of efficacy of COH protocols related to FSHR genotypes.

Results: In a population of 1,020 Korean women, the frequency of major alleles was 44.8% of TT/NN, 42.0% of TA/NS and 10.5% of AA/SS, respectively. There was no significant difference in basal FSH level, dosage of FSH treated, estradiol level at the day of hCG administration, number of retrieved oocytes and pregnancy rate among the COH-IVF patients with different genotypes. Related to COH protocols, the estradiol level of short protocol was higher than that of long protocol in TA/NS genotypes (2,512±1360 vs 1,980±1194 pg/ml, p=0.07). In addition, the incidence of higher respond cycles (> 3,000 pg/ml of estradiol level) in short protocols (37.1%, 13/35) was higher than that of long protocols (17.5%, 7/40) in TA/NS genotypes (p=0.07). Delivery rate per patient of long protocols was significantly higher than that of short protocols in TA/NS genotypes (35.0% vs 10.0%, p=0.03).

Conclusions: These data could not show the significant relationship between the FSHR genotypes and ovarian responses of COH cycles in Korean women. We suggest that the long protocol for TA/NS genotypes could lower the risk of ovarian hyperstimulation syndrome and provide higher delivery rate.

P-26   Potential Role for PPARδ as a Prostacyclin Receptor During Early Embryo Developments in Mice

Hee Jung Kang[1], Hee Yeon Cho[1], Jin Hyun Jun[1], Kyuyong Han[2], Hyunjung Lim[2], Haengseok Song[1]

[1]*Laboratory of Infertility & Reproductive Biology, Cheil General Hospital & Women's Healthcare Center, Sungkyunkwan University School of Medicine, Seoul, Korea,* [2]*Department of Biomedical Science & Technology, Institute of Biomedical Science & Technology, Konkuk University, Seoul, Korea*

Background & Objectives: Prostacyclin (PGI$_2$) was shown to improve blastocyst development and hatching rate in vitro, and subsequently implantation and live birth rates. Previous studies suggested that the action of PGI$_2$ on these events may be mediated through a G protein-coupled membrane receptor, IP. However, it still remains unclear whether the actions of PGI$_2$ on early embryonic development are mediated via IP or a nuclear receptor, peroxisome proliferator-activated receptor δ (PPARδ), The objective of this study was to investigate temporal expression patterns of IP, PPARs (α, β/δ, γ), and retinoid X receptors (RXRs: α, β, γ), heterodimeric partners of PPARs for transcriptional regulation, during early embryogenesis in mice. We also examined the effects of PPAR antagonists on early embryo development and hatching in vitro.

Method: Ovulated oocytes and embryos were cultured and/or harvested in vitro at various stages of development. Pooled embryos (30 embryo each) were utilized to isolate total RNA for preimplantation embryos at various stages (triplicate embryo sets at various stages). Rabbit α-globin mRNA was added in all samples before RNA extraction as an external control for RNA preparation. Semi-quantitative and/or realtime quantitative RT-PCR was performed with appropriate primers for PPARs, RXRs, and IP in

embryo RNA samples. To examine effect of PPARδ ligands and antagonists on embryonic development, embryos were collected at two cell stage and cultured in the presence of cPGI (a stable analogue of PGI_2) or PPAR antagonists (GW9662 and T0070907) in KSOM medium at various concentrations.

Results: PPARδ was uniquely expressed in maternal and zygotic mRNAs during early embryogenesis in mice, while PPARα and PPARγ are expressed only at oocyte and PN stages, respectively. Maternal PPARδ mRNAs gradually decreased to undetectable level at 4~8 cell stages and increased from 8 cell stage onwards. Among three members of RXR family, RXRα and RXRβ, but not RXRγ, were similarly expressed during early embryogenesis. Interestingly, mRNA expression of IP, a membrane receptor for PGI_2, was very low to undetectable by RT-PCR throughout preimplantation embryo stages. Temporal expression patterns of PPARs, RXRs and IP receptor suggest potential role of PPARδ/RXR heterodimers as effective receptor system for PGI_2 during blastocyst development and hatching. GW9662 and T0070907, PPAR antagonists at 10 μM, had no adverse impact on embryonic developments, but they significantly reduced complete hatching rate at post-hCG 144 hr.

Conclusions: PPARδ/RXRα and/or PPARδ/RXRβ heterodimers could mediate the actions of PGI_2 on transcriptional regulation of genes involved in preimplantation embryo development and hatching in mouse embryos.

P-27   Antral Follicle Count and Mean Ovarian Area as Predictors of Ovarian Response and Outcomes of In Vitro Fertilization and Embryo Transfer

So Jung An[1], Seok Hyun Kim[1,2], Byung Chul Jee[1], Seung-Yup Ku[1,2],
Chang Suk Suh[1,2], Young Min Choi[1,2], Jung Gu Kim[1], Shin Yong Moon[1,2]

[1]Department of Obstetrics and Gynecology, College of Medicine,
[2]Institute of Reproductive Medicine and Population, Medical Research Center,
Seoul National University, Seoul

Background & Objectives: Prediction of ovarian responses prior to stimulation is useful in counseling patients and helpful in considering adequate treatment options and adjusting stimulation protocols in individual patients for successful outcome. Several studies have demonstrated the correlations between antral follicle count (AFC), ovarian volume, and ovarian response to controlled ovarian stimulation (COH). However, there have been few studies on relationship between ovarian area, which is a more convenient and widely-used parameter in routine practice, and COH outcome. The aim of this study was to evaluate the day 3 AFC and mean ovarian area (MOA) determined by ultrasonography as predictors of ovarian responsiveness and treatment outcome in COH for IVF-ET.

Method: A total of 82 infertile women underwent COH with GnRH agonist long protocol were included. After pituitary down-regulation, numbers of antral follicles (2~9 mm) and mean area of ovaries were assessed by ultrasonography before the administration of gonadotropins. MOA was calculated on the largest