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**THE PROTECTIVE IMPACT OF BLACK CHOKEBERRY FRUIT EXTRACT
(ARONIAMELANOCARPA L.) ON THE OXIDOREDUCTIVE SYSTEM OF THE
PAROTID GLAND OF RATS EXPOSED TO CADMIUM**

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Introduction. Cadmium (Cd) is a strongly toxic heavy metal with prooxidative properties. Since the exposure of the general population to this metal is predicted to increase, effective methods are being sought to prevent its negative actions. One of them involves the use of the antioxidant potential of polyphenol compounds contained in black chokeberry fruit extract and their capability of complex formation with Cd²⁺.

Aim: the study objective was to investigate whether the administration of *A. melanocarpa* fruit extract rich in polyphenol compounds during low and moderate exposures to cadmium can protect the parotid gland against oxidative damage.

Materials and methods. The study was conducted using the experimental model on female Wistar rats which were given 0.1% aqueous extract of *Aroniamelanocarpa* fruit (AE) and/or cadmium at a concentration of 1 (Cd1) or 5 (Cd5) mg Cd/kg feed for 3 and 10 months, and on control animals.

Results and discussion. The exposure to Cd attenuated the enzymatic antioxidant barrier (catalase (CAT), superoxide dismutase (SOD), glutathione peroxidase (GPx)) and increased the concentration of hydrogen peroxide (H₂O₂), protein carbonyl (PC) groups, and oxidized lipids (LPO) in parotid gland. These disorders led to a reduction in the total antioxidative status (TAS), an increase in the total oxidative state (TOS), and development of stress. The administration of AE at both levels of exposure to cadmium substantially improved the enzymatic antioxidant barrier (CAT, SOD, GPx) and prevented oxidative damage to cellular macromolecules (PC, LPO) and the increase in the level of H₂O₂, MPO, TOS, and stress indicator (OSI = TOS/TAS) in the parotid gland.

Conclusions. Concluding, it should be stated that the consumption of aronia products may prevent oxidative/antioxidative imbalance induced by Cd and oxidative stress development in the parotid gland, thus protecting the gland from damage.