P-2 Effects of Development and Viability of Pig Oocytes Matured in a Protein-Free Medium Containing PVA, PVP and pFF

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Background & Objectives: This study was conducted to develop a serum-free, defined medium of IVM of pig oocytes. Base medium of the North Carolina State University (NCSU)-23 media with supplemented with polyvinylalcohol (PVA), polyvinylpyrrollidone (PVP) and porcine follicular fluid (pFF) were used as base media.

Method: In-vitro maturation and fertilization were performed according to the modified procedures of Funahashi et al. Pig oocytes from abattoir-derived ovaries were matured in TCM199 media containing pyruvic acid, gentamycin, L-cysteine, B-estradiol, FSH and supplemented 0.1% PVA, 0,1% PVP and 10% pFF for 40h at 39℃, 5% CO_2. Fertilized oocytes were cultured in glucose-free NCSU 23 supplemented with 5 mM sodium pyruvate, 0.5 mM sodium lactate and the same concentrated supplements for 2 days. Maturation, fertilization, morula and blastocyst formation were examined at 40 h after IVM and at 12, 48 and 144 h after IVF, respectively. Morphology of oocytes and cleaved cells were stained by Hoechst 33342.

Results: Maturation rate of pig oocytes in IVM media containing PVA (82.4%) and pFF (89.4%) were significantly higher ($p<0.05$) than that of PVP (78.6%). Cleavage rate after IVF of PVP (64.1%) was significantly lower ($p<0.05$) than that of PVA (73.0%) and pFF (77.2%) supplements. In vitro development rates to morulae and blastocyst on PVP (54.0%) were also significantly lower ($p<0.05$) than that of PVA (63.0%) and pFF (69.0%) supplements.

Conclusions: It may be concluded that PVA and pFF can be substituted for FCS in medium for culturing pig oocytes; however, it can not be completely substituted for BSA in the in vitro culture of the embryos. And PVP was considered on limited use for culture in the media.

P-3 Induction of ATF4 and Heat Shock Proteins by Estrogen and Estrogen Mimics in Mouse Testes

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Background & Objectives: In testis Leydig cells as well as germ cells expresses aromatase and estrogen receptor, suggesting important of estrogen in steroidogenesis as well as steroidogenesis. Activating transcription factor 4 (ATF4) is a basic leucinezipper transcription factor that is a member of the ATF/cAMP responsive element-binding (CREB) protein family. ATF4 is expressed in a wide variety of organs,