



OXIDATIVE STABILITY OF THE LIVER, KIDNEYS, HEART AND MUSCLE OF THE FAT DORMOUSE (*GLIS GLIS*)

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Purpose: In cells and body fluids there can be found various antioxidative compounds that protect the membrane and cytoplasmic molecules from oxidation. In physiological conditions, free radicals and antioxidant molecules are in equilibrium. Therefore, the aim of this study was to determine the antioxidative potential of the tissue and the concentration of reactive oxygen metabolites in the liver, kidney, heart muscle and gluteus muscle in the fat dormouse (*Glis glis*).

Materials-Methods: The study was conducted on the tissue samples of 33 fat dormice (18 females; and 15 males) collected during the regular hunting operations (September-October, 2017). After the defrosting, homogenization and centrifugation of the tissue samples the

activity of paraoxonase 1 (PON 1), glutathione peroxidase (GPx), superoxide dismutase (SOD), biological antioxidant potential (BAP) and concentration of reactive oxygen metabolites (ROMs) was determined.

Results: The highest activity of PON 1 and GPX was measured in the liver as well as the concentration of the ROM, the highest activity of SOD was found in the kidneys. The highest antioxidative potential was measured in *m. gluteus*. There was no statistically significant difference in the liver and kidney tissue between male and female fat dormouse. In the heart muscle and *m. gluteus*, the concentration of reactive oxygen metabolites (ROM) is statistically significantly higher in the males compared to females ($p = 0.028$, $p = 0.006$, respectively). The activities of PON 1, GPx, SOD and BAP did not differ significantly between males/females.

Conclusion: The established values of the indicators reflect the differences in the metabolic activity of the fat dormouse tissue.

Key words: fat dormouse, antioxidative potential, reactive oxygen metabolites