XX OR XY HAS NO IMPACT ON POST-TRANSFER SUCCESS RATES AS INDICATED BY PREGNANCY RATE OR LOSS FOLLOWING FROZEN EMBRYO TRANSFER OF A SINGLE HIGH QUALITY EUPLOID BLASTOCYST

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Background: Several studies have indicated that blastocyst culture and transfer may skew the sex ratio following IVF, yielding more success with XY embryos. This may be due to culture conditions and/or morphological selection criteria that inadvertently favor one sex over another. Alternatively, XX blastocysts could potentially yield lower success rates after transfer due to subtle abnormalities induced by suboptimal culture conditions leading to poor development, failed implantation or early loss. Preimplantation genetic testing for aneuploidy (PGTA) permits identification of blastocyst sex chromosomes prior to transfer. Use of PGTA and subsequent frozen embryo transfer gives ability to control for embryo and endometrial quality to isolate the effect of embryo sex chromosome complement on clinical outcomes.

Objective: To compare clinical outcomes following transfer of a single euploid XX or XY blastocyst in a frozen embryo transfer cycle, controlling for day of blastocyst development and morphological grade to determine if sex chromosome complement impacts outcomes.

Materials & Methods: Data were retrospectively analyzed for frozen embryo transfers using either XX or XY single, high quality euploid blastocysts >3BB on day 5, 6 and 7. To further control for embryo quality, transfers using only day 5 AA quality blastocysts were analyzed. Rates of positive HCG (Pos HCG), clinical pregnancy rate (CPR) and pregnancy loss rates were compared. Differences were determined using Fishers Exact test, $p<0.05$

Results: No statistically significant differences in Pos HCG, CPR or loss rate were apparent following frozen embryo transfer of single euploid XX and XY blastocysts of quality ≥3BB on day 5, 6 and 7. Similarly, no differences were apparent when only day 5 AA quality blastocyst were used.

	Blast Day/Grade	N	Avg Female Age	Pos HCG	CPR	Loss Rate
XX	**D5/6/7 ≥BB**	116	35.1	88.8%	80.2%	8.6%
XY	**D5/6/7 ≥BB**	153	35.4	83.0%	72.5%	10.5%
XX	**D5 AA**	54	33.9	88.9%	81.5%	7.4%
XY	**D5 AA**	73	34.9	90.4%	79.5%	10.9%

Conclusions: The XX and XY chromosomal status had no impact on outcomes following transfer of a single high quality euploid blastocyst into a frozen embryo transfer cycle. These data indicate that when a high quality, euploid blastocyst is obtained following IVF, that any skew in the XX/XY ratio of offspring does not appear to be due to embryo driven

implantation or post-implantation events. Whether in vitro culture conditions or current embryo grading/selection approaches skew this ratio remains to be proven.