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Poster Presentations

P-150

Analysis of the influence of preimplantation genetic testing for aneuploidy results with maternal age

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Background: Assisted reproduction techniques and the preimplantation genetic test for aneuploidies help couples with fertility problems to achieve a healthy live birth worldwide. There is a possible correlation between chromosomal aneuploidy and maternal age.

Objective: Evaluating the effect of maternal age on aneuploidy, blastocyst rate, embryo development, and pregnancy outcomes in patients undergoing frozen embryo transfer.

Materials and Methods: This study included an analysis of X, Y, 13, 18, and 21 chromosomes identified by fluorescence in situ hybridization method in embryos from couples undergoing Assisted reproduction techniques and preimplantation genetic test for aneuploidies. The present study included 277

embryos between February 2018 and June 2020. Women were divided into four age groups: ≤ 35 , 36-40, 41-45, and ≥ 45 yr. Primary outcomes were the rate of aneuploidy, blastocyst, and pregnancy. Statistical analyzes were performed using SPSS software version 23 and the data were analyzed using the χ^2 test. The $p < 0.05$ was considered statistically significant.

Results: Significant differences among maternal age groups were found in the chemical pregnancy ($p < 0.001$) outcomes. The blastocyst rates ($p = 0.02$), early pregnancy loss ($p < 0.001$), and clinical pregnancy loss ($p < 0.001$) were related significantly with maternal age. In females with age > 40 yrs. old, there was no euploid blastocyst. Increasing maternal age significantly increases the rate of aneuploidy in sex chromosomes in frozenthawed embryo transfer and fresh cycles ($p < 0.001$).

Conclusion: The present study results found a significant relationship between maternal age and embryo aneuploidy, and showed that the increasing female ages and aneuploidy rate is related together. A negative association was found between maternal age and blastocyst rate, chemical pregnancy, clinical pregnancy, ongoing pregnancy, and live birth rates in the couple from Intracytoplasmic sperm injection cycles.

Key words: Preimplantation genetic testing, Aneuploidy, Fluorescence in situ hybridization.