

CYTOLOGICAL CHANGES IN ENDOMETRIUM OF SOWS DURING *OESTRUS* CYCLE AND *ANOESTRUS*

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Summary. The aim of performed research was to define morphological changes in the uterus endometrium of sows with disturbed reproduction during the *oestrus* cycle and *anoestrus* condition and to study changes of progesterone and estradiol-17 β concentration in blood plasma.

Cytological investigations of sows with disturbed reproduction endometrium were carried out for the first time, infiltration of the immune cells during different stages of *oestrus* cycle and *anoestrus* condition were studied.

Histological investigation of uterus horns leads to the conclusion that during different stages of *oestrus* cycle in different layers of uterus are observed quantitative and qualitative changes of cells. During different stages of *oestrus* cycle lymphocytes, plasma cells and macrophages prevailed in sows' endometrium. During *oestrus* lymphocytes prevailed in the glandular epithelium, stroma and luminal epithelium of endometrium. In addition, positive correlation between the number of lymphocytes in luminal endometrial epithelium and in stroma and glandular layer was defined ($r=0.4$ and $r=0.2$; $p<0.01$). During *dioestrus* in endometrium stroma and during early *dioestrus* in glandular layer prevalence of eosinophils was stated ($p<0.05$). The most noticeable infiltration of neutrophils was registered in luminal and glandular epithelium layers of endometrium during pathological *anoestrus* condition, while no eosinophils and macrophages were found in any layer of endometrium ($p<0.05$).

Keywords: sow, reproductive disturbances, endometrium, immune cells, *anoestrus*.