

ENDOMETRIAL PREPARATION WITH INCREASING VERSUS FIXED DOSING OF ESTRADIOL DURING FROZEN EMBRYO TRANSFER CYCLES.

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OBJECTIVE: To analyze the reproductive outcomes using endometrial preparation protocols with either increasing doses of estradiol or with a fixed dose in autologous frozen embryo transfer (FET) cycles.

DESIGN: Retrospective cohort study.

MATERIALS AND METHODS: A total of 350 patients requesting FET cycles were analyzed. Patients were prepared without agonist down regulation and with two different endometrial preparation protocols: one consisting of increasing doses of estradiol valerate (beginning with 2mg and progressively reaching a daily dose of 8 mg); and the second using a constant and fixed dose (6 mg/day). Each group had 175 patients and their reproductive outcome, their demographic measures and the quality and number of their transferred frozen embryos were compared by ANOVA analysis.

RESULTS: Both groups were homogeneous regarding their demographic data, endometrial thickness at the start of progesterone (9.1 mm vs. 9.4 mm for variable versus fixed dosing, respectively) and the mean number of frozen embryos replaced (2.0 vs. 2.2). Although there were more clinical pregnancies in the group with fixed estradiol dosing, 40 vs 56%, this difference was not statistically significant. There were also no differences in implantation rate (27 vs. 23%) and in the gestational ages at delivery.

CONCLUSION: The endometrial preparation for FET without GnRH agonist and with a fixed dose of 6 mg estradiol is a simple, effective and easy protocol to prepare patients for autologous frozen embryo transfer cycles.

2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) INCREASES THE EXPRESSION OF CYCLOOXYGENASE-2 AND AROMATASE CYTOCHROME P450 IN HUMAN ENDOMETRIUM. Y. A. Kim, J. Y. Kim, M. R. Kim. Obstetrics and Gynecology, IlanPaik Hospital, Inje University, Ilsan, Goyang, Republic of Korea; Obstetrics and Gynecology, Ajou University School of Medicine, Suwon, Gyeonggido, Republic of Korea.

OBJECTIVE: To investigate the role of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) on eutopic endometrium by stromal cell culture.

DESIGN: Prospective experimental study.

MATERIALS AND METHODS: Human endometrial tissues obtained by hysterectomy specimens from 16 women with estrogen dependent diseases (endometriosis (n = 4), adenomyosis (n = 5), uterine fibroids (n = 7)) and 5 women who had undergone hysterectomy for carcinoma in situ of uterine cervix. Endometrial stromal cells were cultured under the following conditions: DMEM/F12 (10% FBS, 1 nM E2 and 100 nM P4). TCDD (10 nmol/l) and TNF-a (0.1ng/ml) were added according to experimental purposes. The protein expression of aromatase cytochrome P450 and COX-2 was examined by Western blot.

RESULTS: In control group, the COX-2 protein in stromal cells cultured with TCDD was significantly increased (control; 0.63 ± 0.19 vs. TCDD; 0.94 ± 0.26, P<0.05) And the aromatase P450 protein in stromal cells cultured with TCDD and TCDD plus TNF-a was significantly increased. (control; 0.60 ± 0.26 vs. TCDD; 0.90 ± 0.36, TCDD plus TNF-a; 0.95 ± 0.43, P<0.05).

In study group, the COX-2 protein in stromal cells cultured with TCDD and TCDD plus TNF-a was significantly increased. (control; 0.81 ± 0.26, TCDD; 1.04 ± 0.38, TCDD plus TNF-a; 1.30 ± 0.90, P<0.05). And the aromatase P450 protein in stromal cells cultured with TNF-a and TCDD and TCDD plus TNF-a was significantly increased (control; 0.76 ± 0.18 vs. TNF-a; 0.93 ± 0.34, TCDD; 0.97 ± 0.41, TCDD plus TNF-a; 1.16 ± 0.41 P<0.05). In the stromal cell cultured with TCDD plus TNF-a than TNF-a and TCDD alone, the aromatase protein was significantly increased (P<0.05).

CONCLUSION: Treatment with the TCDD increased aromatase cytochrome P450 and COX-2 on the eutopic endometrium of patients with and without estrogen dependent diseases, by endometrial stromal cells in culture.

ENDOMETRIAL PATTERN CHANGE FROM THE START OF PROGESTERONE ADMINISTRATION TO DAY OF EMBRYO TRANSFER AS PREDICTOR OF ENDOMETRIAL RECEPTIVITY IN DONOR OOCYTE CYCLES. A. Del Valle, W. Zhang, I. Kuznyetsova, M. Singare. The Toronto Institute for Reproductive Medicine, Toronto, ON, Canada.

OBJECTIVE: Endometrial pattern changes from a triple-layer (T) to hyperechogenic (H) type following progesterone (P4) administration were shown to predict pregnancy in autologous cycles. Our objective was to investigate the effect of endometrial pattern transformational changes in relation to pregnancy outcomes in donor oocyte cycles.

DESIGN: Retrospective study.

MATERIALS AND METHODS: This study included 166 IVF/embryo transfer (ET) donor oocyte cycles performed between 2007 and 2010. Oocyte donor's mean age was 27.6 ± 3.9 years. Oocyte donors underwent ovarian stimulation with FSH and hMG after long GnRH protocol. Embryo recipients were synchronized using long acting GnRH agonist following by fixed dose of oral estronized and P4. Endometrial ultrasound assessment was performed both on P4 administration day and ET day.

RESULTS: Three types of endometrial pattern change from P4 administration day to ET day were identified: T to H (136/166, 82%), T to T (11/166, 7%) and H to H (19/166, 11%). T-H transformation resulted in the highest clinical pregnancy rate (76%) and live birth/on-going pregnancy rate (68%). Similar pregnancy rate was seen in the T-T pattern (73%). The pregnancy rate was significantly lower in H-H pattern (53%).

Endometrial pattern change is related to endometrial receptivity in donor oocyte cycles.

Endometrial Pattern Changes	# of Patients	Oocyte donor age	# of Clinical Pregnancy	# of live birth and on-going pregnancy
T-H	136	27.7 ± 3.8	103 (76%)	93(68%)
T-T	11	27.5 ± 5.4	8 (73%)	6 (55%)
H-H	19	27.2 ± 4.2	10(53%)*	9(47%)

Fisher's exact test P=0.015 compared to T-H and T-T.

CONCLUSION: Endometrial T-H pattern transformation change appears to be associated with the most favorable pregnancy outcomes. The H-H pattern has the greatest negative impact on clinical pregnancy rate; yet it may still yield a reasonable pregnancy outcome. Further data is required to investigate the impacts of T-T pattern on live birth. These results may be useful in counseling patients undergoing donor oocyte cycles.

A GRADUAL INCREASE OF ENDOMETRIAL THICKNESS FROM THE DAY OF HCG TO THE DAY OF ET IS PREDICTIVE OF PREGNANCY OUTCOME IN PATIENTS WITH A THIN ENDOMETRIUM (< 8mm). Y. H. Jung, Y. Y. Kim, M. H. Kim, J. D. Cho. OB/GYN, Ellemedi, Changwon, GyeongNam, Republic of Korea.

OBJECTIVE: An adequate endometrial thickness is necessary for successful implantation. Numerous studies have demonstrated that thin endometrium on the day of hCG is associated with low pregnancy rates. This study was carried out to evaluate the relationship between a gradual increase of endometrial thickness from the day of hCG to the day of ET and pregnancy success and applied to the patients who have less than 8 mm of endometrial thickness on the day of hCG.

DESIGN: A prospective study.

MATERIALS AND METHODS: One hundred two patients who have an endometrial thickness < 8 mm on the hCG day were examined and divided into two different groups by the changes of endometrial thickness. Group I belonged a gradual increase of endometrial thickness from the hCG day to the ET day and Group II with a slow decrease. Luteal phase was supported by 8% progesterone gel daily and 6~8 mg/day oral E2.

RESULTS: Among 102 patients, 46 patients showed a gradual increase of endometrial thickness (Group I) whereas 56 patients showed a slow decrease