RESULTS: Those ETs that met SET criteria (mSET) were compared to those that did not meet SET criteria (nSET). The IR for mSET vs. nSET was 61.8% vs. 31.4%, while the ODR was 69.6% vs. 45.3%. The TR, HOMGR and MZTR for the mSET group was 34.4%, 6.3% and 6.3% and for the nSET group was 40.3%, 0.7% and 1.5%. Furthermore, those ETs that accepted a SET (aSET) were compared to those that declined a SET (dSET). The IR for aSET vs. dSET was 62.5% vs. 61.7%, while the ODR was 62.5% vs. 73.3%. The TR, HOMGR and MZTR for the aSET group was 0%, 0% and 0% and for the dSET group was 50.0%, 9.1% and 9.1%.

TABLE

	Met SET criteria (mSET)			Did not meet SET criteria (nSET)		
	1 ET (aSET)	2 ET (dSET)	Total	Day 5 ET	Day 2–3 ET	Total
Embryo transfers	16	30	46	248	48	296
Implantation rate (IR)	62.5%	61.7%[1]	61.8%[2]	36.2%[1,3]	7.0%[3]	31.4%[2]
Delivery rate (ODR)	62.5%	73.3%[1]	69.6%[2]	51.6%[1,3]	12.5%[3]	45.3%[2]
Twin rate (TR)	0%[1]	50.0%[1]	34.4%	41.4%	16.7%	40.3%
High-order multiple gestation rate (HOMGR)	0%	9.1%[1]	6.3%[2]	0.8%[1]	0%	0.7%[2]
Monozygotic twinning rate (MZTR)	0%	9.1%[1]	6.3%	1.6%[1]	0%	1.5%

[1,2,3]$P<0.05$.

CONCLUSIONS: 1. SET is successful in reducing the TR, HOMGR, and MZTR while maintaining the IR and ODR in a select group of patients. 2. Patients not meeting SET criteria remain at high risk for an increased TR. Further evaluation of patient and embryo characteristics is warranted in this group.

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METHODOLOGIC ISSUES AND STATISTICAL APPROACHES TO THE ANALYSIS OF MULTIPLE CYCLE DATA FROM COUPLES UNDERGOING IN VITRO FERTILIZATION (IVF).
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OBJECTIVE: Multiple cycle IVF data are routinely used to identify important predictors of success or failure. However, current statistical approaches do not always make full use of the data due to its complexity. Our objective was to evaluate and identify valid statistical methods for the analysis of multiple cycle IVF data.

DESIGN: A prospective cohort of 2687 couples undergoing 5816 cycles of ART from 1994–2003.

MATERIALS AND METHODS: Six statistical methods – including multiple versions of logistic and proportional hazards regression – were applied to identify predictors of livebirth. All models included female age and BMI, male age, study site, study period, prior livebirth, primary infertility diagnosis, gonadotropin dose, GnRH-a regimen, day 3 E2 level, number of oocytes retrieved, ICSI, and number of embryos transferred (when restricted to cycles with a transfer).

RESULTS: Analyses restricted to first cycle only tended to overestimate while last cycle only analyses underestimated relations; both exhibited wider confidence intervals and decreased statistical power to detect associations. Among the four approaches using data from all cycles, effect estimates were smallest for the continuous-time Cox proportional hazards model – most likely due to bias associated with the standard approach to adjusting for ties. Of the six methods employed, only discrete-time survival analysis used data from all cycles and appropriately addressed the issues of within-couple dependence of cycles, cessation of treatment upon success, censoring (i.e., discontinuation of treatment among cycle failures), and heavily tied event times (i.e., a sizable proportion of couples experience success on the same cycle attempt). Across the statistical methods, variation in effect estimates of predictors of success was between 10 and 32%. In addition, care must be taken in interpretation of patient characteristics and treatment variables when including mid-cycle outcomes (e.g., number of embryos created)

in the multivariable model, as control for intermediates along the causal pathway may result in biased estimates.

CONCLUSIONS: Discrete-time survival analysis appears to be the most appropriate method for the analysis of multiple IVF cycles and is easily implemented using standard software. Inclusion of intermediate treatment outcomes in multivariable models must be considered critically when evaluating the relation between successful IVF and variables that chronologically precede these intermediate outcomes.

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ANTRAL FOLLICLE COUNT CAN BE UTILIZED IN THE PREDICTION OF OVARIAN RESPONSE AND THE PROFITABILITY OF THE OOCYTE DONATION PROGRAM, BUT CAN NOT PREDICT THE IVF OUTCOME.
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OBJECTIVE: The aim of this study was to verify whether the use of antral follicle count (AFC) could predict the profitability of an oocyte donation program and the IVF outcome.

DESIGN: Prospective study.

MATERIALS AND METHODS: This study was conducted in a private Infertility clinic- IVI Valencia, between January 2006 and December 2006. We analyzed 1074 donors submitted to controlled ovarian hyperstimulation (COH) and 975 oocyte recipient cycles. The donors admitted to the study had normal menstrual cycles, normal weight (BMI of 18–28 kg/m^2), and no signs of PCOS. Donors were divided into groups according to AFC and compared regarding COH cycle parameters, cost per started cycle and recipient's IVF outcome– Group I (n = 94): <10, II (n = 438): 10–13, III (n = 342): 14–17, IV (n = 150): 18- 21, V (n = 50): >21 AFC. Statistical analysis was performed by analysis of variance (ANOVA) to test the significance of differences in means among groups, and the chi-square test was used to assess the significance of categorical parameters, pregnancy and miscarriage rates among groups. A P value <0.05 was considered significant.

RESULTS: We observed lower E$_2$ levels among donors that had presented AFC <10 ($P \leq 0.001$). As expected, in this group, we also retrieved less mature oocytes ($P \leq 0.0001$). We retrieved almost double the number of oocytes in donors with >10 AFC (I: 9.1, II: 16.3, III: 17.2; IV: 18.9; V: 17.3 oocytes). The regression curve delineates the significant correlation between the AFC and retrieved oocytes (r = 0.2135; $P<0.0001$). The group of oocyte donors who had an AFC <10 also had a significantly higher rate of total cycle cancellation than did the other four groups (I: 47.9%; II: 33.5%; III: 23.4%; IV: 26.0%; V: 36.0%, $P \leq 0.01$). Almost 50% of the cycles were cancelled in this group, being that poor and/or insufficient response was the principal cause (82%). The number of oocytes received per recipient was significantly lower in Group I than in the other groups. Moreover, the total of gonadotrophin dose and cost per oocyte donation cycle performed were significantly higher when the oocyte donor had <10 AFC. However, there were no differences between the groups regarding embryo's development parameters and IVF outcome.

CONCLUSIONS: AFC is a non-invasive and simple tool that can improve the effectiveness of an oocyte donation program. This study suggests that the AFC is a good predictor of ovarian response and the profitability of an oocyte donation program, but can not be used to predict the IVF outcome.

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THE ROLE OF ESTROGEN SUPPLEMENTATION IN ART CYCLES INVOLVING ASSISTED HATCHING.
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OBJECTIVE: Assisted hatching (AH) has been used to aid implantation following in vitro fertilization (IVF). The impact of supplemental luteal estrogen (E2) and aspirin (ASA) on success rates among patients undergoing AH remains unclear.

DESIGN: Retrospective cohort study; academic ART program.

MATERIALS AND METHODS: Patients <38 years of age undergoing IVF-AH in our infertility clinic from 1/05–2/07 were identified and stratified to those without luteal supplementation, or with use of Estrace (3 mg po bid), with or without ASA (81 mg per day), from day 1–18 post-embryo transfer