

PRE-IMPLANTATION TESTING FOR ANEUPLOIDY (PGT-A) IMPROVES PREGNANCY OUTCOME? AN ANALYSIS OF THE IMPACT OF MATERNAL AGE

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Objective: This study was carried out to assess the impact of maternal age on the pregnancy outcome of Pre-implantation Genetic Testing for Aneuploidy (PGT-A). **Methods:** All blastocyst transfers, both fresh and vitrified-warmed from January 2015 to July 2018 were analysed in this retrospective study. The blastocyst transfers were divided into 2 groups: non PGT-A group where the blastocysts were not subject to PGT-A testing and PGT-A group where the blastocysts underwent PGT-A testing. Following extended culture, the blastocysts in the non PGT-A group were transferred either in fresh or frozen transfer. In the PGT-A group, trophectoderm biopsy was performed followed by chromosomal evaluation using Next Generation Sequencing (VeriSeq kit, Illumina) and all blastocysts were vitrified. Clinical pregnancy rates (CPR) and implantation rates (IR) further stratified by maternal age <35 years and ≥35 years (advanced maternal age (AMA)) were compared between the groups. **RESULTS:** A total of 1867 blastocysts (non PGT-A group, n=1162 and PGT-A group, n=705) were transferred in 1342 cycles. For women with AMA, the CPR and IR were 34.7% and 32.08% in the non PGT-A group compared to 53.1% and 51.6% in the PGT-A group. As expected, the CPR and IR were significantly higher in the PGT-A group in women with AMA (p<0.01). For women <35 years, the CPR and IR were 48.7% and 48.6% in non PGT-A group compared to 54.4% and 48.8% in the PGT-A group. This difference was not statistically significant. **Conclusions:** This study demonstrates the benefit of PGT-A in improving the CPR and IR in women with AMA. On the other hand, consistent with the outcome of a recent larger multicentric trial, our study also did not show any benefit for PGT-A in young women <35 years. Our data suggests that PGT-A should be recommended for women with AMA to improve pregnancy outcome.