

Fertility NEWS

7th February, 2019

Preimplantation Genetic Testing For Aneuploidy (PGT-A)

“ Should we be counselling for testing or no testing for PGT-A in routine IVF ? ”

Introduction: Preimplantation genetic testing (PGT-A) has been shown to reduce the practice of transferring multiple embryos and to confer a higher live birth rate per transfer¹. The treatment pathway for counselling couples for this test is not clearly defined yet. This new study can be used as guide for both clinicians and embryologists².

Summary: Murphy et al² recently reported a retrospective cohort study from December 2014 to September 2016, involving 600 patients those intending PGT-A for their first IVF cycle (N = 300) and their matched controls. Aim was to demonstrate significant differences in cumulative live birth (CLB) per retrieval and live birth (LB) per transfer. Patients were matched by age, time of oocyte retrieval and oocyte yield to the same number of controls. CLB outcomes per single retrieval, including the fresh and frozen transfers arising from the initial stimulation cycle, were calculated. PGT-A was not beneficial when CLB rate was assessed per retrieval, however its benefits were significant when LB rate was assessed per transfer. First cycle, <38 year-old patients who intended to have PGT-A had a significantly (P < 0.001) lower CLB rate per oocyte retrieval compared to controls (49.4% vs. 69.1%). Conversely, patients ≥ 38 years in the PGT-A group had similar CLB rates compared to controls per oocyte retrieval, while LB rates per transfer were doubled compared to controls (62.1% vs. 31.7%; P < 0.001). Of the first-cycle PGT-A and control patients, 25.3% and 2.3% failed to achieve a transfer, respectively.

Conclusion: PGT-A was not beneficial when CLB rate was assessed per retrieval, however its benefits were significant when LB rate was assessed per transfer. The findings indicated that PGT-A may be detrimental for those <38 years old undergoing their first IVF cycle. PGT-A has the greatest clinical impact when a transfer is achieved in the ≥38 years old population. This study² evaluated the typical treatment path following a patient's choice to pursue PGT-A at the cycle start and can be used as a guide for counselling patients in relation to age and cycle number.

References:

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2. Lauren A Murphy, Emily A Seidler, Denis A Vaughan, Nina Resetkova, Alan S Penzias, Thomas L Toth, Kim L Thornton, Denny Sakkas; To test or not to test? A framework for counselling patients on preimplantation genetic testing for aneuploidy (PGT-A), *Human Reproduction*, Volume 34, Issue 2, 1 February 2019, Pages 268–275, <https://doi.org/10.1093/humrep/dey346>



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Date : 7th February, 2019

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