

Antioxidative Effects of Tetramethylpyrazine on Acute Ethanol-induced lipid peroxidation

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摘要

Abstract

Acute p.o. administration of 99.5% ethanol (0.1 ml) to fasted mice produced heart toxicity. Pretreatment with p.o. administration of tetramethylpyrazine (TMP) could prevent such toxicity effectively and dose-dependently. The maximal antioxidative effect against 99.5% ethanol-induced heart toxicity could be observed at 1 hour after TMP administration. In order to further investigate the heart protective mechanism of TMP, both lipid peroxidation level in vivo and superoxide scavenging activity were conducted. TMP exhibited a dose-dependently anti-lipid peroxidation effect in mice heart homogenate, and results indicated that 99.5% ethanol-induced intoxicated mice hearts have higher malonic dialdehyde (MDA) levels compared with those in TMP administrated mice hearts. These results suggest that the potentially heart protective mechanism of TMP could be contributed, at least in part, to its prominent anti-lipid peroxidation and anti-free radical formation effects, hence it could protect the heart from lipid peroxidation-induced heart toxicity.