

nestin을 발현하였고, OCT4, PAX6, Brachyury는 발현하지 않았다. 양수 줄기세포는 골수유래 줄기세포와는 달리, OCT4를 발현하였으며, BMP4와 nestin을 발현하지 않았다. 제대와 지방에서 유래한 줄기세포는, OCT4와 PAX6를 제외한 나머지 유전자의 발현양상이 골수유래 줄기세포와 같았다. 양막 줄기세포는 OCT4를 발현하였으며, 나머지 유전자의 발현양상은 골수유래 줄기세포와 같았다. 단백질의 발현양상의 경우, 골수유래 줄기세포는 세포외 기질 분자인 fibronectin, collagen type I, II, III, IV, XII와 표면항원인 ICAM, VCAM, VCAM과 세포골격인자인 α -SMA, vimentin을 모두 발현하였다. 또한, 내피세포인자인 vWF와 MHC antigen인 HLA-ABC, HLA-DR를 발현하였고, 배아줄기세포 인자로 알려져 있는 TRA 1-60 역시 발현하였다. 양수에서 유래한 줄기세포는 HLA-DR을 제외한 단백질의 발현양상은 골수유래 줄기세포와 같았으며, 제대에서 유래한 줄기세포는 골수유래 줄기세포와 발현양상이 같았다. 지방 줄기세포는 collagen type IV과 VCAM을 발현하지 않았고, 양막에서 유래한 줄기세포는 collagen type II, IV, ICAM, VCAM, vWF, HLA-DR은 발현하지 않았다. 마지막으로 이들 중 양막과 지방에서 유래한 줄기세포를 이용하여 심장 근육세포에 특이적인 유전자의 발현양상을 살펴 본 결과, 양막줄기세포는 α SA, Cmlc1, α -CA, ANP, β -MHC를 발현하였고, BNP, C-Vml2 α MHC는 발현하지 않았다. 지방유래 줄기세포는 Cmlc1은 발현하지 않았으며, ANP, β -MHC의 발현 정도가 양막 줄기세포에 비해 약하게 발현되었고, 나머지 유전자는 동일하게 발현되었다.

Conclusions: 본 연구결과에서는 사람의 다양한 조직으로부터 얻은 중간엽 및 유사 중간엽 줄기세포의 유전자와 단백질의 발현양상이 다르게 나타났다. 따라서 치료의 목적에 따라 관련 유전자 및 단백질이 발현되는 조직의 세포를 선택함으로써 세포치료제 개발에 유용하게 사용될 것으로 사료된다.

P-25 Relationship between FSH Receptor Genotypes and Ovarian Responses of Controlled Ovarian Hyperstimulation with Exogenous FSH

Hyoung-Song Lee¹, Sun Hwa Cha², In Ok Song², Mi Kyoung Koong²,
Inn Soo Kang², Jin Hyun Jun¹

¹Laboratory of Reproductive Biology and Infertility, ²Department of Obstetrics and Gynecology, Cheil General Hospital & Women's Healthcare Center, Sungkyunkwan University School of Medicine

Background & Objectives: The prediction of ovarian response and clinical outcome in controlled ovarian hyperstimulation (COH) with exogenous FSH would be of great benefit to management of infertile patients. Several reports have been showed the relationship between FSH receptor (FSHR) genotypes and ovarian responses in COH cycles. In this study, we evaluated the association of FSH receptor SNP with ovarian responses and clinical outcomes of COH cycles in patients undergoing IVF.

Method: Genomic DNA was extracted from peripheral blood and Thr307Ala (T/A) and Asn680Ser (N/S) of SNP in FSHR gene were screened by PCR-RFLP. We investigated the frequency of FSHR genotypes and clinical outcome was compared by FSHR genotypes. Selected patients (n=53) who had performed both short and long COH protocol in our hospital within five years were subjected for evaluation

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 ($2,512 \pm 1360$ vs $1,980 \pm 1194$ 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 PPAR δ as a Prostacyclin Receptor During Early Embryo Developments in Mice

Hee Jung Kang¹, Hee Yeon Cho¹, Jin Hyun Jun¹, Kyuyong Han²,
Hyunjung Lim², Haengseok Song¹

¹Laboratory of Infertility & Reproductive Biology, Cheil General Hospital & Women's Healthcare Center, Sungkyunkwan University School of Medicine, Seoul, Korea,

²Department of Biomedical Science & Technology, Institute of Biomedical Science & Technology, Konkuk University, Seoul, Korea

Background & Objectives: Prostacyclin (PGI₂) 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 PGI₂ on these events may be mediated through a G protein-coupled membrane receptor, IP. However, it still remains unclear whether the actions of PGI₂ on early embryonic development are mediated via IP or a nuclear receptor, peroxisome proliferator-activated receptor δ (PPAR δ). 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