group 2 (35 cycles) was given estradiol valerate alone and group 3 (35 cycles) was given estradiol valerate with sildenafil. Estradiol valerate 6~8 mg per day was orally taken from day 3 for 7 days and Vigra 50 mg was vaginally inserted from day 3 to day of HCG injection. Endomerial thickness and pregnancy rate was checked in 3 groups seperately.

Results: Endometrial thickness increase (more than 7 mm) was marked in group 2 (71%) and group 3 (74%). Pregnancy rate was also much increased after supplementation (6%, 17%, 20% in group 1, 2 and 3). There were no marked differences between group 2and 3 in endometrial thickness and pregnancy rate.

Conclusion: The efficacy of Estradiol valerate to improve the endomeriumin in poor thin endometrium is quite effective. Although more evaluations are needed, Vigra insertion additionally seems to help the endometrial receptivity in patients with poor endometrium undergoing IVF.

M-8 Gonadotropin Regulation of Pituitary Adenylate Cyclase-Activating Polypeptide (PACAP) and PACAP Receptor mRNA Levels in the Human Ovary

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Pituitary adenylate cyclase-activating polypeptide (PACAP), a neuropeptide isolated from ovine hypothalamus, exists in two amidated forms, PACAP-38 and PACAP-27. The biological effects of PACAP are mediated through PACAP binding to G protein-coupled seven transmenbrane PACAP receptor. The expression of PACAP and PACAP receptor has been found in the rat ovary, suggesting the role of PACAP as a local ovarian regulator during the ovulatory process. In the human ovary, the existence of PACAP system has not been investigated. The present study was therefore examined the hormonal regulation of PACAP and PACAP receptor mRNA levels in the human ovary. Localization of PACAP protein was observed by immunohistochemical study in follicles obtained from benign uterine disease patients undergoing total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH-BSO). The major cell types expressing PACAP protein were blood vessels surrounding granulosa cells, surface epithelium and muscle cells. Gonadotropin regulation of PACAP and PACAP receptor gene expression was examined in cultured human luteinized granulosa cells collected from patients undergoing in vitro fertilization (IVF) by competitive RT-PCR method. Futhermore, the effect of PACAP on progesterone production was examined in cultured human luteinized granulosa cells by radioimmunoassay. In human luteinized granulosa cells cultured in serum-free medium, PACAP transcript was transiently induced by LH, reaching maximum levels 12 h after stimulation. Stimulation of PACAP mRNA levels by LH exhibited a dose dependency. Treatment of human luteinized granulosa cells with LH also resulted in a transient induction of PACAP receptor gene expression, reaching a peak at 24 h after treatment. Addition of PACAP-38 as well as LH in culture of human luteinized granulosa cells stimulated progesterone production during 48 h culture, but not 24 h culture. Taken together,

the present study demonstrates that LH caused a transient stimulation of both PACAP and PACAP receptor gene expression in human luteinized granulosa cells. Furthermore, PACAP stimulates progesterone production, suggesting that PACAP may act as a local ovarian regulator in human.

M-9 Free Radical Scavenging Effect of Rebamipide on Sperm Processing and Cryopreservation

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Objectives: Rebamipide is an propionic acid derivative that has an action of the inhibition of superoxide production and removal of hydroxyl radical. We performed this study to examine the effects of adding rebamipide to semen sample and cryoprotectant, in an effort to identify an improvement in sperm motility and vitality, and inhibition of lipid peroxidation of sperm cell membrane.

Materials and Methods: Semen samples from 30 normal healthy volunteers were collected by masturbation after at least 48 hours abstinence. After liquefaction of semen samples at room temperature, the specimens were diluted with sperm wash media (Ham's F-10, Life technologies) to a uniform density of 20 million/ml. Rebamipide were added with various concentration of 0 uM, 10 uM, 30 uM, 100 uM and 300 uM in semen sample or cryoprotectant. All specimens were incubated at 37℃, 0.5% CO_2 incubator for 15 minutes or were cryopreservated at -196℃, liquid nitrogen for 3 days. Sperm motility, vitality and the level of lipid peroxidation were analyzed by computer assisted semen analyzer, nigrosin-eosin stain and thiobarbituric acid method, respectively, before and after incubation and cryopreservation.

Results: The sperm motility was significantly improved after incubation with 100 uM and 300 uM rebamipide ($p<0.005$). After cryopreservation, the sperm motility was significantly decreased in all concentrations ($p<0.05$), but motility was low in proportion to concentration of rebamipide. The sperm vitality showed no significant difference before and after incubation and cryopreservation ($p>0.05$). Lipid peroxidation of cell membrane was significantly decreased in proportion to the concentration of rebamipide after incubation and cryopreservation both ($p<0.05$).

Conclusions: These results suggest rebamipide is an effective free radical scavengers in semen and may be useful as an oral antioxidant in patients with male infertility due to reactive oxygen species.