P-23 Modification of Cryopreservation Method for Biopsied Embryos in PGD Treatments

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Objectives: The aim of this study was to evaluate the optimal cryopreservation method using model system for human biopsied embryos in PGD treatment.

Materials and Methods: Mouse two cell embryos were collected from ICR female mice and cultured for 16~18 hours. Blastomere of 6~10 cell stage embryo was biopsied, and the biopsied embryos were incubated for 3 hours. The biopsied embryos were frozen with 1,2-propanediol (PROH) as a cryoprotectant in choline based medium (CJ2) or phosphate buffered saline (PBS) by slow freezing protocol of automatic cell freezer. In the human model, 6~10 cell embryos developed from 3PN were biopsied, and the embryos were frozen at D0 (3 hours after biopsy) or D1 (24 hours after biopsy). After rapid thawing, the mouse embryos were cultured to blastocyst stage. The frozen human embryos were thawed at the same process as mouse model and cultured for 24 hours. The survival, further development and blastocyst formation rate were examined in each group.

Results: The survival rate of mouse frozen-thawed biopsied embryos in CJ2 vs PBS (87.2% vs 81.3%) was not significantly different. But, the blastocyst formation rate of mouse frozen-thawed biopsied embryos in CJ2 (67.6%) was significantly ($p<0.05$) higher than in PBS (46.2%). The survival rate of D0 and D1 human biopsied embryos in CJ2 (73.9% and 82.4%) was significantly ($p<0.05$) higher than that in PBS (25.0% and 36.4%). The further developmental rate of human biopsied embryos in CJ2 (69.6 %) was higher than that in PBS (50.0%).

Conclusions: Our result shows that efficacy of cryopreservation of biopsied embryos could be improved by CJ2 medium in mouse and human model. The successful cryopreservation of biopsied embryos is useful to increase the chance of normal pregnancy for couples of PGD treatment with FISH and PCR.

P-24 Development of Effective Cryopreservation Method for Mouse Oocytes

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Objective: The purpose of this study was to evaluate the efficacy and effect of various cryopreservation method on the survival and the cytoskeletal stability of metaphase II mouse oocyte.