RAMADHAN SUMARMIN. Interspecies Transplantation of Ewe Ovary to Rabbit Uterine. Under the direction of ADI WINARTO, TUTY LASWARDI YUSUF, and ARIEF BOEDIONO.

ABSTRACT

This study was to evaluate the ewe ovaries post-intrauterine transplantation to pseudopregnant rabbit as an ovarium preservation model. The experiment was concerned to the day 1 and 7 of rabbit pseudopregnancy to receive the ewe ovaries. After 5, 7, 9, and 11 days transplantation, the ewe ovaries were recollected. To determine the morphological change of transplanted ewe ovaries and an influence of intrauterine position transplantation, it were scored for the intact ovarian, from 1 to 4 point. In order to determine the follicle development and histological changes of transplanted ovaries, the transplanted ovaries were prepared using paraffin method and stained with HE. To evaluate the pseudopregnancy status of rabbit the histological method was also done to analyze the uterine morphologies, and completed with peripheral blood progesterone hormone level (RIA method). To evaluate the ewe oocytes viability of ewe transplanted ovarian, the oocytes were collected by slicing method. After maturation in TCM-199 for 24 h, the oocytes were stained with 2% aceto-orcein to determine the nuclear oocytes status. The results showed there was no different score of morphological change of ewe transplanted ovaries that done at day 1 and day 7 of pseudopregnancy of recipient rabbit and that 5, 7, or 9 days after transplantation had similar score on morphological changes. The position 1 had the highest score 3.9 and followed by position 2 and 3 with 3.6 and 3.1 respectively, and the lowest score which less than 2.5 was found in position 4. The morphological changes of ewe transplanted ovaries included epithelial and follicles degenerations, and aggregated protein formation. The number of follicles were decreased significantly (p<0.05) except the number of primordial follicles on day 5 post-transplantation (634.7±56.88) and were not significantly differed (p=0.5) to the control group (683.7±61.55). The endometrial glands were still pronounced in pseudopregnant rabbit that receive the ewe ovarian. The progesterone hormone level on pseudopregnant rabbit was similar to those of the pregnant rabbit. The collected ewe oocytes from transplanted ovaries could reach the M-II phase after in vitro maturation at P5 (35.05%) and P7 (35.24%). These values were significantly different (p<0.05) when compared to the control (56.63%). It can be concluded that: 1) The ewe ovaries of all treatment groups was still preserved at intrauterine of the pseudo pregnant rabbit until day 9. 2) The ovaries in the nearest position to the recipient ovarian of uterine cavity were preserved better than those transplanted in the cervical area. 3) All stages of follicle in ewe transplanted ovaries were seen in all treated groups. 4) The morphological changes found in ewe transplanted ovarian were epithelial and follicles degeneration, and the aggregated protein formation. 5) The pseudopregnancy status of the recipient rabbit was prolonged up to the end of the transplantation period. 6) The oocytes viability was well preserved at intrauterine of pseudo pregnant rabbit.

Key-word: histology, follicles, oocytes, post-transplantation, M-II