

P-8 **Enhancement of Re-closure Capacity by the Intra-amniotic Injection of Human Embryonic Stem Cells in Surgically Induced Spinal Open Neural Tube Defects in Chick Embryos**

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Background & Objectives: To evaluate the potential of the stem cell therapy as a method for prenatal management of spinal open neural tube defect (ONTD), the influence of embryonic stem cells injected into the amniotic cavity on the re-closure capacity of spinal ONTD was investigated.

Method: Spinal neural tube was incised open for a length of 6 somites using chick embryos of Hamburger and Hamilton stage 18 or 19. Embryos were divided into three groups: control group (no injection), vehicle group (injection of glucose in PBS), human embryonic stem (hES) cell group (injection of 20,000 hES cells with green fluorescence protein (GFP) in vehicle).

Results: On 3, 5, and 7 days after neural tube incision and immediate intra-amniotic injection, ONTDs were significantly more re-closed in the hES cell group than in the control and vehicle groups. On light and fluorescence microscopic examinations, hES cells were not found in the re-closed area but were present at the area on the process of re-closure, covering ONTDs.

Conclusions: Intra-amniotic injection of hES cells enhances re-closure capacity of surgically induced ONTDs in chick embryos. The hES cells do not incorporate themselves into the neural tube but do help re-closure.

P-9 **Calving Production from Hanwoo (Korean Cattle) IVM/IVF/IVC Blastocysts: Direct Transfer of Vitrified and Quick One-Step Diluted Hanwoo Blastocysts**

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Background & Objectives: This study was to examine whether vitrified Hanwoo (Korean cattle) IVM/IVF/IVC blastocysts can survive in vitro/in vivo by a quick one-step dilution method and these embryos result in live births.

Method: Blastocysts produced in vitro were vitrified by serial exposure to glycerol (G) and/or ethylene glycol (EG) mixtures of 10% (v/v) G for 5 min, 10% G plus 20% EG (v/v) for 5 min, and 25% G plus 25%