

## CYTOLOGICAL EVALUATION OF BONE MARROW SMEARS IN GOATS DURING MASTITIS

A. Snarska<sup>1</sup>, P. Sobiech<sup>1</sup>, H. Snarska<sup>2</sup>, K. Żarczyńska<sup>1</sup>, D. Wysocka<sup>1</sup>  
psobiech@uwm.edu.pl

<sup>1</sup>University of Warmia and Mazury in Olsztyn, Faculty of Veterinary Medicine,  
Department and Clinic of Internal Diseases, Olsztyn, Poland

<sup>2</sup>University of Warmia and Mazury in Olsztyn, School of Medicine, Olsztyn, Poland

Mastitis occurs in sub-clinical and clinical form with visible and easily perceptible changes within the mammary gland. Mastitis is often a result of bacterial infections caused by *Streptococcus aureus*, *Staphylococcus agalactiae* and *Escherichia coli* which mainly occur at the beginning of lactation and during dry period. Several factors, including: conditions in which animals are kept, feeding, milking hygiene and stress generating factors, may have a huge impact on the development of mastitis.

The aim of this study was to determine the effect of mastitis on the results of cytological evaluation of bone marrow smears in goats during mastitis.

For obtaining bone marrow samples 63 mm long 16 G biopsy needles were used. The animals were premedicated with xylazine prior to bone marrow sampling. The site of sampling was prepared in accordance with standard surgical procedures. Due to the very fast coagulation of the tested material, smears were made on previously prepared microscope-slides. The bone marrow smears were stained with the May-Grünwald-Giemsa method with shorter staining times than used for staining peripheral blood smears. The hematological counter SH-96/24D was used to count the bone marrow cells. Hematological analyses were performed using the ADVIA 2120i apparatus.

Results of the experiment showed an increase in the number of white blood cells and platelets above the reference values specific to goats. In peripheral blood smears, a significant increase in the number of neutrophilic granulocytes with segmented nucleus was noted. The increase in the number of leukocytes above the reference values was mainly caused by the increase in the number of neutrophilic metamyelocytes (MYE) and segmented granulocytes. In the erythroblastic cell line a decrease in the number of polychromatic and orthochromatic erythroblasts (EPOL and EORT) with a decrease in the number of reticulocytes was observed. Cytological evaluation of bone marrow smears revealed an increase in the number of neutrophilic and eosinophilic metamyelocytes. Also significant decrease in the number of megakaryocytes should be highlighted.

The decrease in the number of megakaryocytes and consequently the number of platelets may suggest the occurrence of disturbances in blood clotting tests.

**Keywords:** GOAT, MASTITIS, BONE MARROW