CHANGES IN SOWS’ ENDOMETRIUM DURING DISTURBED OESTRUS CYCLE AND ANOESTRUS

Birutė Karvelienė1, Henrikas Žilinskas2, Neringa Sutkevičienė2, Vita Riškevičienė1

1Department of Infectious Diseases, Lithuanian Veterinary Academy, Tilžės Str. 18, Kaunas, Lithuania; tel.: +370 37363318; e-mail: birutek@lva.lt
2Department of Non-Infectious Diseases, Lithuanian Veterinary Academy, Tilžės Str. 18, Kaunas, Lithuania

Summary. Morphometric investigations of sows with disturbed reproduction endometrium and changes of luminar endometrial epithelium and glandular epithelium height during different stages of oestrus cycle and pathological anoestrus condition were studied. Changes of progesterone and estradiol-17β concentration in blood serum of sows with disturbed reproduction were studied too.

Morphometric measurements of uterus tissues from the sows with disturbed reproduction during different stages of oestrus cycle and during pathological anoestrus condition revealed that the diameter of glands, height of glandular epithelium and height of luminar endometrial epithelium differed in dependence on the stage of oestrus cycle. Positive correlation was defined among the height of endometrium surface and glandular epithelium (R=0.29; P<0.01). The lowest height of surface epithelium was found during anoestrus condition, the highest – during early dioestrus (P<0.001). The results of our experiment confirmed the lowest height of uterus glandular epithelium during anoestrus condition. We also found the highest glandular epithelium and the lowest diameter of glands during dioestrus state, the highest – during late dioestrus. It is evident that the processes in the uterus of sows with disturbed reproduction are different compared to physiologically normal cyclic sows and are effected by hormonal changes in the organism. It is well known that functions of reproductive system are directly regulated by dependence between estradiol-17β and progesterone.

In sows with disturbed reproduction which had functionally active ovaries progesterone concentration in blood serum was on average 17.18±19.82 nmol/l, and estradiol-17β – 82.54±152.15 pmol/l in dependence on the stage of oestrus cycle (P<0.05). An average progesterone concentration in blood serum of slaughtered anoestrus sows was 0.082±0.04 nmol/l, and estradiol-17β concentration was lower than the lowest value pmol/l registered by an apparatus.

Key words: sow, reproductive disturbances, endometrium, morphometry.