PROTECTIVE EFFECTS OF QUERCETIN ON ACETAMINOPHEN-INDUCED HEPATOTOXICITY IN MICE

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The flavonoids have been known as having several medicinal properties. Acetaminophen (AA) is considered as a safe analgesic, but when ingested in high doses, it has the potential of causing hepatic necrosis. In this work we described an *in vivo* acute treatment of quercetin and AA on mouse liver phosphatases and transaminases activities. Mice were pretreated with subcutaneous administrations of quercetin (10mg/kg) and AA (500mg/kg,i.p.), four hours after. Twenty four hours after quercetin administration the livers were collected, homogeneized and centrifuged. The clear extracts were used for enzyme activities and protein determinations. The phosphatases activities were determined at pH 5.0 using p-nitrophenylphosphate as substrate, at 37°C for 10 minutes (total acid phosphatase), or in the presence of 10mM fluoride and tartrate (low molecular weight phosphotyrosine protein phosphatase, LMW-PTP), or 10mM tartrate and 1mM p-hydroxymercuribenzoate (tartrate-resistant acid phosphatase-TRAP), or at pH 9.4 (alkaline phosphatase). The transaminases (glutamic-oxalacetic, GOT and glutamic-pyruvic, GPT) activities were determined through a colorimetric kit. Quercetin increased the LMW-PTP and TRAP activities 1.57 and 2.72 fold ($p<0.05$), respectively. AA increased the transaminases GOT and GPT activities 1.6 and 1.4 ($p<0.05$), respectively. When administered with AA, quercetin decreased the transaminases activities. Our results suggest that quercetin promotes a high protective effect against acetaminophen-induced liver injury in mice.

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