

COMBINATION OF PREIMPLANTATION GENETIC TESTING (PGT) AND ENDOMETRIAL RECEPTIVITY ANALYSIS (ERA) IMPROVES PREGNANCY OUTCOMES IN WOMEN WITH ADVANCED AGE UNDERGOING FROZEN-THAWED EMBRYO TRANSFER

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Abstract Body

Study Question: To investigate the effectiveness of ERA and PGT-A separately or in combination on FET outcomes across different age groups.

Study design: A retrospective cohort study. Patients with autologous blastocysts transferred and without untreated uterine disorders were enrolled from March 2020 to December 2021 at Taipei Fertility Center (Taipei, Taiwan). A total of 666 FET cycles were classified by maternal age: <35 (n=96), 35-39 (n=278), and ≥40 years old (yrs) (n=292) for investigating the separate effects of ERA or PGT-A. FET cycles with advanced maternal age (≥35 yrs) were subsequently assigned to group A (no ERA and no PGT-A), group B (with ERA but no PGT-A), group C (with PGT-A but no ERA), and group D (with both ERA and PGT-A). Implantation rate (IR), and ongoing pregnancy rate (OPR) were the main outcomes.

Results: In women ≥40 yrs, IR and OPR were remarkably improved with ERA when compared to the non-ERA group (36.4% vs. 19.7% and 47.5% vs. 25.0%, respectively, $p<0.05$). However, ERA showed non-significant improvement in pregnancy outcomes of younger women.

Besides, the differences in IR between patients with and without PGT-A increased with age: 68.4% vs. 51.1% (<35 yrs), 56.7% vs. 34.0% (35-39), and 53.5% vs. 21.1% (≥40 yrs) ($p<0.05$). The OPR in cycles with PGT-A was also significantly higher in women aged 35-39 yrs (53.1% vs. 36.92%, $p<0.05$) and even more remarkably improved in women ≥40 yrs (50.0% vs. 21.7%, $p<0.05$).

In women with advanced age, the IRs in group A, B, C and D were 24.5%, 27.1%, 50.5% and 69.7% ($p<0.001$) and the OPRs were 28.7%, 33.3%, 45.5% and 72.4%, respectively ($p<0.001$).

Conclusion: ERA can benefit patients ≥40 yrs and PGT-A significantly improves pregnancy outcomes in patients ≥35 yrs. Furthermore, the combination of ERA and PGT-A in a FET cycle maximizes the chance of pregnancy in women with advanced age. Personalized FET with euploidy embryo(s) should be recommended for older women to achieve the best success rate.