

P-17 Relationships between the Concentrations of Tumor Necrosis Factor- α and Nitric Oxide in Follicular Fluid and Oocyte Quality

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Abstract

Purpose: Our objective was to elucidate a correlation between concentrations of tumor necrosis factor- α (TNF- α) and nitric oxide (NO) in a human follicular fluid and oocyte quality and outcomes of IVF-ET.

Methods: The concentrations of TNF- α and NO were measured in 92 follicular fluid samples collected from 23 patients undergoing IVF-ET program, due to tubal obstruction, some with endometriosis (4 cases) or hydrosalpinx (2 cases). Correlation of these levels with the oocyte quality, the oocyte maturity and infertility-associated diseases was analyzed.

Results: No correlation was found between the concentrations of NO and TNF- α in follicular fluid. NO concentrations in follicular fluid were significantly higher in patients with endometriosis ($p < 0.001$) or hydrosalpinx ($p < 0.01$) compared to the patients with just tubal obstruction and follicular NO concentrations' differences according to the oocyte maturity and the oocyte quality were not found. On the other hand, TNF- α concentrations in follicular fluid were significantly higher in poor quality oocytes ($p < 0.05$) and were not associated with infertility-associated diseases, like hydrosalpinx or endometriosis and the oocyte maturity. However, no significant differences in follicular levels of NO and TNF- α as well as IVF-ET parameters of pregnant and non-pregnant groups were revealed.

Conclusions: There is no significant correlation between the concentrations of NO and TNF- α in follicular fluid. NO levels in follicular fluid are altered in infertility-associated diseases. However, TNF- α levels, but not NO, influence oocyte quality. These results suggest that the production of NO and TNF- α in follicular fluid may be regulated via different pathways and can be tempered with infertility-associated diseases, thereby influencing oocyte quality locally.

Key Words: Follicular fluid, Nitric oxide, Tumor necrosis factor- α , Oocyte quality

P-18 공배양의 작용기전에 관한 연구

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체외배양조건을 개선하려는 많은 시도가 지난 10여 년에 걸쳐 진행되어 왔다. 그러한 시도들 중의 하나가 보조 체세포를 이용한 배아의 공배양이며, 많은 연구들에 의해 배아의 질 향상 및 배아 발생률의 증가와 같은 공배양의 체외 배발생에 대한 이로운 효과가 입증