

PREGNANCY RATES FOLLOWING FRESH DAY 6, FRESH DAY 7 OR FROZEN EMBRYO TRANSFER (FET) OF EUPLOID BLASTOCYSTS AFTER MICRO-ARRAY COMPARATIVE GENOMIC HYBRIDIZATION (aCGH) ANALYSIS

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Objective: Comprehensive chromosome analysis with arrays (aCGH) coupled with blastocyst biopsy has proven to increase pregnancy rates for patients undergoing PGD. However, it is unclear if it is best to do fresh transfer or an FET of euploid embryos. This study aims to compare fresh Day 6, fresh Day 7 and FET transfers of euploid embryos to determine if there are differences between the three approaches.

Design: Retrospective observational study at a private fertility clinic

Materials and Methods: Blastocyst biopsy was performed on the morning of Day 5 for those embryos that reached blastocyst and on the morning of Day 6 for those only reaching blastocyst on Day 6. The biopsies were sent to a reference laboratory for aCGH analysis. The original PGD testing laboratory initially required an overnight shipment and therefore results and embryo transfer (ET) could only be performed fresh on Day 7 or required an FET, until another branch of the PGD laboratory opened locally, at which time ET could be performed either fresh on Day 6 or in an FET. There were no differences in maternal age or number of euploid embryos between FET, Day 6 or Day 7 ET.

Results: See Table

	No ET	FET	Fresh Day 6 ET	Fresh Day 7 ET
Cycles	106	69	41	13
Mean Maternal Age	41.4	36.7	36.6	35.3
Average Blastocysts Biopsied	2.1	5.9	5.8	4.6
Abnormal Embryos	100%	46.5%	44.9%	37.2%
Pregnancy Rate	N/A	46%	61%	15%

Conclusions: These results indicate a trend towards better pregnancy rates with fresh Day 6 transfer, and a very significant detrimental effect of replacing fresh on Day 7 ($p < 0.004$). These findings indicated that fresh embryo transfer can be a more economical approach than freezing all blastocysts, provided that the window of implantation is not bypassed with a delay in ET.