

**P-34**                      **Mechanical Culture of Human Endometrial Cells  
(EEC and HEC-1B) and Mouse Embryos**

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**Objective:** To investigate the effect of mechanical culture system on the growth of human endometrial cell as well as development of mouse embryos.

**Materials and Methods:** Endometrial samples for primary culture of human endometrial epithelial cell were obtained from human hysterectomy specimens and biopsies, and HEC-1B cell line was obtained from American type cell collection (ATCC). Endometrial-epithelial cells (EEC and HEC-1B) were cultured with initial concentration of  $1 \times 10^5$ /ml to 96 hours and counted at 24 hours interval for proliferation rate. For observation of embryonic development and count of total cell number of blastocyst, embryos were collected from mated mice of superovulation with 5 IU PMSG and 5 IU hCG. Total cell count of blastomere was performed under fluorescent microscope after Hoechst staining. We utilized a shaking machine (mylab-shaker SL30, Korea) in a humidified atmosphere of 5% CO<sub>2</sub> and 95% air at 37°C for mechanical culture system.

**Results:** The growth rate of human endometrial epithelial cells both EEC and HEC-1B was slightly decreased in the mechanical culture system compared to general culture system. However, In the development of mouse embryo, both hatching blastocyst rate and total cell number of mouse blastocysts on day 6 were significantly increased in mechanical culture compared to control group (75.7% vs. 44.4%;  $77.9 \pm 3.7$  vs.  $63.2 \pm 4.0$ ;  $p < 0.05$ ). The blastocyst rate and the total cell number of mouse blastocysto (on day 5) in mechanical group were not different from that in control (83.8% vs. 70.9% ;  $92.2 \pm 3.3$  vs.  $80.7 \pm 4.7$ ).

**Conclusion:** Mechanical culture does not have an effect on the cell growth rate of human endometrial epithelial cell, however it increase hatching blastocyst rate and total cell number of blastocyst in mice. It seems to enhance the development of mouse embryos *in vitro* and provide a more physiological environment by using shaking-culture *in vitro* instead of mobile environment in reproductive tract.

**P-35**                      **The Effects of Glucose on Blastulation and  
Cell Counts of Blastocysts in Mice**

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**Objective:** The aim of this study was to investigate the effect of glucose on embryonic development of