O-5(기초) Identification of Over-expressed Proteins by Proteomic analysis using Human Follicular Fluids Derived from Polycystic Ovary Syndrome (PCOS) Patients

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Background & Objectives: Polycystic ovary syndrome (PCOS) is an endocrine-metabolic disorder, affecting 5~10% of women of reproductive age. The etiology is poorly understood. To investigate the differentially expressed proteins from PCOS patients, the protein expression in follicular fluid was analyzed.

Method: Follicular fluid contains a variety of biologically important proteins of the requirements for oocyte fertilization and follicle maturation during mammalian reproductive process. Therefore, it can be used as a source for identifying proteins involved in PCOS. protein expression was analyzed using two-dimensional electrophoresis.Over-expressed six proteins in follicular fluids from PCOS patients were identified with MALDI-TOF-MS and nano-LC MS/MS. Western blot analysis confirmed that the protein expression level.

Results: Over-expressed six proteins (kininogen 1, cytokeratin 9, antithrombin, fibrinogen γ, apoliopo-protein A-IV precursor, and α-1-B-glycoprotein) in follicular fluids from PCOS patients were identified with MALDI-TOF-MS and nano-LC MS/MS. Western blot analysis confirmed that the protein expression level of apoliopoprotein A-IV precursor and α-1-B-glycoprotein was increased in follicular fluid from PCOS patients compared with those from normal controls.

Conclusions: These results will facilitate the understanding of molecular mechanisms of PCOS and provide candidate biomarkers for the development of diagnostic and therapeutic tools.