IVF OUTCOMES IN COUPLES UTILIZING FRESH OR FROZEN DONOR OOCYTES: A RETROSPECTIVE COHORT STUDY

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Introduction

Current research regarding outcomes of fresh versus frozen donor oocyte embryo transfer (ET) cycles is limited. Based on current evidence, fresh donor cycles may be associated with better implantation and higher livebirth rates.

We aim to compare outcomes of fresh donor oocytes to frozen donor oocytes at a single academic institution.

Methods

The data were analyzed in two ways, first, embryology IVF outcomes were assessed from 37 fresh egg donor and 33 frozen egg donor cycles (three different egg banks) between 2020-2023. Second, ET outcomes were evaluated among 57 fresh egg donor cycles and 44 frozen egg donor cycles. Demographic data was similar among the two groups. Student's T Test was used for continuous variables, Fisher's Exact test was used for categorical variables.

Results

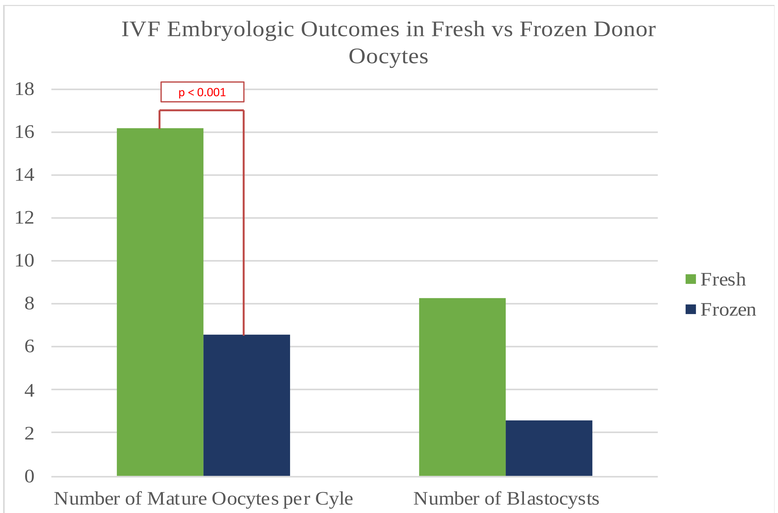

Figure 1: Mean number of mature oocytes and blastocyst in IVF cycle for fresh versus frozen oocytes.

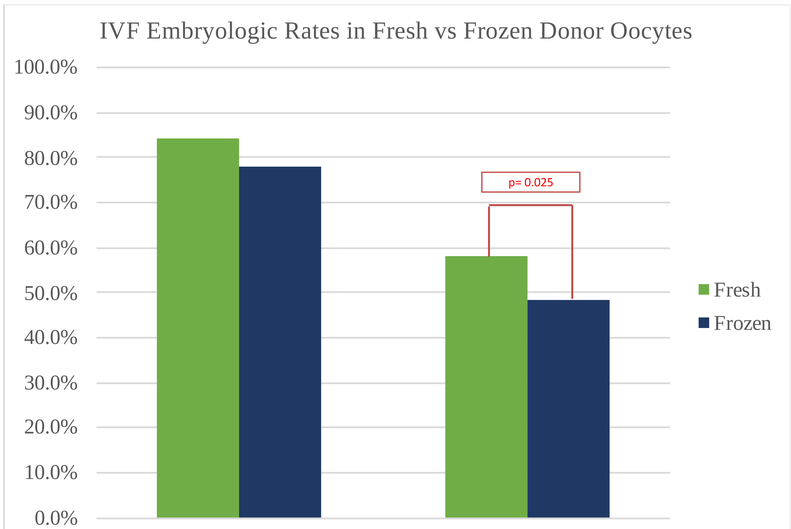

Figure 2: Fertilization rate and good quality Blastocyst conversion rates in fresh versus frozen donor oocytes

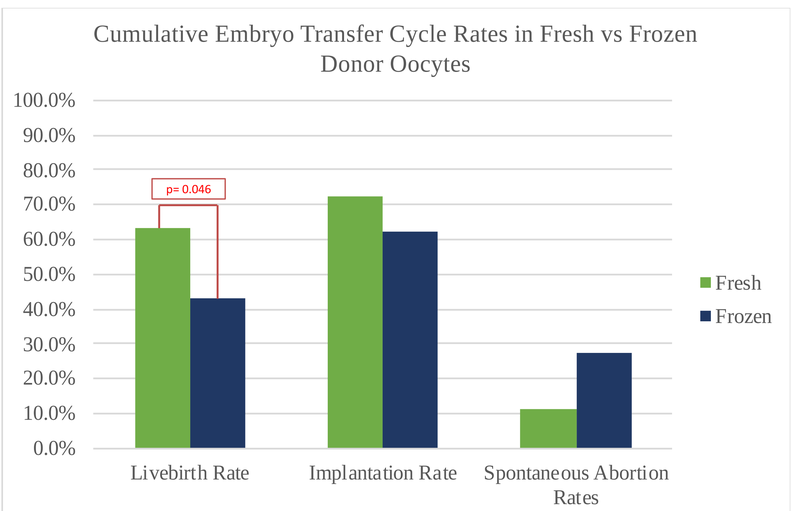

Figure 3: Cumulative outcomes (per ET cycle) in fresh versus frozen donor oocytes

Summary

Table 1. Demographics and embryology outcome for fresh and frozen donor oocytes

	Fresh Donor Oocytes	Frozen Donor Oocytes	P-values (two-tailed)
Number of IVF Cycles	37	33	
Ave. Age of Recipient	42.5	42.5	0.42
Mean # of MII	16.2	6.6	<0.001
% Fertilization	84.2%	78.2%	0.09
% Good blastocyst	58.4%	48.4%	0.025
Mean # of blastocyst	8.3	2.6	0.025
No good quality blastocyst available	0 case	0 case	

Table 2. First embryo transfer outcome for fresh and frozen donor oocytes

	Fresh Donor Oocytes	Frozen Donor Oocytes	P-values (two-tailed)
Positive pregnancy rate	76.5%	87.1%	0.28
Ongoing/Live Birth rate	58.8%	51.6%	0.57

Table 3. Cumulative embryo transfer outcome for fresh and frozen donor oocytes

	Fresh Donor Oocytes	Frozen Donor Oocytes	P-values (two-tailed)
Number of ET Cycles	57	44	
Ave. number of transferred embryo	1.02	1.09	0.045
Implantation rate	72.4%	62.5%	0.281
Miscarriage rate	11.1%	27.3%	0.068
Ongoing/Live Birth rate	63.2%	43.2%	0.046
No ongoing/live birth	1 case	8 cases	0.007

Conclusions

- Based on our data, there is a significantly higher chance of achieving livebirth when utilizing fresh donor oocytes.
- Additionally, for families planning more than one child, fresh donor oocytes may preferable both financially and genetically, given the higher likelihood of creation of additional embryos for future use.