

Comparison of Cow's Breed on the Morphology of Ovaries Collected from Abattoir

ABSTRACT

In vitro production (IVP) of embryos is one of the popular animal reproductive biotechnologies to enhance the genetic improvement of livestock. However, insufficiency of good quality oocytes has become one of the major constraints in producing embryos from IVP. Thus, a preliminary evaluation of ovaries could provide information for further experiment regarding IVP of cattle embryos. The objective of the present study was to evaluate the morphology of ovaries from different breed of cattle, including surface follicles and follicular health status. Thirty two (32) ovaries from Kedah-Kelantan breed and 32 ovaries from crossbred cows were collected from an abattoir in Taiping, Perak. Follicles visible on the surface of each ovary were counted and the weight, length and width of the ovaries were measured. The ovaries were then fixed and processed for microscopic evaluation, where the number of healthy and atretic follicles were counted. The mean ovarian weight, length, width and number of surface visible ovarian follicles of crossbred cows were found significantly higher (7.81 ± 0.61 g, 3.30 ± 0.09 cm, 2.31 ± 0.07 cm and 29.66 ± 2.32 , respectively) compared to KedahKelantan cows (3.22 ± 0.33 g, 2.60 ± 0.08 cm, 1.80 ± 0.07 cm and 20.97 ± 2.04 , respectively). The mean percentage of healthy follicles in the ovaries of Kedah-Kelantan and crossbred did not differ significantly (41.12 ± 5.24 and 48.61 ± 10.15 , respectively). In conclusion, breed of cows had statistically significant influence on the surface follicles, but not significant in follicular health status. Further studies of breed factor on oocytes are required for successful IVP of cattle embryos.