SHORT COMMUNICATION

INFLUENCE OF SELECTED CARDIOLOGICAL DRUGS ON OXIDATIVE STATUS

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The aim of the study was to determine the effect of the often applied drugs in cardiovascular diseases (metoprolol, acetylsalicylic acid, simvastatin and molsidomine) on antioxidative/oxidative balance in vivo. The determination of oxidative status was based on measurements of concentration of: thiobarbituric acid reactive substances (TBARS – lipid peroxidation products), protein carbonyl groups (marker of proteins oxidative injury), nitrotyrosine (marker of NO-mediated tissue damage) and sulfhydryl groups (protein oxidation product). The assays were performed in the plasma and whole blood of rabbits after three weeks of daily intragastric administration of the drugs mentioned above. It was shown that all drugs except acetylsalicylic acid caused an increase in the plasma and hemolysate levels of TBARS. No changes in nitrotyrosine concentration were observed after drug administration. The content of carbonyl groups did not change after administration of metoprolol, but increased significantly after simvastatin and molsidomine administration. Blood sulfhydryl group concentration was not changed by metoprolol but it significantly decreased after acetylsalicylic acid and increased significantly after molsidomine administration.

Key words: acetylsalicylic acid, metoprolol, molsidomine, oxidative stress, simvastatin

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