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Sow Transfer of Cultured Embryos : Embryo Recovery, Oocyte Collection, IVM-IVF-IVC Treatment, Vitrification/Thaw, and Surgical and Nonsurgical Transfer

In Doc Kim[1], Mi Hyun Ahn[1], Tae Young Hur[2], Dong Soo Son[2], Moon Pyo Hong[3], Ho Bong Seok[1]

[1]*Department of Animal Science, Dankook University, Cheonan,* [2]*Department of Livestock Improvement, National Livestock Research Institute, Seonghwan,* [3]*Moonseong Pig Farm, Pyeongtaek*

The aims of this study are 1) to test oocytes and embryos collected from *in-vivo* and *in-vitro* to achieving the valuable protocol by culturing, vitrifying and thawing of oocytes/embryos, and 2) to transfer them to recipient, and finally have resulted in pregnancies from recipient females after surgical or nonsurgical transfer.

In vitro maturation and fertilization were performed according to the procedures of Funahashi et al. Fertilized oocytes were cultured in glucose-free NCSU 23 supplemented with 5 mM sodium pyruvate, 0.5 mM sodium lactate and 4 mg/ml bovine serum albumin for 2 days at 39° C, and 10% fetal bovine serum was added to the culture medium thereafter. Embryos were treated with 7.5□g/ml cytochalasin-B for 30 min, centrifuged at 13,000 x g for 13 min and then exposed sequentially to an ethylene glycol (EG) vitrification solution, aspirated into OPSs, and plunged/thawed into/from liquid nitrogen. *In vivo* embryos were surgically collected from three donors after AI. Forty-six embryos (18, 9 and 19 embryos, respectively) were washed 3 times in mPBS+10%FBS, followed treatments : cultured, centrifuged, vitrified, recovered and transferred to recipients as *in vitro* prepared embryos. Three recipients received surgically 34(control), 188 and 184 embryos (derived from abattoir), respectively. Another three recipients were received nonsurgically 150, 100 and 150 embryos, respectively. All recipient sows exhibited delayed returns to estrus. To our knowledge, these results suggest that required an improved techniques, more vigorous embryos preparation and cleaner uterous condition(use gilt).

Key words) ***Sow Transfer, Cultured Embryos, OPS, Vitrification***