CORRECTION OF OXIDATIVE STRESS IN RATS BODY WITH NATURAL POLYPHENOLS IN VIVO

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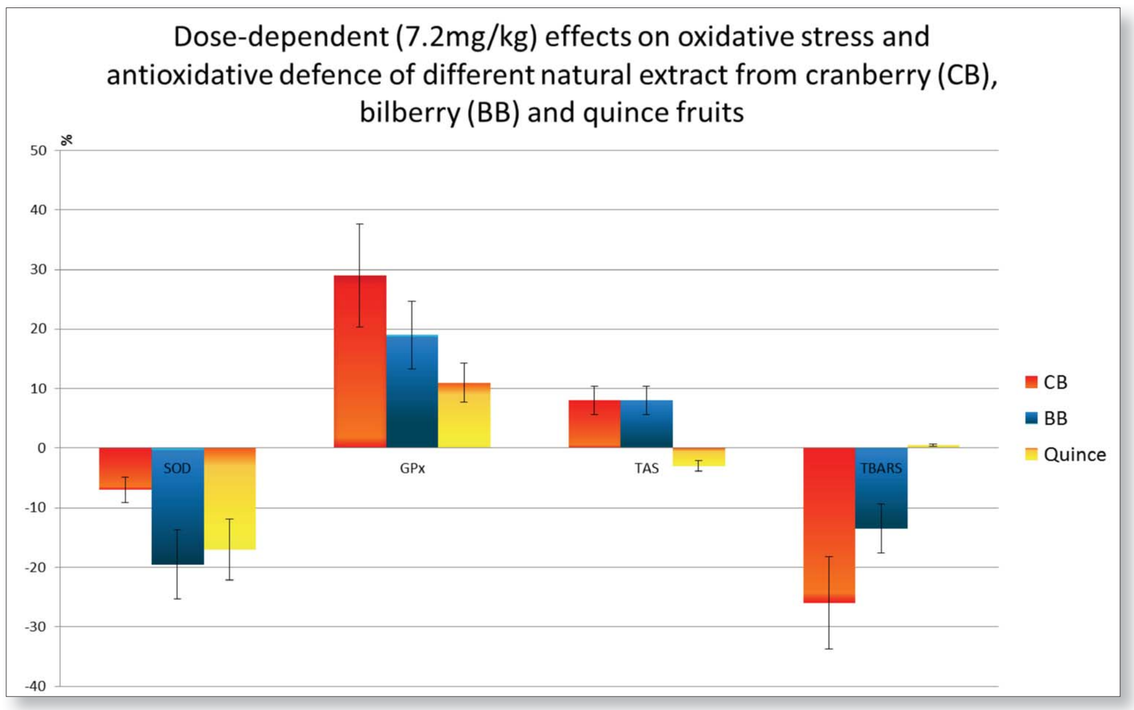
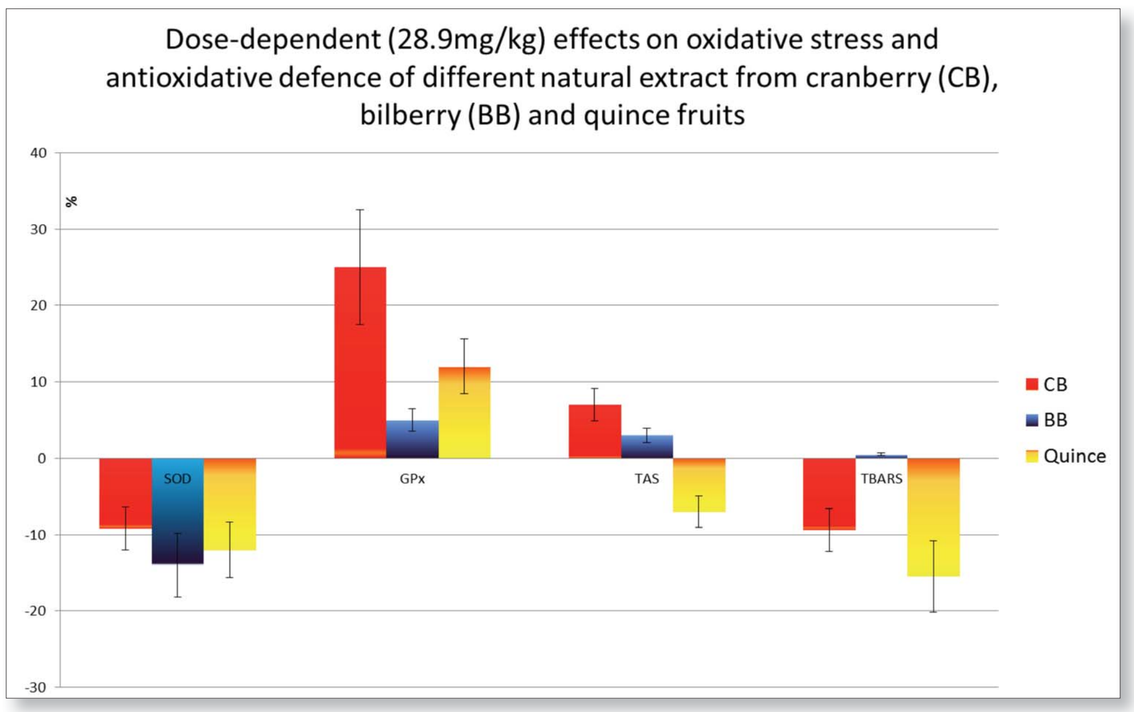
Oxidative stress has been implicated in various diseases through the generation of reactive oxygen species (ROS) and the depletion of endogenous antioxidant systems. ROS are generated as by-products of normal cellular metabolism; however, several conditions are known to disturb the balance between ROS production and cellular defense mechanism. This imbalance can result in cell dysfunction and destruction resulting in tissue injury, such as cardio-vascular, neurodegenerative diseases, congenital malformations, etc.

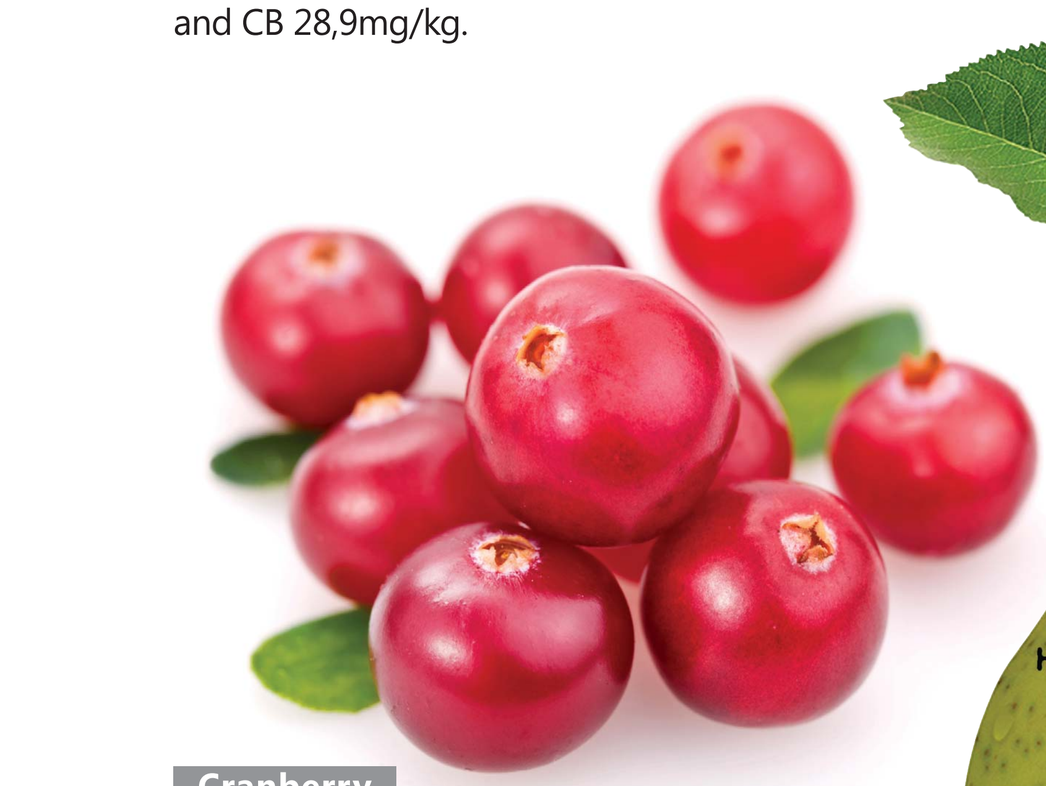
THE AIM of investigation were dose-dependent (daily – 7,2mg/kg, and 28,9mg/kg) effects on oxidative stress and antioxidative defense parameters of different natural extracts from cranberry (CB), bilberry (BB) and quince (Q) fruits, rich with bioactive compounds such as phenolic acid, anthocyanin's, water-soluble pigments, others polyphenols. 84 male Wistar rats (body weight 220 – 250g) served as experimental subjects and separate in six experimental groups and one control group treated with distilled water. After 30 days supplementation the activity of SOD, GPx and level of TAS and MDA were **detected**.

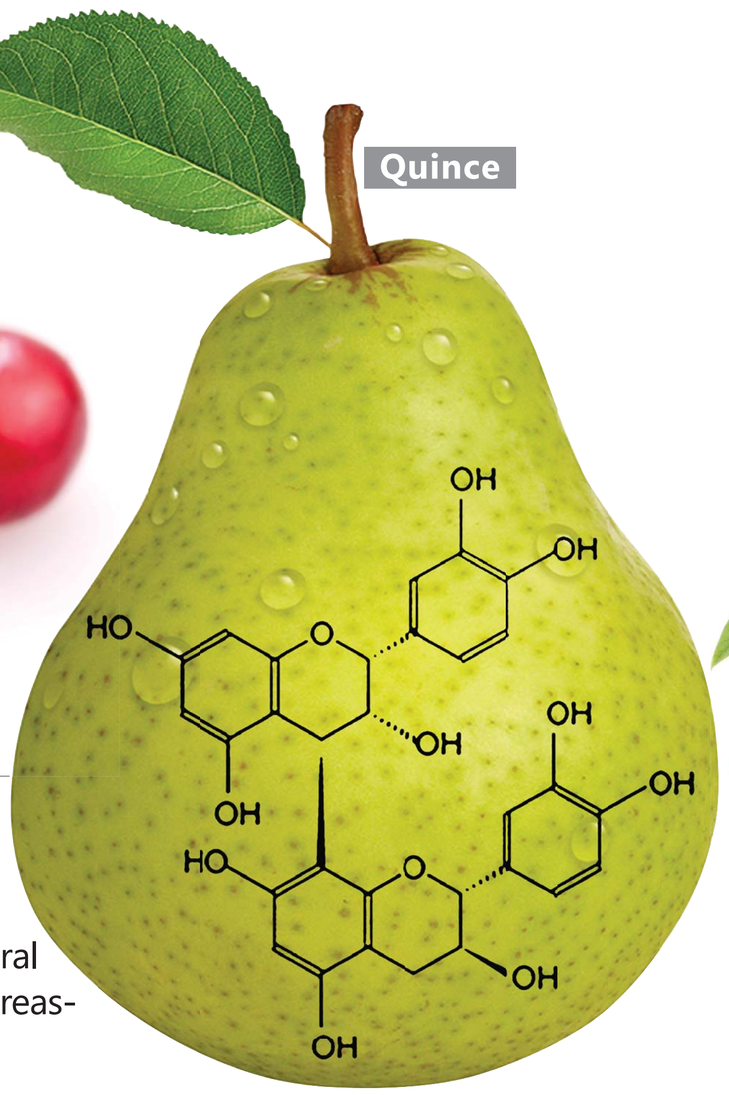
METHODS for biochemical measurements: for SOD, TAS, GPx and Hb determination were used Randox Lab., Crumlin, (UK); MDA - Cell Biolabs Inc, USA, kit's. Statistical analysis was performed using statistical package SPSS Inc., PASW Statistics 18.0 for Windows ($p<0,05$; r.=;).

RESULTS after natural berries extracts supplementation activity of GPx and total antioxidant status were elevated, at the same time, MDA content was considerably diminished. Higher anti-peroxidative effect showed CB and BB (7,2mg/kg) and Q – 28,9mg/kg. Higher scavenging effects were BB and Q in 28,9mg/kg, and Q – 7,2mg/kg. Content of MDA were diminished after CB and BB – 7,2mg/kg, and Q and CB 28,9mg/kg.









CONCLUSION

Investigation results accepted necessity to use natural antioxidants (polyphenols) for oxidative stress decreasing and antioxidative defense elevation in body.

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