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Localization of Angiotensin II in Korean Bovine Follicles and Its Effects on IVM/IVF of Oocytes

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1. The concentrations of Ang. II were $7.2 \pm 0.91 \times 10^3$, $3.8 \pm 0.34 \times 10^3$, $3.5 \pm 0.30 \times 10^3$, $2.8 \pm 0.22 \times 10^3$ pg/ml in bovine follicular fluids from 1~3 mm, 3~5 mm, 5~7 mm and 8~10 mm follicles, respectively. However, the concentrations of Ang. II decreased in follicular fluids from large follicles.
2. When oocytes were cultured in media containing various concentrations of Ang. II, a higher proportion of oocytes developed MII in medium with 100 ng/ml (79.5%) than without Ang. II (58.8%). When oocytes from different sizes of follicles were separately cultured in media containing 100 ng/ml Ang. II, maturation rates were higher in oocytes from small and medium follicles than that of their controls.
3. GSH content in oocytes cultured for 24 hrs in TCM-199 medium containing 10, 100, ng/ml of Ang. II was also higher than that of oocytes cultured in medium containing 0 or 10 ng/ml Ang. II. When oocytes were cultured in media containing 10, 100, 1,00 ng/ml of Ang. II, the concentrations of GSH were 5.1 M, 5.5 M, 7.2 M, 8.7 M, respectively.
4. When oocytes were cultured in media containing various concentrations of 10, 100, 1,000 ng/ml Ang. II, *in vitro* maturation and developmental rates were 84.0%, 90.0%, 78.0% and 28.0%, 36.0%, 20.0%, respectively. When oocytes were cultured addition of Ang. II in media, *in vitro* maturation rates higher than that of their controls (76.0%).

Key words: *Angiotensin II, bovine follicle, IVM/IVF*