

CHANGES IN SOWS' ENDOMETRIUM DURING DISTURBED *OESTRUS* CYCLE AND *ANOESTRUS*

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Summary. Morphometric investigations of sows with disturbed reproduction endometrium and changes of luminal endometrial epithelium and glandular epithelium height during different stages of *oestrus* cycle and pathological *anoestrus* condition were studied. Changes of progesterone and estradiol-17 β 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 luminal 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-17 β 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-17 β – 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-17 β concentration was lower than the lowest value pmol/l registered by an apparatus.

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