ROSUVASTATIN REDUCES KIDNEY MALONDIALDEHYDE CONCENTRATIONS IN RATS

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Statins are drugs widely used to treat hypercholesterolemia and reduce the risk of cardiovascular morbidity and mortality in patients with coronary heart disease. The mechanism of their action may be the inhibition of oxidant formation and blocking the effects of reactive oxygen species (ROS). As reported in recent studies, rosuvastatin has a beneficial effect on the plasma lipid profile and can reduce serum cholesterol and ROS formation in diabetic patients. The aim of this work was to determine the influence of rosuvastatin on the prooxidant-antioxidant balance in rat kidneys. This study was performed on male normolipidemic Wistar rats (N=36) divided into two control (treated with saline 5 mg kg-1 per day) and two experimental rosuvastatin-treated (5 and 10 mg kg-1 per day) groups. Animals were treated orally for 21 days. Malondialdehyde (MDA) – parameter of lipid peroxidation was measured in the kidney tissue homogenate of control and treated animals using the method by Drury et al. (1997). Data were analysed using t-test. Results are expressed as Mean±STD. MDA concentration was significantly lower in both experimental groups compared to controls: 0.41±0.05 *vs.* 0.62±0.08 µmol g-1 tissue (5 mg kg-1 per day *vs*. control; p<0.001) and 0.58±0.05 *vs*. 0.68±0.09 µmol g-1 tissue (10 mg kg-1 per day *vs*. control; p<0.05). Our results have shown that rosuvastatin possesses significant antioxidative effectiveness that is not dose-dependent. This antioxidative action extends beyond the lipid-lowering effects of statins.

**Acknowledgement:** This work was financially supported by Projects No. 108-0000000-0013 and 022-0222148-2142

funded by the **Ministry of Science, Education and Sports of the Republic of Croatia.**

**KEY WORDS:** *statins, oxidative stress, lipid peroxidation, rats*