on first-trimester ultrasound were excluded. Linear regression models were utilized to assess the association between peak estradiol and birth weight with and without adjustment for potential confounders. A receiver operating characteristic (ROC) curve was generated to estimate the optimal peak estradiol cut-point for prediction of LBW based on the Youden index (J= sensitivity + specificity -1). The area under the curve (AUC), a predicted probability, was calculated to determine the ability of peak estradiol level to discriminate between patients with and without LBW.

RESULTS: One hundred eighty-three cycles met inclusion criteria. Univariate analysis showed that mean birth weight decreased by 45.28 g (95% CI= -84.14, -6.39; P=0.02, R^2 = 0.02) for each 500 pg/mL increase in peak estradiol. This association was no longer significant after adjusting for maternal age, BMI, infant sex, gestational age, and reason for IVF (-25.88 g per 500 pg/mL, 95% CI = -55.13, 3.36; P=0.08), but these predictors jointly explained 50% of the variance in birth weight. The optimal peak estradiol cut-point for prediction of LBW based on the Youden index was 3,991 pg/mL, resulting in 90% specificity, 33% sensitivity, 94% negative predictive value (NPV), and 23% positive predictive value (PPV). This dichotomized peak estradiol together with maternal age, BMI, infant sex, gestational age, and parity gave an AUC of 89% for LBW.

CONCLUSIONS: Peak serum estradiol is associated with birth weight but the strength of the association is reduced after controlling for potential confounders. The optimal peak estradiol cut-point based on the Youden index is 3,991 pg/mL. At this cut-point, peak estradiol has high NPV but low PPV for prediction of LBW.

References:

1. Farhi J, Ben-Haroush A, Haroush AB, Andrawus N, Pinkas H, Sapir O, et al. High serum oestradiol concentrations in IVF cycles increase the risk of pregnancy complications related to abnormal placentation. Reprod Biomed Online 2010;21(3):331-337.
2. Imudia AN, Awonuga AO, Doyle JO, Kaimal AJ, Wright DL, Toth TL, et al. Peak serum estradiol level during controlled ovarian hyperstimulation is associated with increased risk of small for gestational age and preeclampsia in singleton pregnancies after in vitro fertilization. Fertil Steril 2012;97(6):1374-9.

P-199 Tuesday, October 18, 2016

PRECONCEPTION THYROID STIMULATING HORMONE LEVEL DOES NOT AFFECT THE PREGNANCY OUTCOME IN WOMEN UNDERGOING IN VITRO FERTILIZATION.

H. Kim,[a] S. Park,[a] J. Yoon,[a] K. Pak,[a] J. Ahn,[a] J. Cha,[a] J. Lee,[b] S. Shin,[a] Y. Kim,[a] S. Lee,[a] H. Cha,[a] J. Kim.[a] [a]Agaon Fertility Clinic, Seoul, Korea, Republic of; [b]IVF Lab., Agaon Fertility Clinic, Seoul, Korea, Republic of.

OBJECTIVE: It is recommended that thyroid-stimulating hormone (TSH) level of early pregnant women is maintained below than 2.5 mIU/L. However, the reference value of the preconception TSH has not been established. The purpose of this study is to determine whether the preconception TSH level is affecting the pregnancy outcome in women undergoing in vitro fertilization (IVF).

DESIGN: Retrospective study.

MATERIALS AND METHODS: Six hundred sixty-three infertile patients with normal range TSH level who underwent IVF for the first time were studied from June 2012 to December 2014. The study subjects were categorized in two groups according to their preconception TSH level; one with TSH < 2.5 mIU/L and the other with TSH ≥ 2.5 mIU/L. We compared the clinical pregnancy rates, live birth rates, chemical abortion rates and miscarriage rates in two group.

RESULTS: Four hundred sixty patients of the study subjects had serum TSH level < 2.5 mIU/L and 203 patients ≥ 2.5 mIU/L. There were no statistically significant differences in age, periods of infertility, BMI, the number of metaphase II (MII) oocytes at ovum pick-up day, the number of transferred embryos and anti-müllerian hormone (AMH) level of patients between the study groups. The clinical pregnancy rate in the group of patients with TSH < 2.5 mIU/L and those with ≥ 2.5 mIU/L were 40.90% and 42.90% respectively (p value= 0.632). The live birth rates in the group of patients with TSH < 2.5 mIU/L and those with ≥ 2.5 mIU/L were 33.5% and 35% respectively (p value= 0.707). The chemical abortion rates in the group of patients with TSH < 2.5 mIU/L and those with ≥ 2.5 mIU/L were 11.1% and 8.4% respectively (p value= 0.289). The miscarriage rates in the group of patients with TSH < 2.5 mIU/L and those with ≥ 2.5 mIU/L were 18.1% and 18.4 % respectively (p value= 0.951).

CONCLUSIONS: There was no significant difference between the IVF outcomes of the normal-TSH-level groups of <2.5 mIU/L and ≥ 2.5 mIU/L.

P-200 Tuesday, October 18, 2016

THE FREQUENCY OF PLASMINOGEN ACTIVATOR INHIBITOR (PAI) POLYMORPHISM AND ITS EFFECTS ON RECURRENT IVF FAILURE.

E. Ersoy,[a] N. Yilmaz,[b] A. Ersoy,[c] A. Karatas,[d] Y. Engin-Ustun.[a] [a]Obstetrics and Gynecology, Zekai Tahir Burak Women's Healthcare Training and Research Hospital, Ankara, Turkey; [b]Reproductive Endocrinology Department, ZTB, Ankara, Turkey; [c]Zekai Tahir Burak Women's Healthcare Training and Research Hospital, Ankara, Turkey; [d]Obstetrics and Gynecology, Abant Izzet Baysal University, Bolu, Turkey.

OBJECTIVE: Recurrent IVF failure is still a challenging clinical situation. Plasminogen Activator Inhibitor (PAI) enzyme polymorphisms have been recently cited to be associated with endometrial receptivity which is about the differential effect of PAI-1 enzyme activity on extracellular matrix degradation (1). Here we aimed to investigate the frequency of different PAI polymorphism groups and their effects on IVF outcomes.

DESIGN: Retrospective cross-sectional study.

MATERIALS AND METHODS: One hundred seventy-nine nulliparous patients who had a history of two IVF failure at least and attended to the Assisted Reproduction Clinics of our tertiary care institution between January 2013 and January 2015 were included in this study. PAI-1 gene polymorphisms were detected using PCR prior to any controlled ovarian hyperstimulation protocols. The patients were merged into three groups as followings: *5G/5G* (Normal), *4G/5G* (Heterozygote), *4G/4G* (Homozygote). Individual characteristics and IVF outcomes were compared among groups.

RESULTS: The ages, FSH levels (Day 3), mean number of oocytes retrieved, fertilisation rate and the number of transferred good quality embryos were comparable among groups. Clinical pregnancy rates were 25%, 34.1%, 34.9%, respectively, and there was no significant difference among them. Also, live birth rates were comparable among groups.

CONCLUSIONS: The present study indicated that different PAI polymorphism states had no effect on IVF outcomes of patients who had recurrent IVF failure.Footnote of the table: CI: Confidence interval, PAI: Plasminogen Activator Inhibitor. Values were given as mean±standard deviation, median (range), or number (percentage).

References:

1. Mehta BN, Nath N, Chimote N. Periodicity in the levels of serum plasminogen activator inhibitor-1 is a robust prognostic factor for embryo implantation and clinical pregnancy in ongoing IVF cycles. J Hum Reprod Sci. 2014;7:198-205.

Table. Comparison of demographics and IVF outcomes among PAI polymorphism states.

Variables	*5G / 5G* (n=48)	*4G / 5G* (n=88)	*4G / 4G* (n=43)	*p* value
Age (years)	31.58±3.96	30.62±4.24	30.18±4.21	0.251
Day-3 FSH (mIU/mL)	7.22±2.55	7.52±2.28	6.64±1.70	0.109
Cause of Infertility	48 (26.82)	88 (49.16)	43 (24.02)	0.943
Duration of infertility (years)	5 (1-15)	6 (1-21)	5 (1-17)	0.398
Number of retrieved oocytes	10.90±5.63	9.36±4.85	9.95±6.21	0.291
Number of embryos	3.5 (1-16)	4 (1-14)	2 (1-16)	0.349
Number of transferred good quality embryos	23 (47.9)	54 (61.4)	26 (60.5)	0.287
Fertilization rate	60.86±25.85	67.20±22.51	65.73±25.53	0.341
Clinical pregnancy	12 (25.0)	30 (34.1)	15 (34.9)	0.491
Live birth rate>24 wks	7 (14.6)	9 (10.2)	9 (20.9)	0.250

Downloaded for Anonymous User (n/a) at Abant Izzet Baysal Universitesi from ClinicalKey.com by Elsevier on April 18, 2022. For personal use only. No other uses without permission. Copyright ©2022. Elsevier Inc. All rights reserved.