

COMPARISON OF CLINICAL PATIENT OUTCOMES BETWEEN VITRIFICATION DEVICES IN AUTOLOGOUS FROZEN EMBRYO TRANSFER CYCLES WHEN USING A FAST WARMING PROTOCOL

A Davis¹, L VerMilyea², J Matucha¹, ¹ Ovation Fertility, Carmel, IN, USA and ² Dept of Clinical Affairs, Nexpring Health, Irvine, CA, USA

Study Question

To determine if clinical patient outcomes remained stable when moving from the S-Cryolock to the cryoGo vitrification device with a 1-minute warming protocol. Validation and verification of the efficacy of products used in the IVF lab is paramount to optimal patient outcomes.

Study Design

This is a retrospective review of all autologous frozen embryo transfer cycles between March 3, 2025 and August 26, 2025, with reported clinical outcomes. Phase 1 patient n=251, Phase 2 patient n=210. The total number of blastocysts warmed is 504 (Phase 1= 277, Phase 2= 227). Outcomes evaluated included embryo survival, beta hCG, presence of gestational sac, and ongoing pregnancy rates.

Methods

All blastocysts were vitrified with standard ES and VS protocols in Irvine Scientific Vit Kit Freeze NX. All warming was in Vit Kit Warm NX with TS-only fast warming protocols. The average time from warming to embryo transfer was the same (Phase 1, 4.22 hours and Phase 2, 4.32 hours). There is no difference in age between Phase 1, S-Cryolock and Phase 2, cryoGO (34.8 and 33.0, respectively). The percentage of eSET was also the same in Phase 1 compared to Phase 2 (89.6% and 91.9%, respectively, p=.405) as was the implementation of PGT testing (85.3% and 80.5%, respectively, p=.172). Statistical significance was determined using an alpha of 0.05 through chi-square analysis

Results Table



Phase 1



Phase 2

	Phase 1 (S-Cryolock)		Phase 2 (cryoGO)		p value
Survival Rate	277 / 279	99.3%	227 / 227	100.0%	p=0.201
Positive hCG	177 / 251	70.5%	153 / 210	72.9%	p=0.579
Gestational Sac on Ultrasound	151 / 251	60.2%	131 / 210	62.4%	p=0.625
Ongoing Pregnancy	137 / 251	54.6%	126 / 210	60.0%	p=0.241

Results

Blastocyst survival remained high with no differences from Phase 1 to Phase 2 (99.3% to 100% respectively, p=0.201). Positive beta hCG also remained unchanged from Phase 1 to Phase 2 (70.5% to 72.9%, respectively, p=.579). Gestational sac visualization via ultrasound in Phase 1 (60.2%) and Phase 2 (62.4%) were also static, p=.625. There was no significance in the difference between ongoing pregnancy rates, determined by fetal cardiac activity (Phase 1=54.6% and Phase 2=60.0%, p=.241).

Discussion

There was no detriment to patient clinical outcomes by moving from one cryo-device to another and all measured KPI results remained stable. A TS-only fast warming protocol can be used successfully without negative impact to patient outcomes in both cryo-devices assessed.