

Does Intracytoplasmic Sperm Injection Overcome the Reduce of Fertilization Rate by Increasing Maternal Age?

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Abstract

Introduction: The aim of this study was to determine the effects of maternal age in fertilization rate of intracytoplasmic sperm injection comparison with IVF.

Material and Methods: In this prospective clinical trial study, 200 couples with male subinfertility that referred to infertility clinic were enrolled. Couples were selected on the basis of semen parameters and divided randomly into two groups of IVF and ICSI. Couples were divided into different subgroups based on age of females. The fertilization rate of every subgroup was assessed and compared together. Results were analyzed by Chi-square method.

Results: After induction ovulation with standard protocols, 525 oocytes were retrieved during egg collection in ICSI groups versus 474 in IVF. After selection of good quality oocytes, IVF and ICSI was done as routine. The fertilization rate of every age group was measured and compared with age increased. In IVF group, the fertilization rate was 41.3% in patients <35 years versus 26.7% in older than 35 years old. The mean fertilization rate was 89.3% in patients <35 comparison with 75.2% in women >35 years old by ICSI. On the other hand, the mean cleavage rate of IVF cycles was significantly lower in patients >35 years in IVF (49.5%) versus younger patients (P value <0.001) but this finding was not observed by ICSI (85.17% VS 85.15%). Reduction of fertilization rate with increase of female age was statistically meaningful (P value <0.001) in IVF and ICSI.

Conclusion: These findings suggest that fertilization of oocyte reduce consequently with maternal age increased. therefore, ICSI can not overcome this problem their cause is not clear and may refer to chromosomal or structural abnormality in oocytes.

Key Words: Maternal age, IVF, ICSI, Fertilization rate

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