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Better Pregnancy outcomes following implementation of elective “freeze-all” strategy: Hospital Sultanah Nur Zahirah (HSNZ) experience

Siti Nabillah AR, Nasuha Y, Jamilah J, Khalini S

Reproductive Services Unit, Department of Obstetrics and Gynaecology, Hospital Sultanah Nur Zahirah, Kuala Terengganu, Malaysia

ABSTRACT

Introduction: Segmentation of IVF treatment refers to electively cryopreserving all available embryos (freeze-all) and postponing embryo transfer in later cycles. It has been proposed as a strategy to increase successful embryo transfer by avoiding the transfer of embryos to a possibly less receptive endometrium. We seek to compare IVF outcomes before and after the implementation of this approach in our centre since 2019. **Methods:** Retrospective study using secondary data from IVF case notes and laboratory worksheets was conducted as a clinical audit. Relevant data between 2012 and 2022 were recorded. A total of 186 frozen embryo transfers from freeze-all cycles (freeze-all group), and 348 fresh transfers (fresh group) were included. Background characteristics of patients, clinical pregnancy rate (CPR), ongoing pregnancy rate (OPR), live birth rate (LBR), implantation rate (IR), and miscarriage rate (MR) were analysed. **Results:** Baseline characteristics including age and body mass index (BMI) of both groups were similar. CPR (43.0% vs 18.1%), OPR (38.7% vs 14.7%), LBR (34.9% vs 14.1%), and IR (26.6% vs 8.3%) were all found to be significantly higher in the freeze-all group compared to the fresh group. MR was low in the freeze-all group, but it was not significant (10.0% in freeze-all group and 8.6% in fresh group). **Conclusion:** Freeze all policy offers a preferable approach for a favourable pregnancy outcome.

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Is delayed intracytoplasmic sperm injection (ICSI) useful for patients with poor/failed fertilisation?

Tatyana Vaishnavi Christopher Ignatius, Michelle Sheng Rong Lim, Jang Jih Chen

Sunfert International Fertility Centre, Kuala Lumpur, Malaysia

ABSTRACT

Introduction: Intracytoplasmic sperm injection (ICSI) is a procedure used to promote fertilisation in mature oocytes. Despite better fertilisation rates compared to traditional IVF, poor/failed fertilisation could still result. For such cases, immature oocytes on Day 0 (D0) which had matured overnight in culture could be subjected to delayed ICSI (D-ICSI) to potentially produce more embryos for implantation. In this study, laboratory outcomes between standard ICSI (S-ICSI) and D-ICSI were compared in poor/failed fertilisation cycles. **Methods:** Fifty-five cases of poor/failed fertilisation from September 2019 to April 2023 were analysed retrospectively. S-ICSI was performed on 48 oocytes on D0 while D-ICSI was performed on 55 oocytes on D1. Out of the 55 cases, ten patients opted for aneuploidy screening. Fertilisation Rates (FR), Blastocyst Utilisation Rates (BUR) and Euploidy Rates (ER) between both groups were compared. **Results:** The FR was significantly higher in the D-ICSI group (46.2%) compared to the S-ICSI group (18.3%), $p<0.01$. The BUR and ER for S-ICSI and D-ICSI were 37.5% vs 29.7% and 20% vs 33.3% respectively and were not statistically significant. **Conclusion:** In this study, D-ICSI oocytes resulted in a similar BUR and ER compared to S-ICSI oocytes, showing potential as a method to increase the number of embryos the patient could utilise. With higher FR in D-ICSI cases, a potential reason for the poor/failed fertilization in these cycles is oocyte cytoplasmic immaturity. Nonetheless, due to the small number of samples in this study, a larger sample size would be required to confirm the results of this study.