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

Park NC, Lee JT and Cha CS

Department of Urology, College of Medicine, Pusan National University, Pusan, Korea

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.