was suppressed and cell number of blastocysts was reduced. Parthenotes cultured in FCS-free NCSU-23 until 120 hr after electrical stimulation, and then transferred to NCSU-23 supplemented with FCS, developed to blastocysts at a similar rate with those cultured in FCS-free NCSU-23 throughout.

These results suggest that the 20 amino acids and FCS in the culture media inhibit the early development of porcine embryos, and that combined treatment of electrical stimulation and CHX may be effective for the induction of activation in nuclear transferred porcine embryos.

## The role of epidermal growth factor in prostaglandin production by the uterine endometrium in cow : studies in isolated-cultured cells and tissues

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The present study examined the role of epidermal growth factor (EGF) in the regulation of prostaglandin (PG) production to understand the regulatory mechanisms of PG production in the uterine endometrium.

The effect of EGF on $PGE_2$ and $PGF_{2\alpha}$ production by endometrial cell culture in the presence of oxytocin (OT) was compared between two stages, days 5 to 10 and days 11 to 17, of the estrous cycle. EGF increased $PGE_2$ production and $PGE_2/PGF_{2\alpha}$ production ratio regardless of the stage of the estrous cycle. Oxytocin receptor (OT-R) mRNA levels were compared before and after culture using endometrial cells on days 3, 7, 14 and 17 of estrus. Prior to culture, levels of OT-R expression were higher on days 7 and 14 compared to the other days; however, the difference in the levels of OT-R expression on all days became comparable after culture. Levels of EGF-R mRNA expression was higher in the endometrial tissues at EGF treatment on day 17 than the other days. Finally, the effect of EGF on PG production in the presence of OT was compared among endometrial tissues obtained on days 3, 7-8, 14 and 17 of estrus. EGF increased $PGE_2$ production regardless of the days after estrus. Production of $PGF_{2\alpha}$ was lower in the tissues on days 7-8 than the other days.

The present results demonstrated that isolated uterine endometrial cells were not suitable materials to compare uterine endometrial functions between different stages, and that EGF increased $PGE_2/PGF_{2\alpha}$ production ratio in all estrous stages.