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# Polycystic Ovarian Syndrome

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## Differential expression profile of immunological cytokines in local ovary in patients with polycystic ovarian syndrome: Analysis by flow cytometry

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**Objective:** Immune dysregulation may play an important role in the pathogenesis of polycystic ovary syndrome (PCOS). The purpose of this study was to investigate the Th1 and Th2-related cytokine profile in local ovary of women with PCOS.

**Study Design:** The T lymphocytes of follicular fluid (FF) were obtained at the time of oocyte retrieval before in vitro fertilization (IVF) in woman with or without PCOS. After culturing with PMA, ionomycin and golgi stop agent, cells were detected for the intracellular cytokine production by flow cytometry. The profile of Th1 (IFN- $\gamma$ , IL-2) and Th2 (IL-4, IL-10) cytokines of CD3+CD4+ T lymphocyte subsets were analyzed through invert gating. These cytokines in FF were also evaluated by ELISA.

**Results:** Flow cytometry analysis showed that the production of Th1 (IFN- $\gamma$ , IL-2) cytokines in FF lymphocytes in PCOS patients were significantly higher than those in controls. ELISA result also demonstrated that the concentration of Th1 cytokines (IFN- $\gamma$ , IL-2) in FF in PCOS patients is significantly increased compared with those in controls.

**Conclusion:** It is concluded that the immune dominance of Th1 may be the immunological feature of the ovary in PCOS patients. It might participate in the immune pathogenesis in the ovary of PCOS patients. These results suggest that chronic inflammation maybe one of the underlying mechanism for the pathogenesis of PCOS.

### Biography

Qin Lang has completed his MD and PhD from West China Medical Science College of Sichuan University. He has finished his Post-doctoral studies from Reproductive Medical Centre, Groningen University, Netherlands. He has worked for the most famous Reproductive Medical Centre for IVF-ET in West Area of China for 16 years. He is identified as Youth Member of Reproductive Medical, Gynecologic Endocrinology and Gynecologic Oncology in China. He was awarded some important scientific funds of China. He has published more than 15 papers in reputed journals and has been serving as a reviewer for some of them.

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