

عنوان مقاله:

Glutathione-dependent enzymes in the follicular fluid of the first-retrieved oocyte and their impact on oocyte and embryos in polycystic ovary syndrome: A cross-sectional study

محل انتشار:

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تعداد صفحات اصل مقاله: 10

نویسندگان:

Fatemeh Zal - *Department of Biochemistry, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran. Infertility Research Center, Shiraz University of Medical Sciences, Shiraz, Iran*

Pardis Ahmadi - *Department of Obstetrics and Gynecology, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran*

Maryam Davari - *Department of Obstetrics and Gynecology, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran. IVF Section, Ghadir-Mother and Child Hospital of Shiraz, Shiraz, Iran*

Fatemeh Khademi - *Department of Biochemistry, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran*

Mojgan Akbarzadeh Jahromi - *Department of Pathology, Maternal-Fetal Medicine Research Center, Shiraz University of Medical Sciences, Shiraz, Iran*

Zahra Anvar - *Infertility Research Center, Shiraz University of Medical Sciences, Shiraz, Iran. Department of Obstetrics and Gynecology, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran*

Bahia Namavar Jahromi - *Infertility Research Center, Shiraz University of Medical Sciences, Shiraz, Iran. Department of Obstetrics and Gynecology, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran*

خلاصه مقاله:

Background: Oxidative stress and GSH-dependent antioxidant system plays a key role in the pathogenesis of polycystic ovary syndrome (PCOS). Objective: We compared glutathione peroxidase (GPx) and glutathione reductase activities and reduced glutathione (GSH) levels in serum and follicular fluid (FF) of the first-retrieved follicle and their impact on quality of oocyte and embryo in PCOS women undergoing IVF. Materials and Methods: This cross sectional study was conducted on 80 pairs of blood samples and FF of the first-retrieved follicle from PCOS women, at the Infertility center of Ghadir Mother and Child Hospital. The mean activity of GPx and GR, also GSH levels in the serum and FF were compared to the quality of the first follicle and resultant embryo. Results: Retrieved oocytes included 53 (66.25%) MII, 17 (21.25%) MI, and 10 (12.5%) germinal vesicles; after IVF 42 (52.50%) embryos with grade I and 11 (13.75%) with grade II were produced. The mean values for all three antioxidants were higher in the FF compared to serum ($p < 0.001$). Also all of the mean measured levels were significantly higher in the FF of the MII oocytes compared to that of oocytes with lower grades ($p = 0.012$, 0.006 and 0.012 , respectively). The mean GPX activity and GSH levels were significantly higher in the serum ($p = 0.016$ and 0.012 , respectively) and FF ($p = 0.001$ for both) of

the high-quality grade I embryos. Conclusion: GSH-dependent antioxidant system functions more efficiently in the FF .of oocytes and embryos with higher quality

کلمات کلیدی:

In vitro fertilization, Glutathione, Antioxidant, Oocyte, Embryo, لقاح مصنوعی, گلوکاتایون, آنتی اکسیدان, تخمک, جنین.

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