Quercetin-5’-sulfonic acid sodium salt and morin-5’-sulfonic acid sodium salt as antidotes in the subacute cadmium intoxication in mice

Jan Magdalan¹, Adam Szelag¹, Ewa Chlebda¹, Anna Merwid-Ląd¹, Ma³gorzata Trocha¹, Maria Kopacz², Anna Kuźniar², Dorota Nowak²

¹ Department of Pharmacology, Wroclaw Medical University, Mikulcza-Radeckiego 2, PL 50-345 Wroclaw, Poland
² Department of Inorganic and Analytical Chemistry, Chemical Faculty, University of Technology, Powstańców Warszawy 6, PL 35-959 Rzeszów, Poland

Correspondence: Jan Magdalan, e-mail: n.magdalan@op.pl

Abstract:
The efficacy of quercetin-5’-sulfonic acid sodium salt (NaQSA) and morin-5’-sulfonic acid sodium salt (NaMSA) as antidotes in the subacute cadmium (Cd) intoxication was studied in mice. The administration of cadmium chloride (0.64 mg/kg/day, sc for 28 days) led to Cd accumulation in the liver and kidneys, induced lipid peroxide production in the liver, and decreased weight gain. Treatment with NaQSA and/or NaMSA diminished Cd accumulation in internal organs and Cd toxicity. NaQSA (20 mg/kg, ip for 28 days) exerted a stronger effect than NaMSA (20 mg/kg, ip for 28 days). Action of NaQSA and NaMSA used concomitantly (10 mg/kg, ip for 28 days) was not greater than the action of these substances used alone.

Key words: cadmium intoxication, NaQSA, NaMSA, LPO, mice