Hepatoprotective effect of electrolyzed reduced water against carbon tetrachloride-induced liver damage in mice.

Tsai CF, Hsu YW, Chen WK, Chang WH, Yen CC, Ho YC, Lu FJ. Institute of Medicine, College of Medicine, Chung Shan Medical University, No. 110, Sec. 1, Jianguo N. Rd., Taichung 402, Taiwan.

The study investigated the protective effect of electrolyzed reduced water (ERW) against carbon tetrachloride (CCl(4))-induced liver damage. Male ICR mice were randomly divided into control, CCl(4), CCl(4)+silymarin, and CCl(4)+ERW groups. CCl(4)-induced liver lesions include leukocytes infiltration, hepatocyte necrosis, ballooning degeneration, mitosis, calcification, fibrosis and an increase of serum alanine aminotransferase (ALT), and aminotransferase (AST) activity. In addition, CCl(4) also significantly decreased the activities of superoxide dismutase (SOD) and glutathione peroxidase (GSH-Px). By contrast, ERW or silymarin supplement significantly ameliorated the CCl(4)-induced liver lesions, lowered the serum levels of hepatic enzyme markers (ALT and AST) and increased the activities of SOD, catalase, and GSH-Px in liver. Therefore, the results of this study show that ERW can be proposed to protect the liver against CCl(4)-induced oxidative damage in mice, and the hepatoprotective effect might be correlated with its antioxidant and free-radical scavenging effect. PMID:19477216