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cytological and histopathological diagnostic. The only treatment was surgical removal of the tumors (simple or radical mastectomy) and/or ovariectomy.

Conclusion: The results of this study have shown that older bitches that have never whelped are more predisposed to mammary tumors. The influence of the ovarian hormones on the mammary gland tissue during different stages of development is a risk factor for occurrence of mammary gland tumors. Based on our findings and the conclusions of other authors, it can be concluded that the risk of developing a mammary tumor multiplies with the increase of the number of estrous cycles, thus early ovariectomy before the first oestrus cycle is recommended as the most efficient preventive measure.

SS11

The advantages of the immunohistochemical method in the diagnosis of the circovirus diseases in pigs

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Introduction: The circovirus diseases are caused by PCV2 (Porcine circovirus type 2) which is a small, spherical nonenveloped virus with a single stranded DNA genome and is spread throughout the pig industry worldwide. The most significant of the circovirus diseases is the PMWS (post-weaning multisystemic wasting syndrome) which has great impact on the pig production. There is a great discussion between scientists concerning the diagnosis of the circovirus diseases in pigs.

Material and methods: In this study we compared the immunohistochemical and the histopathological method in the diagnosis of PCV2 infection in pigs. Thirty pigs from two to five months old with previous clinical diagnosis of the Post-weaning multisystemic wasting syndrome were examined. Necropsy was performed on all pigs and tissue samples for histopathology and immunohistochemical diagnostics were collected in 10% buffered formalin, dehydrated, embedded in paraffin wax and sectioned at 3-4 μ m.

Results: The histopathological lesions were mainly expressed in the form of lymphocyte depletion and necrosis in the cortex and the paracortex of the lymph nodes, as well as the presence of giant cells in the same areas. The immunohistochemical method revealed the presence of the PCV2 antigen in most of the examined pigs. The presence of the antigen is found in all the lymphoid tissues specifically in the necrotic areas of the lymph follicles, and is less present in the giant cells and the mononucleated phagocytes of the lymph follicles.

Conclusion: The immunohistochemical method allowed us to simultaneously observe the tissue changes, distribution of the virus antigen in the tissue and to recognize the pathogenesis of the disease.

SS12

Semen quality of Ovchepolean Pramenka rams during non-breeding season

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Introduction: Ovchepolean Pramenka is an indigenous breed of sheep in the Republic of Macedonia whose breeding season lasts from the beginning of summer till late autumn. While there is no ovulation in the ewe during anoestrus, spermatogenesis and sexual behavior in the ram never stop, although some decline in semen quality is reported. The aim of this study was to investigate the quality of semen during the off-breeding season and the influence of age on fertility parameters.

Material and methods: Four Ovchepolean Pramenka rams, at the age of 15 months (n=2) and 48 months (n=2), were included in this research. The rams were housed at the premises of the Faculty of Veterinary Medicine, fed ad libitum with good quality alfalfa and concentrate with free access to fresh water. 92 semen samples were collected, twice a week, using artificial vagina method, in the period from March to May. Each ram had two successive mounts in interval of 15 minutes. Initial evaluation (volume, density, wave motility, concentration) of the semen samples was done within 10 minutes from the collection. Afterwards, the total volume of each ejaculate was diluted with pre-warmed Tris-Citrate-Glucose extender in 1:1 ratio. Total (tMOT) and progressive motility (pMOT) were assessed by CASA system (TOX IVOS, Hamilton Thorne Research) both in fresh semen (FS) and semen equilibrated at 5°C for 2 hours (ES).

Results: The ejaculate volume (ml) in young and adult rams ranged from 0.3–1.0 (0.7 \pm 0.03) and 0.2–1.1 (0.6 \pm 0.03) respectively. The values of sperm concentration ($\times 10^9$) were 0.99–3.28 (2.14 \pm 0.11) in young rams vs 0.74–4.47 (2.21 \pm 0.15) in adult rams. The difference in volume and sperm concentration between young and adult rams was not statistically significant. However, the values of tMOT(%) and pMOT(%) in FS (83.29 \pm 2.13 and 42 \pm 2.14) compared to the values in ES (65.53 \pm 2.17 and 32.22 \pm 1.78) in all rams had statistically high significance (p<0.0001 and p<0.001 respectively).

Conclusion: Compared to previous studies, slight seasonal effect (lower volume and concentration) on ram semen quality was recorded in this research. No statistically significant differences regarding semen volume, sperm concentration, total and progressive motility between young and adult rams was detected. This leads to the conclusion that young, as well as adult rams, can be efficiently used for reproduction in the non-breeding season.