

## THE IMPACT OF HEALTH STATUS AFTER CALVING ON BLOOD BIOCHEMICAL PARAMETERS, REPRODUCTION AND PRODUCTIVITY IN COWS

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**Summary.** The objectives of performed research was to evaluate the impact of health status after calving on variable cows blood sera and milk parameters, productivity and reproductive abilities. Sixty cows (n=60) after calving were divided by stratified random sampling into 6 groups (1-6), of 10 animals in each. The groups were formed based on the health status: Group 1 (controls) – clinically healthy cows after calving, Group 2 (cows with parturient paresis and on treatment), Group 3 (cows with endometritis), Group 4 (cows with lameness and on treatment), Group 5 (cows with ketosis and on treatment), Group 6 (cows with parturient paresis complicated by lameness, endometritis, ketosis and on treatment). The treatment included combination of specific, symptomatic treatment and supplementation of diet with additional vitamin and mineral mixture. From all 60 cows blood sera was taken once a week and different routine blood parameters were compared. Our results showed that majority of cows in Groups 2, 3, 4, 5 and 6 have showed statistically significant hypocalcemia (reduction in 43.6-62.4%) and hypomagnesemia (reduction in 53.6–68.3%) compared to controls in Group 1 ( $P<0.05$ - $P<0.01$ ). Furthermore, in Groups 2-6 the level of aspartataminotransferasis (AST) increased by 1.7-2.3 times, alkaline phosphatase (AP) by 1.6-8.9 times,  $\gamma$ -glutamyltransferasis (GGT) by 1.2-4.1 times and lactatdehydrogenasis (LDH) by 1.9-2.6 times compared to control cows in Group 1 ( $P<0.05$ ). These results indicate that increment of cases of parturient paresis, endometritis, lameness and ketosis in postparturition period in cows is associated with different parameters including hypocalcemia, hypomagnesemia and reduction of insoenzymes despite an additional supplementation of feed with vitamins and minerals. This suggests to focus more attention and contribute to a more holistic concept of the health status and nutrition in postparturient cows.

**Keywords:** blood parameters, enzymes, milk composition, postparturient cows.