

عنوان مقاله:

?Does women's age influence zona pellucida birefringence of metaphase II oocytes in in-vitro maturation program

محل انتشار:

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خلاصه مقاله:

Background: In vitro maturation (IVM) is a promising treatment option for certain infertile women. Nowadays, with the aid of PolScope, it has become possible to evaluate zona pellucida (ZP) characteristics as a parameter of oocyte quality. Moreover, quality of oocytes can be influenced by many factors, such as patient's age. The PolScope system is a non-invasive technique to assess birefringent structures such as the meiotic spindle and ZP in living oocytes. **Objective:** The aim was to determine the influence of the woman's age on ZP birefringence, a sign of oocyte quality, and morphology of in-vitro matured human oocytes using non-invasive polarized light (PolScope) microscopy. **Materials and Methods:** ZP birefringence and morphology were determined in 105 retrieved oocytes from 58 women undergoing ICSI in two age groups (≥ 30 years and < 30 years). The immature oocytes were selected and after IVM, the quality of metaphase II (MII) oocytes was assessed. The oocyte abnormalities were classified as intracytoplasmic and extracytoplasmic abnormalities. **Results:** Oocyte maturation rates were significantly reduced in ≥ 30 year's women (56%) in comparison with other age group (80.7%). In addition, the ZP birefringence was significantly higher in MII oocytes in the younger group compared with the older group (76.2% vs. 38.1%; $p=0.00$). Following morphologic assessment, the rates of oocytes with extracytoplasmic ($p=0.02$) and both abnormalities (extra- and intracytoplasmic) ($p=0.01$) were higher in aged versus the younger women. **Conclusion:** There was a positive relationship between advanced maternal age with decreased ZP birefringence and oocyte morphological quality in in-vitro matured human oocytes.

کلمات کلیدی:

ZP birefringence, Morphology, Human oocytes, Female age

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