

ovary syndrome (PCOS) that is a wide-spread endocrine disorder characterized by obesity, hyperandrogenism, and insulin resistance.

Method: Ovary and follicular fluids from normal and PCOS patients were examined for quantitative differences in protein expression using two-dimensional polyacrylamide gel electrophoresis (PAGE). Spot detection was accompanied by using ImageMaster™ 2D Platinum software. About 30 candidate proteins were identified using matrix-assisted laser desorption/ionization-time of flight-mass spectrometry (MALD-TOF-MS) or peptide sequencing.

Results: Elongation factor Tu (EF-Tu), Isocitrate dehydrogenase (IDH), Aldehyde dehydrogenase 1A1, Fibrinogen β -chain precursor, Fascin, TATA-binding protein, Septin 11, Aconitase 1, hnRNP 2H9B, Aldehyde reductase, Esterase D, Ribose-phosphate pyrophosphokinase I, and PGAM1 were identified as being significantly overexpressed in patients with polycystic ovary syndrome. The expression of these proteins was increased from 1.4- to 10.6-fold as compared with normal ovary tissues. On the other hand, the expression level of carbonic anhydrase I, ubiquitin-conjugating enzyme E2N, and histone H2A.5 was decreased from 1.5- to 2.5-fold.

Conclusions: Two-dimensional PAGE and mass spectrometry can identify proteins showing increased (or decreased) expression in polycystic ovary syndrome. The association of these proteins with clinical variables and understanding the regulation of their expression will aid in determination of their potential use as biomarkers in this syndrome.

P-44 The Efficacy of Simple Assessment System of Oocyte Maturity in IVF-ET Cycles

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Background & Objectives: The purpose of this study was to investigate the effect of simple assessment system of oocyte maturity on the outcome in IVF-ET cycles.

Method: Patients were grouped into two different groups, group I without evaluation and II with evaluation of oocyte maturity. In group I, all oocytes were inseminated at 6 h after ovum pick-up. In group II, oocyte maturity was rapidly categorized by simple assessment system. In mature form, oocytes were inseminated at 3~4 h after ovum pick-up when oocyte corona complexes (OCC) exhibited ring-like halo (RLH) and well expanded cumulus cells (CC) or at 5~6 h when OCC exhibited RLH and a few clumped and/or dark CC, respectively. In intermediate form, oocytes were inseminated at 8~10 h when RLH around OCC was not formed and CC were clumped and/or dark. Immature oocytes were not included in this study.

Results: Normal fertilization rate was significantly higher ($p<0.05$) in group II (76.5%) than that in group I (58.0%). However, abnormal fertilization rate was significantly higher ($p<0.05$) in group I (11.3%) than that in group II (3.6%). Cleavage rate was not statistically differences in each group (82.6% vs. 90.0%).

The chemical pregnancy (4.8% vs. 3.9%), twin pregnancy (6.7% vs. 3.9%) and embryonic implantation rate (8.4% vs. 10.6%) were not significantly differences in group I and II. Clinical and singleton pregnancy rate was significantly higher ($p < 0.05$) in group II (35.3% and 31.4%) than those in group I (24.8% and 18.2%).

Conclusions: These results demonstrate that the simple assessment system was useful to evaluate the oocyte maturity effectively.

P-45 남자세포질내정자직접주입술 (Intra Cytoplasmic Sperm Injection)과 체외수정시술 (Conventional In Vitro Fertilization)을 통해 얻어진 잉여 인간배아를 항동해제인 Ethylene Glycol을 이용한 완만동결-급속융해 후 임상결과 비교

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Background & Objectives: 시험관아기시술 (In vitro fertilization-embryo transfer) 프로그램의 발전으로 인한 인간배아의 과잉생산으로 다 태아임신 및 잉여배아 증가의 문제점을 해결하기 위한 배아 동결 보존방법이 이용되어 오고 있다. 최근에는 Ethylene glycol (EG)이 세포 내 투과성이 높고 독성이 낮은 장점 때문에 포유동물을 비롯 인간배아의 완만동결, 급속동결에 사용되었으며, 임신보고를 통한 안정성이 검증된 바 있다. 최근 시험관아기 시술방법으로 남자세포질내 정자직접주입술을 이용한 시술이 증가하고 있으나 이 방법으로 만들어진 잉여배아의 동결보존에 미치는 EG의 영향에 관한 연구는 부족하다. 이에 본 연구에서는 일반적인 체외수정시술과 정자직접주입술을 통해 얻어진 잉여배아를 완만동결을 이용해 보존할 때 항동해제로 사용된 EG가 급속융해-이식 후 임상결과에 미치는 영향을 조사하고자 하였다.

Method: 본 연구는 2003년 1월부터 2004년 9월까지 본원에서 시험관아기시술 프로그램을 통해 이식 후 남은 잉여의 배아를 1.5 M의 Ethylene Glycol을 이용 완만동결-급속융해를 실시한 138명의 환자 154주기 (IVF 78주기, ICSI 61주기)를 대상으로 하였으며 생존율 및 임신율을 비교해 보았다.

Results: 같은 조건 하에서 융해된 각 군의 생존율에 있어서는 ICSI군이 92% (519/566)로 conventional IVF군의 84% (723/863)보다 높은 생존율을 보였으나 유의차는 없었다. 이들 두 군간의 환자 나이와 불임기간, 이식된 난자의 평균 갯수는 차이가 없었으며, 임신율에 있어서도 42% (37/89), 41% (26/64)로 차이가 없음을 알 수 있었다.

Conclusions: 세포 내 투과성이 좋고 독성이 적은 항동해제로 알려진 EG를 이용한 완만동결-급속융해 방법이 다른 항동해제를 이용한 임상결과와 동일하게 체외수정시술과 미세정자직접주입술을 통해 얻어진 배아의 이식 후 임신율에 차이가 없음을 보였을 뿐 아니라 두 군 모두에서 높은 임신률을 얻을 수 있었다. 이에 ART프로그램에 있어서 EG를 이용한 완만동결-급속융해 방법이 효과적이며 안정적인 방법이 될 것으로 사료된다.