타났다. 생쥐의 난소에서 제작하여 in situ hybridization을 수행한 결과 wig1은 원시난포에서는 난자의 세포질과 핵에서 전반적으로 강하게 발현되고, 난포가 성장함에 따라 점차 난자의 핵에서만 발현되며 난포강 (antrum)을 갖는 난자에서는 세포질에서의 발현이 사라짐을 관찰하였다. 이에 반해 과립세포 (granulosa cells)의 경우는 2차난포에서부터 현저하게 발현함을 알 수 있었다.

Conclusions: p53은 세포주기의 진행/억제 및 세포사멸의 결정에 매우 중요하게 관여하는 조절자로써 난포발달에 매우 중요한 역할을 하고 있을 것으로 사료된다. 이와 같은 p53과 매우 밀접한 연관관계를 갖는 유전자로써 wig1의 연구가 의미를 갖는다. 난소, 특히 난자에서의 wig1 발현양상에 대한 연구결과는 본 연구가 첫 보고이며, 원시난포 및 1차난포에서는 wig1의 발현이 난자의 세포질과 핵에서 발현하다가 난포발달에 따라 점차 핵으로만 발현이 제한되는 현상에 대한 심층분석이 수행되어야 할 것이다.

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P-11 In Vitro Maturation of Mouse Oocyte from Early Preantral Follicles: Role of Retinoic Acid in the Culture Medium

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Background & Objectives: Retinol had been tested to support developmental potential in mammalian oocytes. Recent studies have shown that addition of retinoic acid, a retinol metabolite to in vitro culture of bovine oocytes promotes cytoplasmic maturation and subsequent embryonic development. The objective of this study was to evaluate the effect of RA on mouse oocyte maturation of in vitro follicle culture.

Method: Ovaries were obtained from 14 day-old mice aseptically. Early preantral follicles were released from the ovaries using 25 gauge needle. The culture medium consisted of α-MEM enriched 5% FBS, ITS (5 μg/ml, 5 μg/μl, 5 ng/ml), FSH (100 mIU/ml), with or without all-trans-retinoic acid (5 nmol/l). Each follicle was cultured in the culture droplets under oil. On day 2 of culture, 10 μl of medium was added to each droplet and was refreshed every other day. Follicles were cultured for 10 days at 37℃, 100% humidity and 5% CO_2 in air. Ovulation induction and oocyte maturation were induced by the addition of HCG (1.5 IU/ml) with EGF (5 ng/ml) on day 10. The status of cumulus-oocyte complex was observed 14~16 h later. The nuclear maturation of the oocytes was assessed after denudation.

Results: The treatment of all-trans-RA in the preantral follicle cultures improved GVBD rate of the oocyes from 57.7% to 70.8%. However, it showed no significant differnece in the follicle morphology and the growth speed from the early preantral stage to the Graffian follicle stage.

Conclusions: In conclusion, RA might enhance the maturation of the mouse oocytes in the follicle culture. The effect of RA on the embryonic development and the molecular mechanisms of RA affecting the oocyte maturation remained to be further study.