PREVALENCE AND TREATMENT OF SUBCLINICAL KETOSIS IN HIGHLY PRODUCTING DAIRY COWS IN LITHUANIA

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Summary. The experiment was carried out to study the levels of glucose, magnesium, calcium, phosphorus, proteins and enzymes in blood, and serum hydroxybutyrate (Hb) levels and milk composition. Seventy highly productive dairy cows from 5 dairy farms were selected. The median serum Hb was 1,23 mmol/L for all cows, with a range from 0.62 to 1. 5 mmol/L. In 57.7% of cows serum Hb level was 1,2 mmol/L or higher. (Level over 1.2 mmol/l of Hb is proper trait of ketosis). Both milk fat percent and milk lactose percent, blood glucose and serum enzymes were significantly associated with subclinical ketosis. In case of subclinical ketosis the following parameters were determined: milk fat 4.9 – 5.4%, milk lactose 4.0 – 4.19%, milk urea nitrogen 20 – 21 mg%, milk proteins 3.36 – 4.14%, SCC over 300 000 ml^{-1}, blood proteins 77.1 – 78.0 g/l, Hb 1.1 – 3 mmol/l, calcium 2.017 – 2.15 mmol/l, glucose 1.5 – 1.7mmol/l, magnesium 0.89 – 0.9 mmol/l, phosphorum 1.91– 2.03 mmol/l, enzymes activity GOT 109 – 134, GPT – 23 – 26. Ten cows with subclinical ketosis were treated for 10 days with daily doses of 250 g of propylene glycol which was fed with the concentrate mixture. Changes in blood metabolites and milk composition were measured 10 and 20 days after treatment. Ten cows were treated 7 days with daily doses of 12 g nicotinic acid (niacin). Cows following treatment displayed a negative blood hydroxybutyrate test, reduced milk fat, hypoglycemia. After treatment with niacin amount of milk lactose increased.

Key words: cow blood sera, hydroxybutyrate, subclinical ketosis, treatment.