

## **9<sup>th</sup> Yazd International Congress and Student Award on Reproductive Medicine with 4<sup>th</sup> Congress of Reproductive Genetics**

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### **Key Lectures**

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#### **K-42**

#### **Using embryo culture medium as a diagnostic factor**

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The success rate of assisted reproduction is remained low despite performing several studies around the world. Different strategies have been used for the improvement of assisted reproduction technology (ART) outcomes. More attention has been paid for omics technology in recent decades. Metabolomics is a non-invasive technique to evaluate oocyte quality, and competence, embryo viability, and endometrial receptivity. In fact, metabolomics provides sufficient

data about the oocyte, embryo, and endometrium for the treatment of patients with subfertility.

Also, this method, by selecting the best embryo for transfer, can reduce the number of transferred embryos, and the risk of multiple pregnancies as well. Evaluation of oocytes based on metabolomics can replace other methods of selection with the high variability like morphology or invasive method like polar body biopsy. Amino acids turnover can predict embryo viability with high rate of implantation resulting to a live birth. Metabolomics evaluation of endometrium is also associated with the receptivity of endometrium and also for diagnosis of endometriosis. High-quality researches are needed for drawing the final conclusion about the efficacy of metabolomics on ART outcomes including live birth and miscarriage rates.