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Distribution of meiosis controlling proteins during ovarian oocyte development

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Maturation of oocyte is start at embryonic stage, it is hesitate during prohase I of meiosis, start to develop in puberty with developing follicules. During the development stages of oocyte at meiosis I and meiosis II, there is many molecular mechanisms for controlling to oocyte maturation. These mechanisms also provided to transition from one phase to another phase of oocyte and is complemented by the development of mature oocytes for fertilization. Oocyte maturation problems and/or pauses of development of oocyte during meiotic stage (remain in arrest) can not be seen fertilization.For this purpose, to analyze secreted cyclin B, Emi and MOS distributions during ovarian cycle in mouse ovarian tissue will be collect.

To analyze distribution of anti-Cyclin B, anti-Emi and anti-MOS during ovarian cycle, ovarian tissue will also collected (form 5 mouse) and after routine paraffin embedding protocols, the sections will be stained to with anti-cyclin B, anti-MPF and anti-MOS using immunoperoxidase technique

Immunoreactvitiy of Emi is while positive in oocyte cells, weak intensity was detected in primordial follicles. While immunoreactivitiy of Emi was negative in both oocyte and follicular cells in primary follicles, the weak immunoreactivity was only observed in corona radiata and follicle cells of secondary and graafian follicles.

Cyclin B immunoreactivity was detected in all stage of developing ovarian follicles. Cyclin-B staining was weakly or negative in follicular cells and ooctye, respectively,in primordial follicles. In addition, this immunoreactiviy was observed rest of the follicules, however, it was more detectable in follicular cells of secondary follicules. MOS immunoreactiy was negative in both oocyte and follicular cells of primordial follicules, moderate staining in primary follicle oocyte and graafian follicular cells was observed.

Our results suggested that, secretion of Emi was only detected in very early stage of ovarian follicles. Otherwise, the secretion of both MOS and Cyclin-B were triggered in primary follicles and continue during further development of ovarian follicles. In conclusion, activation of MOS and Cyclin B were important in follicular development in mouse ovarian tissue.

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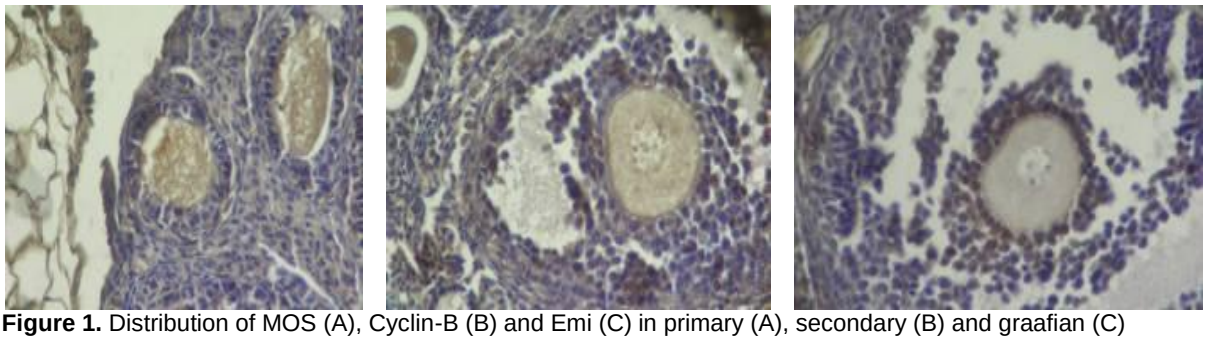

Figure 1. Distribution of MOS (A), Cyclin-B (B) and Emi (C) in primary (A), secondary (B) and graafian (C) follicules in adult mouse ovarian tissue. Scale Bar: 25µm