

## **Effects of Isolating Methods (Mechanical or Enzymatical) on Structure of Pre-Antral Follicles in Mouse**

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**Objective:** This study was conducted to evaluate the stable and effective isolating method of pre-antral follicles from ovary by means of mechanical or enzymatical method in mice.

**Methods:** Mouse (ICR, 3~4 weeks old) ovarian pre-antral follicles of 70~130 $\mu\text{m}$  (A: =90; B: 91~110; C: 111~130 $\mu\text{m}$ ) in diameter were isolated by mechanical method (group I) using syringe needles or by enzymatical method (group II) using 600 IU collagenase and DNase and cultured individually in 20 $\mu\text{l}$  droplet of media under mineral oil on culture dish for 8 days.

**Results:** On 8th day after culture, disruption rate ( $84.4 \pm 18.8\%$  vs.  $9.4 \pm 18.8\%$ ) was significantly higher ( $P < 0.05$ ) in group II than in group I. Survival rate ( $88.0 \pm 28.9\%$  vs. 0%) was significantly higher ( $P < 0.0000$ ) in group I than in group II. There was no differences in survival rate among different initial sized pre-antral follicles in group I (A:  $86.7 \pm 12.5\%$ , B: 100%, C:  $69.2 \pm 30.0\%$ , NS) or group II (A: 0%, B: 0%, C: 0%, NS) respectively.

**Conclusion:** In conclusion, compared to mechanical dissection, enzymatical isolation of pre-antral follicles resulted in higher follicular disruption rate. Survival rate was not affected by different initial sizes of pre-antral follicles in mice.

Key words) *Disruption rate, initial size, isolating method, mouse pre-antral follicle*