

THE INFLUENCE OF PARATHYROID HORMONE, CALCITONIN AND VITAMIN D ON MINERAL PROFILES IN SERUM OF DAIRY CATTLE

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Summary. The influence of parathyroid hormone (PTH), calcitonin (CT), 25-hydroxicholecalciferol (25-OH vitamin D) on minerals – Ca, P and Mg level were determined in dairy cattle. The profiles of PTH and CT were determined by immunometric method, the level of 25-OH vitamin D was determined by ELISA and the amount of minerals by routine methods. The dairy cattle was divided into 3 groups of healthy (heifers, dry cows and dairy cows) and 3 groups of sick cattle (with parturient paresis, mastitis and osteomalacia) of 10-15 animals in each group.

There was reduced amount of Ca in all groups of sick cows, and lowest level of Ca and P was determined in cows with parturient paresis. All cows with osteomalacia had reduced amount of P and Mg. In healthy cow groups the highest level of PTH was determined in dry cows and the lowest in dairy cows. All cows with parturient paresis had significantly higher amounts of PTH, CT and 25-OH vitamin D compared to the healthy cows ($P < 0.05$). A negative correlation was determined between the levels of vitamin D and the amount of Ca ($r = -0.701$, $r = -0.971$).

Keywords: cow, parathyroid hormone, calcitonin, 25-OH vitamin D, Ca, P, Mg.