showed low expression of endometrial cells and myometrium. On the other hand, eNOS was expressed remarkably in endothelial cells and thecal cells of ovary, and its expression was increased in glandular epithelial cells and endothelial cells of uterus by estrogen treatment.

Conclusion: In conclusion, estrogen treatment during superovulation has a different effect on embryo quality and the expression of VEGF and NO in ovary and uterus. 1 μM estrogen resulted in the greatest beneficial effect. These results suggest that the improved effect of embryo quality by estrogen may be associated with the increased expression of VEGF and NOS in ovary. Furthermore, it is thought that increased NOS expression in the uterus by estrogen may contribute to induce endometrial development suitable for implantation.

O-4 Vitrified-thawed Embryos Derived from TESE or PESA May Lead to Increase the Cumulative Pregnancy Rate

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Objectives: The combination of intracytoplasmic sperm injection (ICSI) and testicular or epididymal sperm retrieval procedure has made it possible to achieve fertilization and pregnancy for azoospermic patients. Few studies were reported on vitrification of the embryos derived from TESE or PESA. This study was performed to investigate the clinical outcomes of human vitrified-thawed blastocyst-stage embryos derived from TESE or PESA.

Methods: A total of 442 thawing-ET cycles were analyzed from January 2004 to May 2007. ICSI was performed for fertilization. Zygotes were divided into two groups: one was to use ejaculated sperm (EJACULATE), the other was to use testicular or epididymal sperm (TESE/PESA). Zygotes were co-cultured with cumulus cells in a 10 μl YS medium containing 20% hFF. After transferring good quality embryos into the uterus on day 3 or 5, the surplus embryos were further cultured until day 6. The embryos which had developed to the expanded blastocyst-stage were vitrified using EM-grid after artificial shrinkage (Son et al., 2003). Vitrification was performed with the solution consisted of DPBS containing 20% (v/v) hFF, 40% (v/v) ethylene glycol, 18% (w/v) Ficoll, and 0.3 M sucrose. Thawing was carried out by 2-steps on day 3 after ovulation: 1) 0.5 M sucrose in DPBS containing 20% (v/v) hFF for 5 min, 2) only DPBS containing 20% (v/v) hFF for 5 min (Lee et al., 2006). After 18-20 h of incubation, survived embryos were transferred into the uterus. We evaluated the clinical outcomes of vitrified-thawed embryos derived from TESE/PESA (n=41) and compared with those from EJACULATE (n=401).

Results: The survival and hatching rates were 89.6% (1039/1159) and 82.8% (860/1039) in EJACULATE vs. and 93.2% (110/118) and 80.9% (89/110) in TESE/PESA. The clinical pregnancy rates were 47.9% (192/401) in EJACULATE and 48.8% (20/41) in TESE/PESA. There was no difference of clinical outcomes between EJACULATE and TESE/PESA.

Conclusion: The vitrified-thawed embryos derived from TESE/PESA could be obtained similar clinical outcomes to those from EJACULATE. These results suggest that the vitrified-thawed embryos derived from TESE/PESA have viability and may lead to increase the cumulative pregnancy rate.