

P-10 **The Correlation of Leptin and hCG (Human Chorionic Gonadotrophin) Levels in the Serum between Women with Hyperemesis Gravidarum and Normal Control**

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Objective: Hyperemesis gravidarum is a distinct feature occurring in 0.2~1% of all pregnant women and defined as severe form of nausea and vomiting that lead to fluid and electrolyte imbalance, ketonuria, and weight loss during early pregnancy. Hyperemesis gravidarum may be associated with the development or worsening of an eating disorder during pregnancy. Leptin is the 16 kDa protein product of the obese gene, which limits food intake and increases energy expenditure and is produced by the human placenta. High leptin level may decrease food intake and metabolic efficiency. So, the purpose of this study is to evaluate the correlation of leptin and hCG level in the serum of patients with hyperemesis gravidarum compared with a normal control group.

Materials and Methods: The serum were collected from 16 women with hyperemesis gravidarum and 10 women with normal pregnancy. They were at the gestation stages of 6~9 weeks. The serum leptin and hCG were measured by sandwich ELISA (R&D System) and RIA, respectively. The results for hyperemesis gravidarum group were compared with normal pregnancy group using student t-test. The standard method of correlation[®] analysis was also applied.

Results: The level of hCG was significantly higher in hyperemesis gravidarum group than in normal pregnancy group ($p < 0.05$). There was a positive correlation between the total hCG and the gestational age ($r = 0.6$) Although leptin level was higher in hyperemesis gravidarum group than in normal pregnancy group, there was no significant difference between hyperemesis gravidarum group and normal pregnancy group.

Conclusion: hCG was involved in the etiology of hyperemesis gravidarum with statistical significance. Leptin did not appear to be responsible for the appetite and dietary intake associated with pregnancy. Although there was no statistical significance, the difference of leptin levels between hyperemesis gravidarum group and normal pregnancy group suggests that leptin might play some role in human pregnancy.

P-11 **Basal and Down-regulated Serum LH Levels as a Prognostic Indicator of Ovarian Response to Controlled Ovarian Hyperstimulation**

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Objectives: The effect of basal day 3 luteinizing hormone (LH) and pituitary desensitized day 3 LH level

on ovarian response to controlled ovarian hyperstimulation were investigated.

Method: From January 1999 to December 2001, 445 cycles for in vitro fertilization & embryo transfer (IVF-ET) were allocated to this study. Controlled ovarian hyperstimulation (COH) was performed using long protocol of gonadotropin-releasing hormone agonist (GnRHa). All patients included in this study had blood samples drawn on cycle day 3 prior to COH and cycle day 3 after pituitary desensitization with GnRHa for measurement of FSH and LH. Infertile women were younger than 43 years old, and had normal menstrual cycle, normal day 3 FSH & LH level (<10 mIU/ml), infertility factor caused by tubal factor, mild endometriosis, unexplained infertility or mild male subfertility. The result of COH and IVF-ET were compared between low LH group and high LH group according to the level of basal LH (3 mIU/ml) & down-regulated LH (1 mIU/ml).

Result: The low LH groups were significantly higher FSH:LH ratio, higher dose of exogenous gonadotropin for pituitary desensitization, longer duration of gonadotropin administration. The peak estradiol, number of oocytes retrieved, number of MII oocyte, mean cumulative embryo score (MCES) were significantly lower in the low LH group than the high LH group. There were not significantly differentiation in the duration of pituitary desensitization, fertilization rate and the number of transferred embryos. The clinical pregnancy rate per cycle was not correlated with the value of basal LH concentration, but correlated with the value of down-regulated LH concentration.

Conclusion: The lower LH activity (basal LH <3 mIU/ml, down-regulated LH <1 mIU/ml) is significantly associated with reduced ovarian response in controlled ovarian hyperstimulation after desensitization with GnRHa. These results suggest that down-regulated LH level 1 mIU/ml may be a useful predictor of the clinical pregnancy rate per cycle after controlled ovarian hyperstimulation.

P-12 동일한 항동해제용액 (Ethylene Glycol과 Sucrose)을 사용하여 유리화동결 시킨 난자와 배반포의 임신율에 관한 보고

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Background & Objectives: 인간 배아와 난자의 동결은 생식보조기법에 중요한 부분을 차지하며, 최근에 완만동결방법으로 동결했을 때 이식당 25% 정도의 임신율을 나타내는것으로 보고되었다. 성공적인 난자와 배아의 동결법의 가장 중요한 점은 항동해제의 올바른 조합으로 이들은 최소의 독성을 가지며 세포막을 투과하는 우수한 투과성을 가지며 얼음 결정의 생성으로 나타나는 세포의 손상을 막고 동결용해동안 삼투압의 피해를 최소화할 수 있어야 한다. 본 연구의 목적은 인간난자와 배아에서 같은 항동해제를 이용한 유리화동결시 성공율을 비교해보고자 시행하였다.

Method: 난자의 동결은 동의를 받은 IVF 환자로부터 난자 채취 후 2~3시간 안에 동결시켰으며, 배반포는 수정된 배아를 배양 5~6일 후에 동결시켰다. 난자와 배반포의 동결은 2단계의 유리화동결법