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Title of thesis: Evaluation of the activity of Peroxiredoxin II, total antioxidant capacity and malondialdehyde concentration in blood in cows with enzootic leucosis.

Summary:

Bovine leukosis is the most important neoplastic disease in cattle. It seems that the change in the activity of the peroxiredoxin II enzyme as a novel indicator of oxidative stress can play an important role in the pathophysiology and severity of this disease. In this study, blood samples in EDTA and gel tubes were collected from 78 dairy cows. The cows were divided in tow groups, infected (18 cows) and non-infected cattle (60 cows) according to PCR testing to detect the enzootic leukemia virus. Blood samples were subjected to complete blood count (CBC) and differential count were performed and Peroxiredoxin II activity and total antioxidant capacity (TAC) and malondialdehyde (MDA) values were measured by using specific kits. The results of this study showed that with increased in the number of lymphocytes, the activity of peroxiredoxin II enzyme and TAC values in the blood of infected cows with BLV decreased, but the amount of malondialdehyde was significantly increased. The results showed that there is an association between reduced activity of peroxiredoxin II enzyme and lymphocytes.

Keywords: Peroxiredoxin II, Total antioxidant capacity, Malondialdehyde, Bovine enzootic leukosis.