

P-312 Tuesday, October 9, 2018 6:30 AM

THE ABILITY OF WARMED BLASTOCYSTS TO RE-EXPAND AND THE PRE-VITRIFICATION TROPHOECTODERM GRADE SIGNIFICANTLY CORRELATED WITH IMPLANTATION.

A. Coello, A. Cobo, A. Galan, M. Nohales, D. Beltrán, M. Meseguer. IVIRMA Valencia, Valencia, Spain.

**OBJECTIVE:** Blastocyst re-expansion within a few hours of warming is considered a strong indicator of blastocyst potential. This study analyzed objectively and quantitatively the predictive value of blastocyst re-expansion on implantation. Additionally, the effect of trophoectoderm grade was also estimated.

**DESIGN:** Retrospective study.

**MATERIALS AND METHODS:** The study included 427 warmed blastocysts which were evaluated using time lapse imaging (Embryoscope, Vitrolife). Embryos were vitrified and warmed with Cryotop method (Kitazato Biopharma). Variables studied included pre-vitrification trophoectoderm grade (A, B and C), initial area (iA; blastocyst area immediately after warming) and final area (fA; blastocyst area before transfer). Warmed blastocysts were divided into four groups according to blastocoele re-expansion, calculated from the above variables (fA-iA): group 1, < 3463.0 mm<sup>2</sup>; group 2, 3463.0-6867.5 mm<sup>2</sup>; group 3, 6867.5-11112.5 mm<sup>2</sup> and group 4; < 11112.5 mm<sup>2</sup>. Ongoing implantation rate (OIR) was compared between groups. The odd ratio (OR) of the effect of all variables on implantation was expressed in terms of 95% confidence interval (CI) and significance.

**RESULTS:** Significant differences were observed in the OIR between groups 1, 2, 3 and 4 (31.8%, 34.6%, 44.9% and 48.6%, respectively, P < 0.05). Evaluation of implantation prediction in relation to the blastocyst re-expansion and trophoectoderm grade is presented in Table 1.

**CONCLUSIONS:** Blastocyst re-expansion and pre-vitrification trophoectoderm grade are strong predictors of implantation in vitrified-warmed cycles. Using time lapse imaging for the analysis of warmed blastocysts offers the possibility of establishing an objective value of re-expansion associated with implantation. Logistic regression analysis for OIR according to blastocyst re-expansion and trophoectoderm grade

Category	OR	95%CI	P value
Group 2 vs. 1	1.03	0.55-1.94	NS
Group 3 vs. 1	1.72	0.94-3.15	NS
Group 4 vs. 1	1.94	1.06-3.56	0.03
B vs. C	1.56	0.77-3.16	NS
A vs. C	1.82	1.12-2.95	0.01