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Poster Presentations

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The effect of long-term cryopreservation on live birth rate

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Background: The duration of cryopreservation storage could be important for embryo survival, and therefor it can have some impacts on chemical pregnancy and live birth rate.
Objective: This retrospective study was conducted to evaluate the impact of cryopreservation storage duration on embryo survival, chemical pregnancy and live birth rate.
Materials and Methods: This retrospective study was carried out over a period of 8 years, from 2011 to 2019 in Novin Infertility Treatment Center on a total of 48 patients. The first vitrified-warmed cleavage embryo transfer was performed 3 months after oocyte retrieval and was resulted in live birth pregnancy (group 1). The second transfer was performed after duration of 5 to 8 years on each member of pervious group (group 2). The results of these transfers were also collected. There was no significant difference between these patients regarding age, body mass index, quality of embryos and semen parameters of male partner. The IBM SPSS V.26.2019 was used for data analysis. A $p < 0.05$ was considered statistically significant.
Results: These results indicates that the length of storage time did not have a significant effect on post-thaw embryo survival ($p = 0.65$). There were also no significant impact on chemical pregnancy ($p = 0.23$) and live birth rate ($p = 0.2$). Our outcomes demonstrate that clinical pregnancy, miscarriage, twin pregnancy and live birth rate were similar between group 1 and 2 (82% vs 71%, 8.6% vs 16%, 8% vs 10.2% and 62.5% vs 43.7% respectively).
Conclusion: Cryo storage duration did not adversely effect on post-thaw survival or pregnancy outcome. The pregnancy rate in the first type of thawed embryo transfer is slightly higher, which is not statistically significant. This may be due to increased maternal age at the second thawed embryo transfer (after 5-8 yr) and not for the reason of adverse effect of long term freezing.
Key words: *Embryo survival, Cryopreservation storage, IVF, Pregnancy rate, Long term freezing.*