Primordial Follicles Development of Immature Mice Ovary after FSH and Ovary Cutting Treatments

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by

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ABSTRACT
The aims of the study were to investigate the influence of FSH and the ovary cutting treatments on the development of primordial follicles into preantral and antral follicles. Ovaries were grouped as whole ovary (without cutting); partially cut ovary and completely cut ovary (hemi ovary). All ovary groups were cultured in Dubellco’s Modified Eagle Medium (DMEM) containing 5µg/ml insulin, 10µg/ml transferrin, 5µg/ml selenium (ITS), 5% FBS, 50 µg/ml gentamycin with and without 100 µIU/ml Follicle Stimulating Hormone (FSH). Cultures were done in 5% CO2 incubator at 37oC. Results showed that after 8 days in vitro cultured in DMEM containing FSH, the average number of preantral follicles isolated from each whole, partially-cut and completely-cut ovaries were 16.1 + 3.3, 26.8 ± 7.7 and 12.3 + 1.9, respectively. On the other hand, those cultured in DMEM without FSH they were 17.3 + 3.8, 23.3 ± 5.2 and 17.8 + 2.8, respectively. After additional cultured for 8 days, the percentage of preantral follicles developing into the antral follicles in DMEM with and without FSH were 26.7 + 5.7 and 11.7 + 2.9, respectively. In conclusion, the supplementation of FSH in the culture medium did not increase the number of preantral follicles, but significantly increased the number of antral follicles. The ovary cutting treatment significantly increased the average number of collected preantral follicles.