EFFECTS OF ANTI-MÜLLERIAN HORMONE SUPPLEMENTATION ON CRYOPRESERVED AND TRANSPLANTED OVARIAN TISSUES

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Objective: Ovarian tissue cryopreservation and transplantation causes follicle depletion. To overcome this problem, we investigate the effect of Anti-Müllerian hormone (AMH), a follicle recruitment control hormone, supplementation before and/or after mouse ovarian transplantation.

Methods: A total of 120 5-week-aged BDF-1 female mice were used. The mice were randomly divided into four groups according to AMH doses (0, 5, 25, 125 μg/ml, respectively). AMH was injected intraperitoneally on every other day for a week before, after, or before and after transplantation (Group A, B and C, respectively). When vitrification-warming was done, auto-transplantation of ovaries under kidney capsules was performed. One week after transplantation, follicular normality was evaluated by histological analysis and TUNEL assay.

Results: In Group A and C, morphologically intact follicle (G1) ratios of AMH treated groups showed no statistically significant difference. In Group B, G1 ratios of 25 and 125 ug/ml of AMH treated groups were higher than those of 5 ug/ml treated group, but there was no improvement in G1 ratio after AMH treatment. In every group, apoptotic follicle ratios did not show any trend according to AMH treatment. Proportions of primordial follicle were not significantly different according to AMH treatment in all groups.

Conclusion: The result of the present study demonstrated that AMH treatment during on transplantation of cryopreserved ovaries has no significant effect on follicle survival and prevention of follicle depletion.