0.001$). Miscarriage rates were comparable in both the groups. **Conclusions:** The present study demonstrated comparable pregnancy outcomes following FET of euploid embryos vitrified on day 5 and day 6. However, higher LBRs were reported in day 5 group in untested embryos.

Keywords: Day 5 blastocyst transfer, day 6 blastocyst transfer, euploid blastocyst transfer, frozen embryo transfer, preimplantation genetic testing

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