Phytother Res. 2001 Jun;15(4):307-10.

Long term effect of aflatoxin B(1) on lipid peroxidation in rat liver and kidney: effect of picroliv and silymarin.

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Source

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Abstract

Aflatoxin B(1) (AFB(1)) is a potent hepatotoxic and hepatocarcinogenic mycotoxin. The mechanism of cellular damage caused by AFB(1) has not been fully elucidated. Lipid peroxidation is one of the main manifestations of oxidative damage and has been found to play an important role in the toxicity and carcinogenesis of many carcinogens. The present investigation aims at assessing the comparative antioxidant effect of picroliv, a standardized iridoid glycoside fraction of Picrorhiza kurroa and silymarin, a well known standard hepatoprotective, on aflatoxin B(1) induced lipid-peroxidation in rat liver and kidney. Marked increases in lipid peroxide levels and a concomitant decrease in enzymic antioxidant levels were observed in aflatoxin B(1) (2 mg/kg, i.p) -toxicated rats, while drug (picroliv and silymarin both) treatment reversed the condition to near normal levels. The effects of picroliv and silymarin were comparable.

Pharmacol Toxicol. 2001 Feb;88(2):53-8.

Biochemical changes induced in liver and serum of aflatoxin B1-treated male wistar rats: preventive effect of picroliv.

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Source

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Abstract

Administration of aflatoxin B1 to rats (2 mg/kg intraperitoneally) caused significant increase in the activities of gamma-glutamyl transpeptidase, 5'-nucleotidase, acid phosphatase, acid ribonuclease as well as content of lipid peroxides in liver after six weeks. However, the activities of succinate dehydrogenase, glucose-6-phosphatase, catalase, superoxide dismutase, glutathione-S-transferase, glutathione peroxidase and glutathione reductase in liver were decreased. The levels of glycogen and reduced glutathione were also decreased. There were significant elevations in the levels of serum transaminases, phosphatases (acid and alkaline), dehydrogenases (sorbitol, lactate and glutamate) and bilirubin following aflatoxin B1 administration. Picroliv (25 mg/kg/day orally for six weeks), an iridoid glycoside isolated from the roots and rhizomes of Picrorhiza kurroa, significantly prevented the biochemical changes induced by aflatoxin B1.