
Abstract. We investigated the effect of vitamin C on the oxidative status in the hypothalamus and adrenal glands of rats supplemented by its two doses over a four-week period. The results obtained have shown that vitamin C exerts effects which are tissue specific. In hypothalamus, it decreased the activity of copper zinc superoxide dismutase (CuZnSOD), the concentration of hydrogen peroxide (H2O2), as well as the activity of catalase and the level of lipid peroxidation, thus causing effects which are obviously antioxidative. On the other hand, the changes detected in adrenals indicate that vitamin C there performs some other, specific functions. They are followed by an increase in the activity of both CuZnSOD and MnSOD, as well as with the consequent rise of H2O2 content. However, these changes seem not to be of pro-oxidative nature since the level of lipid peroxidation in adrenals remains unchanged as compared to the controls.