

JOINT EVENT

9<sup>th</sup> International Conference and Expo on

**Proteomics and Molecular Medicine**

9<sup>th</sup> International Conference on

**Bioinformatics**

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November 13-15, 2017 Paris, France

## **A proteomic analysis of human follicular fluid: novel candidate markers for oocyte number and reproductive aging**

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Follicular fluid (FF) results from the transfer of blood plasma components and the secretory activity of the oocyte, granulosa and thecal cells. Certain components of FF might be used as indicators for the maturation and the quantity of the oocytes. Proteins can be used as biomarkers for reproductive diseases using both FF and plasma. Age-related infertility is usually considered as a problem that can be solved by assisted reproduction technology. Therefore, the identification of novel biomarkers that are linked to reproductive aging is the subject of this study. FF was obtained from healthy younger (20–32 years old) and older (38–42 years old) women undergoing intracytoplasmic sperm injection (ICSI) due to male factor infertility. In this study, we investigated the protein composition of human FF obtained from females undergoing ICSI using the matrix-assisted laser desorption-ionization time-of-flight/time-of-flight (MALDI-TOF-TOF) mass spectrometry technique. Twenty-three protein spots showed reproducible and significant changes in the aged compared to the young group. Of these, 19 protein spots could be identified using MALDI-TOF-TOF-MS. As a result of MASCOT search, five unique downregulated proteins were identified in the older group. These were identified as serotransferrin, hemopexin precursor, complement C3, C4 and kininogen. A number of protein markers were found that may help develop diagnostic methods of infertility.

### **Biography**

Maryam Bahmanzadeh has completed her PhD from Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran. She is an Assistant Professor in Anatomical Sciences Hamadan University of Medical Sciences, Iran and a Clinical Embryologist. She has published more than 10 papers in reputed journals.

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