Preventive effect of Ganoderma amboinense on acetaminophen-induced acute liver injury.


Source

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Abstract

In vivo preventive effects of Ganoderma amboinense against acetaminophen-induced hepatotoxicity in Balb/cA mice were studied. G. amboinense powder at 1% and 2% was mixed with standard diet and supplied to mice for 6 weeks, and followed by acetaminophen (350mg/kg body weight) intraperitoneal injection. In normal mice (without acetaminophen treatment), the consumption of G. amboinense significantly increased hepatic glutathione (GSH) level. Acetaminophen treatment significantly elevated both alanine aminotransferase (ALT) and aspartate aminotransferase (AST) activities; however, the pre-intake of G. amboinense significantly and dose-dependently protected liver against the subsequent acetaminophen-induced elevation of ALT and AST activities. Acetaminophen treatment also caused significant GSH depletion, malondialdehyde (MDA) and reactive oxygen species (ROS) increase, and activity reduction of glutathione peroxidase (GPX) and catalase. However, the pre-intake of G. amboinense significantly diminished the subsequent acetaminophen-induced GSH depletion, MDA and ROS increase, and retarded the loss of catalase and GPX activities, in which the effect of G. amboinense on GPX activity, and formation of MDA and ROS was dose-dependent. These results support that G. amboinense may be considered as a preventive agent for acute liver injury.

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