

## عنوان مقاله:

Vitrification Affects Nuclear Maturation and Gene Expression of Immature Human Oocytes

## محل انتشار:

مجله تحقیق در پزشکی مولکولی، دوره 5، شماره 1 (سال: 1395)

تعداد صفحات اصل مقاله: 7

## نویسندگان:

Abbas Shahedi - *Department of Biology and Anatomical Sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran*

Ahmad Hosseini - *Cellular and Molecular Biology Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran*

Mohammad Ali Khalili - *Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran*

Farshid Yeganeh - *Department of Immunology, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran*

## خلاصه مقاله:

Background: Vitrification of oocytes is a fast-freezing technique, which may affect the quality of the human oocyte, and consequently affects the embryo development, pregnancy and birth. The aim of the current study was to investigate the consequence of in-vitro vitrification on maturation status of immature human oocytes, additionally, expression levels of stress, and apoptosis related genes. Materials and Methods: The total of ۲۱۳ human immature oocytes which routinely discarded from assisted reproduction clinics were collected and divided into two groups including: (I) fresh germinal vesicle (GV) oocytes (n=۱۰۶) (matured in-vitro (fIVM) , and (II) GV oocytes (n=۱۰۷) that initially vitrified, then matured in in-vitro (vIVM). After ۳۶ hours of incubation, the oocytes were evaluated for nuclear maturation and expression level of DNA methyltransferase (DNMT1), stress related genes (Sod1 and Hsp۷۰), and apoptotic related genes (Bax and Bcl-۲) by quantitative Real-Time PCR. Results: Oocyte maturation rates were reduced in vIVM compared to fIVM oocytes (P=۰.۰۰۱). The expression of stress (Sod1 and Hsp۷۰), and apoptotic-related genes (Bax and Bcl-۲) in vIVM were significantly higher compared to the fIVM group. Additionally, pro-apoptotic gene up-regulated ۴.۳ times more than anti-apoptotic gene in vIVM oocyte. However, DNMT1 gene expression was reduced in vIVM oocyte (P = ۰.۰۴۷). Conclusions: The low survival rate of vitrified In-vitro matured GV oocytes could definitely be explained by the alterations of their gene expression profile.

## کلمات کلیدی:

Apoptosis, Oocytes, Vitrification

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1881996>



