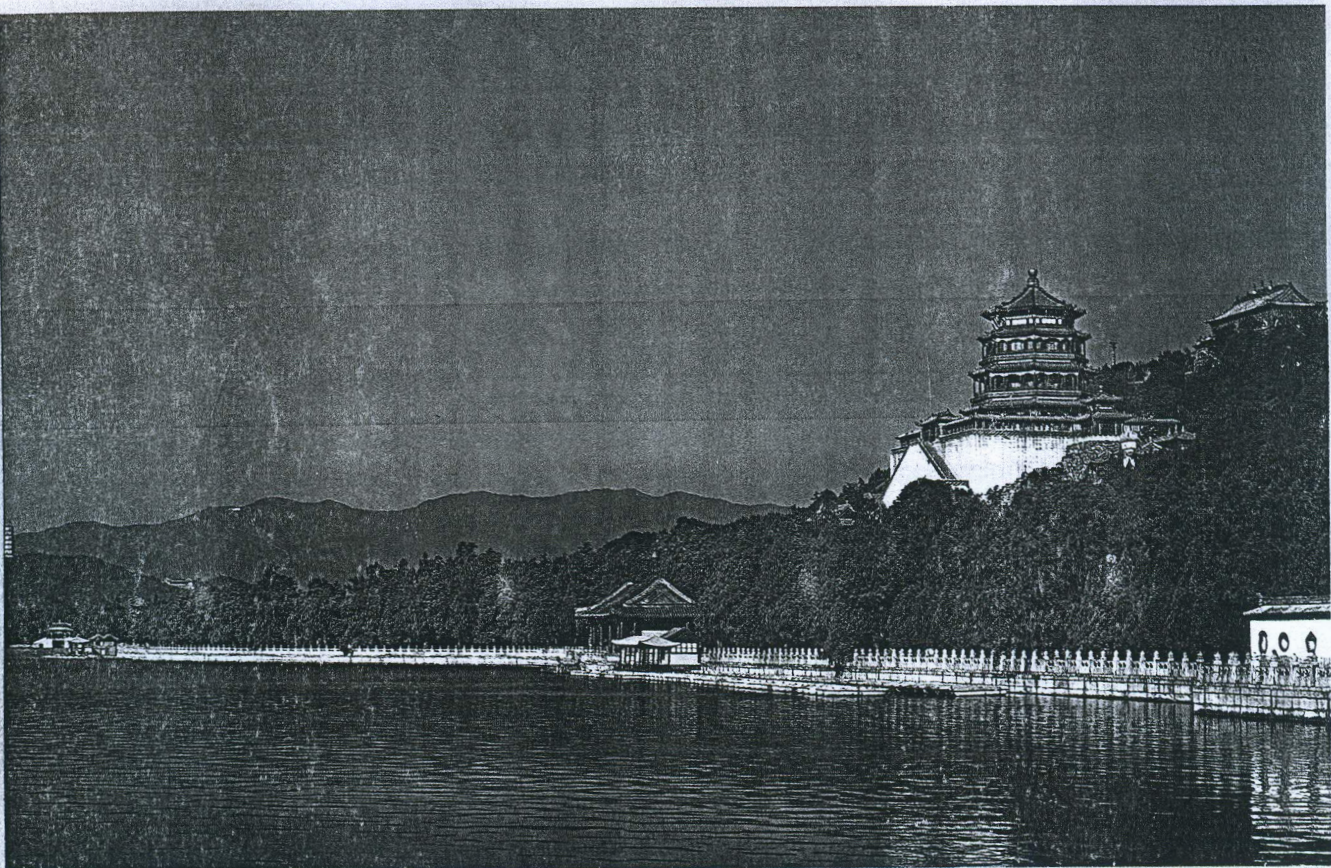


Programme & Abstracts

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ALTERATIONS OF ANTIOXIDANT DEFENSE SYSTEM IN SOME TISSUES OF RATS TREATED WITH SELENIUM

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We investigated the activity of antioxidant enzymes: superoxide dismutases – total (Tot SOD), copper zinc containing (CuZn SOD) and manganese containing (Mn SOD), catalase (CAT), glutathione peroxidase (GSH-PX) and glutathione-S-transferase (GST) in the liver, kidneys, heart and interscapular brown adipose tissue (IBAT), as well as contents of ascorbic acid (AsA) and vitamin E (Vit E) in the liver and kidneys of male two months old *Wistar albino* rats. The animals were divided in two experimental groups: control animals (C) and animals treated with selenium (Se). The rats treated with selenium were drank water containing 0.1 µg/mL selenium (Se) as Na-selenite during 30 days. The average daily intake of 7 µg Se/kg body mass was calculated from the water consumed. Both experimental groups consisted of seven animals. The obtained results were compared in respect to the control animals.

Our results show that Tot SOD and CuZn SOD activities were significantly increased in the liver ($p<0.02$), kidneys ($p<0.005$), heart ($p<0.005$) and IBAT ($p<0.05$) of Se treated animals, while the activity of Mn SOD was significantly increased only in the liver ($p<0.02$). CAT activity was statistically increased in the liver ($p<0.02$) of animals treated with Se, while the GSH-Px activity was significantly increased only in the heart ($p<0.02$). The activity of GST was significantly increased in the liver ($p<0.02$), kidneys ($p<0.02$) and heart ($p<0.005$) of Se treated animals.

The obtained results show that AsA content in the liver and kidneys was significantly increased ($p<0.02$ and $p<0.05$, respectively). The content of Vit E was also significantly increased in the liver ($p<0.005$) and kidneys ($p<0.005$) of animals exposed to Se.

Presented results show that oral intake of Se as Na-selenite, improves antioxidant defense system by increasing antioxidant enzyme activities, as well as, by elevation of AsA and Vit E contents in the all examined tissues of rats.