

ENDOMETRIAL THICKNESS AT THE TIME OF EMBRYO TRANSFER. C. Blot, D. Desouza, H. Ahmad, R. M. Shelden, E. Kemmann. UMDNJ Robert Wood Johnson, New Brunswick, NJ.

OBJECTIVE: To study pregnancy outcome in relation to the endometrial thickness at the time of embryo transfer (ET) in patients who undergo in vitro fertilization (IVF) treatment.

DESIGN: Retrospective analysis.

MATERIALS AND METHODS: Data were analyzed from 280 ETs that were performed under abdominal sonographic guidance. Analyzed were patient demographics, IVF cycle data, pregnancy outcome, and measurements of endometrial thickness performed at the time of embryo transfer. Transfers were done either on Day 3 or Day 5 after retrieval. The analysis was performed with computerized statistical packages.

RESULTS: 209 of 280 (75%) ET were D3 transfers and resulted in 76 (36%) pregnancies. 61 (29% of transfers) of these pregnancies delivered, and the others resulted in either spontaneous abortions or ectopic pregnancies. Of 71 (25%) ETs done on day 5, 37 (52%) resulted in pregnancies, of which 31 (44% of transfers) were delivered; the others failed. The mean endometrial lining measured 9.7 mm at time of D3 ET and 10.1 mm at time of a D5 ET. The difference is not statistically significant. There was no statistical difference between non-pregnant and pregnant patients in the thickness of the lining at D3 or D5. There was, however, a significantly lower pregnancy rate in D5 transfers when the endometrial lining was < 9 mm at time of transfer: 25% versus 60%, ($p < 0.022$, Fisher Exact Test).

CONCLUSION: While endometrial thickness at the time of transfer of D3 or D5 embryos showed no significant differences between pregnant and non-pregnant patients, pregnancy rates were significantly lower in a subgroup of the D5 transfers where the endometrial lining measured less than 9 mm in thickness.

Supported by: NONE

WITHDRAWN

R-HCG MICRODOSE COMBINED WITH ELECTIVE SINGLE EMBRYO TRANSFER AS AN EFFICIENT PROTOCOL. E. Borges Jr., L. L. Maldonado, T. C. Bonetti, D. Rodrigues, F. F. Pasqualotto, A. Iaconelli Jr. Fertility - Assisted Fertilization Center, Sao Paulo, Brazil; Univ of Caxias do Sul, Caxias do Sul, Brazil.

OBJECTIVE: Multiple pregnancies are considered the most serious complication in IVF treatment for both mother and child. Many countries are trying to decrease the number of embryos transferred in order to avoid the multiple pregnancy rate of 20-30% in IVF cycles compared to 1.6% in natural conception. Retrospective studies identified age, number and quality of embryos as the most important factor influencing the rate of multiple births. However, a strategy involving the transfer of only one embryo would be expected to result mainly in singleton pregnancies but might also lead to a considerable decrease in the overall birth rate. Previous studies conducted by our group (O-174, O-195, ESHRE 2005) showed that r-hCG microdose as source of LH associated with lower doses of r-FSH, in order to preventing ovarian hyperstimulation syndrome, is an alternative to good prognosis patients leading to same implantation and pregnancy rates when compared to standard protocols. We designed this study to evaluate the efficiency of r-hCG microdose protocol and elective embryo transfer in preventing multiple pregnancies without impairment the ART outcomes.

DESIGN: Prospective study.

MATERIALS AND METHODS: The study included 48 patients (48 ICSI cycles), younger than 35 years old, BMI \leq 29 Kg/m², basal FSH < 10 mIU/mL, with regular menstrual cycles, and at least four oocytes retrieved. Controlled ovarian hyperstimulation were achieved through GnRH agonist and 225 IU of r-FSH (Gonal-F®, Serono) from day-3 of menstrual cycle. When the leading follicle reached 14mm, 7.7µg of r-hCG (0.1 mL of a solution containing 250 µg of r-hCG) equivalent to 200 IU of LH activity per day (r-hCG microdose) was initiated. Two groups were established according to number of embryos transferred, control (CT) group (n= 22) in which it were transferred two or more embryos, and elective single embryo

transfer (eSET) group (n=26) that had one elective good embryo transferred. Statistical analyses used χ^2 or Student t test as appropriate, and $p < 0.05$ was considered statistically significant.

RESULTS: The CT and eSET groups were similar regarding the mean maternal age (29.5 ± 3.75 x 29.9 ± 4.3 ; $P=0.729$), and BMI (24.7 ± 4.1 x 22.7 ± 3.1 ; $P=0.073$). Since the eSET group had intentionally aimed to transfer fewer embryos, the step down stimulation protocol was done earlier, and consequently the total r-FSH dose administered was lower (1334 ± 258 IU) than CT (1865 ± 264 IU) ($P < 0.001$), as mean number of MII oocytes recovered (eSET: 9.5 ± 6.5 x CT: 15.0 ± 9.7 ; $P = 0.029$). The average number of embryos transferred on control group were 3.5 ± 0.7 in which at least one had one good morphology; on the eSET group, one elective good morphology embryo was transferred. The implantation ($21.4\% \times 26.9$; $P=0.608$) and pregnancy rates ($45.5\% \times 26.9\%$; $P = 0.181$) on CT and eSET groups respectively, were statistically similar; however, the multiple pregnancy rate was 22.7% on CT and zero on eSET group.

CONCLUSION: Our results support that elective SET combined with r-hCG microdose protocol allows reduces the costs of treatment, as well as decreases the risk of ovarian hyperstimulation syndrome and multiple pregnancy.

Supported by: None

A RETROSPECTIVE CHART REVIEW EXAMINING OUTCOMES OF DONOR EMBRYO CYCLES IN COMPARISON TO DONOR OOCYTE CYCLES DURING IN VITRO FERTILIZATION. S. A. Schugars, D. Daly. Grand Rapids Medical Education and Research Center, Grand Rapids, MI; Grand Rapids Fertility and IVF, Grand Rapids, MI.

OBJECTIVE: The objective of this study is to examine the pregnancy outcomes of women who are recipients of frozen embryo donation in comparison to women who receive donor oocytes during frozen cycle in vitro fertilization (IVF). In addition, the study will determine if donor embryo transfer is more or less successful than donor oocyte transfers.

DESIGN: Retrospective chart review of patients who are recipients of donor embryos and donor oocytes during frozen cycle in vitro fertilization at Grand Rapids Fertility and IVF from 1998 to 2005.

MATERIALS AND METHODS: This study is a retrospective chart review of all patients who underwent in-vitro fertilization with use of donor embryos or donor oocytes at Grand Rapids Fertility and IVF in Grand Rapids, Michigan. The charts reviewed were between the dates of January 1998 through December 2005. Data was sorted by into two groups based on the use of donor embryo and donor oocytes. The data collected from the charts was then cross referenced with the data collected on the secured online SART database. Data included patient demographics such as age, race, height, weight, and primary infertility diagnosis. In addition, the number of embryos transferred, endometrial thickness, and quality of the embryos at the time of transfer were recorded. Outcome measured included the pregnancies over ten weeks, miscarriages, implantations, and deliveries. The pregnancy rate, implantation rate, miscarriage rate, and liveborn delivery rate were calculated. The delivery outcomes were divided into term live born, preterm live born, and stillborn infants. Delivery information was obtained from the patient or the physician in correspondence prior to the beginning of the study. Inclusion Criteria included patients undergoing in vitro fertilization with the use of anonymous donor embryos or donor oocytes. Exclusion criteria included women with history of recurrent pregnancy loss and congenital uterine anomalies. The data was analyzed by a chi squared statistical analysis and student T-test.

RESULTS: Data was collected on 58 patients total; 40 patients who underwent frozen donor embryo transfers and 18 patients who underwent frozen cycle in vitro fertilization with donor oocytes. The predominate primary diagnosis of infertility was ovulation factors in both groups. 26 patients in the donor embryo group and 25 patients in the donor oocyte group had a positive quantitative beta HCG. There were 61 pregnancies between the two groups with a rate of 59.8 percent. 21 pregnancies occurred in the donor embryo group and 20 pregnancies in the donor oocyte group. This was not found to be statistically significant. There were 14 deliveries in the donor embryo group and 19 delivery in the donor oocyte group with delivery rates of 48.8 percent and 34.5 percent respectively. This was statistically significant between the two groups. There was a total of 22