

24chr-AS with 98.6% accuracy and 100% negative predictive value for reproductive potential was performed, and used to select euploid blastocysts for transfer in a subsequent natural FET cycle.

RESULTS: Of the 132 patients (mean maternal age 37.3 years) with developmentally normal embryos, 94 (71.2%) produced euploid blastocysts eligible for transfer. Following a FET with only warmed euploid blastocysts, the biochemical pregnancy rate (+ β hCG) was recorded at 89% (88/99). Five patients received a second FET after failure from the first transfer. The clinical pregnancy rate for this series of patients was 77.8% (87/99). Of the 175 embryos transferred, 118 (67%) implanted (sac) and 111 (63%) are ongoing (fetal cardiac activity) or have resulted in live births. To date, 28 healthy babies have been delivered to 16 patients.

CONCLUSION: This SNP microarray based 24chr-AS technology has many advantages as a comprehensive chromosome screening platform, including high throughput capacity, automation, objective interpretation and thorough validation. The combination of trophoblast biopsy, blastocyst vitrification, and SNP microarray based 24chr-AS technology, results in excellent clinical outcomes with higher implantation rates that could contribute to the practical application of single embryo transfer.

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CUMULATIVE LIVE-BIRTH RATES (CLBR) CONSIDERING THE TOTAL NUMBER OF EMBRYOS REPLACED IN 26504 CONSECUTIVE OVUM DONATION CYCLES (OD). N. Garrido, J. Bellver, J. Remohi, C. Simon, A. Pellicer. Instituto Universitario IVI Valencia, Valencia, Spain; IVI Foundation, Valencia, Spain.

OBJECTIVE: CLBR instead of the raw live-birth rate per cycle is a good IVF success estimation, but the number of embryos transferred (ET) is not considered with this approach and survival curves drawn from CLBR are poorly defined. Our aim was to describe the cumulative outcome of OD per total number of ET needed to achieve live-birth.

DESIGN: Retrospective cohort analysis.

MATERIALS AND METHODS: CLBR and 95% confidence intervals (CI) was estimated by Kaplan–Meier method according to the sum of embryos transferred (SoET) in each set of treatments (SOT), defining SOT as all consecutive OD cycles performed in a couple until they abandoned, or reached a live-birth, including fresh and frozen embryo replacements, excluding preimplantation genetic screening. When the number of ET was equal to the number of implanted (EI) in cycles with newborn only one embryo was summed (the first implanted) and the median number of ET, if EI was different to ET in cycles with newborn, given the impossibility to discern which embryo succeeded.

RESULTS: We included 9659 patients in 26054 OD cycles, 9657 SOT and 59422 ET. Patient's mean age was 39.9(CI39.8-40.0) years old. CLBR reaches 64.8%(CI95%63.6-65.9) when SoET=5, meaning an increase of 6.5% per embryo. This is reduced to 2.0% per embryo, given that the CLBR is 85.2%(CI95%84.0-86.3), when the SoET=10 embryos. CLBR when SoET=15 embryos is 92.4%(CI95%91.3-93.5), increasing only 1.4% per embryo added compared with CLBR when SoET=10 embryos in. When 25 embryos have been replaced, CLBR is 96.8%(CI95%95.6-97.8), with only an increase rhythm on their live-birth chances of 0.44% per embryo added. OD presents the same curves of CLBR when categorized by age, confirming the relevance of oocyte quality but not in endometrial receptiveness.

CONCLUSION: CLBR depending on SoET provide with realistic, and precise information regarding the likelihood of OD success, and can be used to inform patients and counsel in the decision-taking process.

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SELECTION OF YOUNG PATIENTS USING STRICT CRITERIA ALLOWS AN EXCELLENT CHANCE OF PREGNANCY WHEN TRANSFERRING A SINGLE EMBRYO WHILE AVOIDING A HIGH RISK OF MULTIPLE GESTATION. T. C. Vaughn, K. M. Silverberg, L. J. Hansard, N. Z. Burger, T. Minter, T. Turner. Texas Fertility Center, Austin, TX.

OBJECTIVE: To develop criteria for selection of patients who are good candidates for single embryo transfer.

DESIGN: Prospective evaluation of young patients with good embryo development in a large private practice.

MATERIALS AND METHODS: All patients were treated with an oral contraceptive/leuprolide acetate down regulation protocol. Recombinant FSH alone was used for ovarian stimulation. All patients received recombinant hCG at oocyte maturity, followed by transvaginal oocyte retrieval 36 hours later. Progesterone supplementation was begun 2 days after oocyte retrieval. Embryos were transferred 5 days following retrieval. Patients were offered the opportunity to transfer only one embryo if they met the following criteria: <35 years of age, no previous unsuccessful IVF cycles, and having at least one embryo that met criteria for cryopreservation on the day of embryo transfer. Patients who did not choose to transfer one embryo underwent transfer of two embryos. A serum hCG was obtained 14 days after retrieval and weekly if positive until transvaginal sonography was performed at 7 weeks' gestational age.

RESULTS: 26 patients chose to undergo a single embryo transfer; 18 (69%) of these had a clinical pregnancy. 186 patients chose to transfer 2 embryos; 145 (78%) had a clinical pregnancy. The pregnancy rate for the group that chose to transfer two embryos was not statistically different (chi square analysis, $p=0.46$) from those that chose to transfer one embryo. However, the multiple pregnancy rate was higher for the group that chose to transfer 2 embryos (52% vs. 0) and that group included five sets of triplets.

CONCLUSION: Young women undergoing IVF with embryo development sufficient to have at least one other embryo available for cryopreservation had an excellent chance of pregnancy when only one embryo was transferred and should therefore be offered a single embryo transfer. Transferring 2 embryos in this group increased the risk of multiples without significantly increasing the chance for pregnancy.

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DEFINING EARLY β hCG DYNAMICS IN IVF-CONCEIVED MONOZYGOTIC (MZ) PREGNANCIES. G. Vela, M. Luna, E. D. Flisser, F. Arredondo, B. Sandler, A. B. Copperman. Reproductive Medicine Associate of New York, New York, NY; Department of OBGYN and Reproductive Science, Mount Sinai School of Medicine, New York, NY; Reproductive Medicine Associates of Texas, San Antonio, TX.

OBJECTIVE: To define for the first time the early dynamics of β hCG in IVF-conceived MZ pregnancies and to establish their prognostic value.

DESIGN: Retrospective case-control study.

MATERIALS AND METHODS: All MZ pregnancies (defined as the presence of two fetal poles with fetal cardiac activity within a single gestational sac) occurring between 07/02 and 12/10 were included in the study. β hCG levels were measured by chemiluminescent immunometric assay on day 14 and 16 after oocyte retrieval. Change in serum β hCG was calculated and pregnancy viability at the time of discharge was recorded. Results were compared to a control group of singleton pregnancies matched for maternal age and day of embryo transfer. Kruskal-Wallis and χ^2 tests were used for data analysis.

RESULTS: A total of 30 MZ and 55 singleton pregnancies were included. No difference in early β hCG dynamics was found between the two groups (see Table 1). Pregnancy loss after fetal cardiac activity was significantly higher for the MZ group [30% (9/30) vs. 3.6% (2/55) $p=0.001$]. No difference was found in β hCG 48h increase between viable and non-viable MZ pregnancies ($121.1 \pm 36.4\%$ vs. $105.9 \pm 18.1\%$, $p=0.35$).

Early β -hCG in MZ and Singleton pregnancies

	Monozygotic (n=30)	Singleton (n=55)	p
Day 3 ET			
β -hCG Day 14 (IU/mL)	165.7 \pm 81.9	170.9 \pm 65.3	0.7
β -hCG Day 16 (IU/mL)	346.4 \pm 150.1	393.1 \pm 156.0	0.2
48h % Increase	114.7 \pm 44.6	115.4 \pm 15.3	0.2
Day 5 ET			
β -hCG Day 14 (IU/mL)	121 \pm 69.8	126.1 \pm 81.9	0.9
β -hCG Day 16 (IU/mL)	283.6 \pm 162.8	307.0 \pm 207.1	0.6
48h % Increase	118.1 \pm 17.8	125.8 \pm 24.4	0.2