

The effects of glutathione glycoside in acetaminophen-induced liver cell necrosis.

[Exp Mol Pathol.](#) 1998;65(1):15-24.

[Oak S](#), [Choi BH](#).

The hepatotoxic effects of high-dose acetaminophen (400 and 600 mg/kg body weight) were evaluated by determining the glutathione (GSH) and malondialdehyde (MDA) levels and the histological changes in the liver at 6 and 12 h, using C57BL/6J mice. Massive centrilobular hepatocyte necrosis associated with severe reduction of liver GSH and a significant increase in MDA levels were observed following acetaminophen intoxication. Administration of glutathione glycoside (GSH-glyc), a compound newly synthesized in our laboratory, 2 h after acetaminophen injection prevented changes in the GSH and MDA preserving their levels nearly to those of controls; in addition, histological evidence of hepatocyte necrosis was either abolished or severely reduced in the majority of animals. GSH-glyc is a nontoxic compound that can be used to transport GSH into cells, including those of brain and liver, and may prove to be useful for the prophylaxis and therapy of toxic tissue injury, including that induced by overdose of acetaminophen.

