Abstract

The sustainability and production of collared peccary (Pecari tajacu) has been studied in the last few years; however, further information on its reproduction is necessary for breeding systems success. Understanding folliculogenesis aspects will contribute to effective reproductive biotechniques, which are useful in the preservation and production of wildlife. The aim of this study was to evaluate the ovarian folliculogenesis in collared peccary. Ovaries from six adult females of collared peccary were obtained through ovariectomy and analyzed. These were fixed in aqueous Bouin’s solution and sectioned into 7μm slices, stained with hematoxilin-eosin and analyzed by light microscopy. The number of pre-antral and antral follicles per ovary was estimated using the Fractionator Method. The follicles, oocytes and oocyte nuclei were measured using an ocular micrometer. Results showed that the length, width, thickness, weight, and the gross anatomy of the right and left ovaries were not significantly different. However, the mean number of corpora lutea was different between the phases of the estrous cycle (p<0.05), with the highest mean in the luteal phase. Primordial follicles were found in the cortex; the oocytes were enveloped by a single layer of flattened follicular cells. In the primary follicles, proliferation of the follicular cells gave rise to cuboidal cells (granulosa cells). The secondary follicle was characterized by two or more concentric layers of cuboidal cells (granulosa), beginning of antrum formation, and the presence of pellucid zone and theca cells. Antral follicles were characterized by a central cavity (antrum), the presence of cumulus oophorus and theca layers (interna and externa). In the right ovary, the values of the primordial and primary follicles were similar, but significantly different from the secondary ones (p<0.05). In the left ovary, significant differences were observed between all follicles in the follicular phase (p<0.05); the mean number of primordial and primary follicles was similar in the luteal phase. The mean number of pre-antral follicles and antral follicles in the follicular phase was higher in the left ovary (p<0.05). The mean number of antral follicles in the luteal phase was similar in both ovaries. We also found significant differences in mean diameter of preantral follicles, oocyte, granulosa layer and oocyte nucleus during the estrous cycle. In the antral follicles a significant difference was observed only in follicular diameter (p<0.05). The predominance of active primordial and primary follicles was found in both phases; otherwise the secondary follicles and antral follicles showed a high degree of degeneration. The results obtained in the present work will strengthen the development of biotechnology programs to improve the productive potential and conservation of the collared peccary.
Keywords
Ovary, morphology, histology, antral follicles, pre-antral follicles, collared peccary.