blastocyst stage embryos were differentiated into neural or glial cell types by specific growth factors. Especially, PDGF and bFGF have an effect on neuronal differentiation and survival than other neuronal growth factors.

P-24 Effect on Development of Mouse Preimplantation Embryos in Two Culture Media with Different Compositions of Energy Sources in vitro Culture

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Objectives: This study was conducted to examine the effect on development of mouse preimplantation embryos in vitro culture in four culture systems by two media with different composition of energy sources.

Materials and Methods: Mouse 2-cell embryos collected from ICR female mice (4~5 weeks) were cultured for 96 hours in vitro. Two-cell embryos of 271 were cultured in different four culture groups by two media with different composition of energy sources (DMEM-G: DMEM with L-glutamine, without D-glucose and sodium pyruvate; DMEM-GGP: DMEM with L-glutamine, D-glucose, sodium pyruvate); Group I (n=61): embryos cultured for 48 hours in DMEM-G and then transferred to fresh same medium, Group II (n=64): embryos cultured for 48 hours in DMEM-GGP and then transferred to fresh same medium, Group III (n=72): embryos cultured for 48 hours in DMEM-G and then transferred to fresh DMEM-GGP, Group IV (n=74): embryos cultured for 48 hours in DMEM-GGP and then transferred to fresh DMEM-G. All experimental media were added to 10% human follicular fluid (hFF). Development of embryos in each group was observed every 24 hours. Results between different groups were analyzed using a Chi-square test, and considered statistically significant when p value was less than 0.05.

Results: After 24 hours in vitro culture, the rate of development into ≥ 3-cell was significantly higher ($p<0.05$) in Group II (87.5%) and IV (86.5%) compare with Group I (59.0%) and III (62.5%). After 48 hours, the rate of development into ≥ morula was significantly higher ($p<0.05$) in Group II and IV (79.7%) (86.5%) compare with Group I (34.4%) and III (37.5%). However, the developmental rate into blastocyst were not significantly between experimental groups. After 72 hours, the rate of development into blastocyst in Group IV (74.3%) was significantly higher ($p<0.05$) than Group I (49.2%) and Group III (45.8%), but Group IV was not significant ($p=0.0593$) compare with Group II (59.4%). After 96 hours, the rate of development into ≥ expanded blastocyst was significantly higher ($p<0.05$) in Group IV (70.3%) compare with Group I (32.8%), Group II (53.1%), and Group III (40.3%).

Conclusions: In conclusion, mouse 2-cell preimplantation embryos development was most effective in culture system with DMEM-GGP for 48 hours and then transferred to fresh DMEM-G.

Key Words: Mouse 2-cell embryo, Blastocyst, DMEM, Glucose, Pyruvate