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Research Article

The antioxidant effects of pumpkin seed oil on subacute aflatoxin poisoning in mice[†]

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- Abstract
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Keywords:

aflatoxin; pumpkin seed oil; antioxidant effect; mice

This study was aimed at the investigation of the antioxidant effect of pumpkin seed oil against the oxidative stress-inducing potential of aflatoxin. For this purpose, 48 male BALB/c mice were used. Four groups, each comprising 12 mice, were established. Group 1 was maintained as the control group. Group 2 was administered with pumpkin seed oil alone at a dose of 1.5 mL/kg.bw/day (~1375mg/kg.bw/day). Group 3 received aflatoxin (82.45% AFB₁, 10.65% AFB₂, 4.13% AFG₁, and 2.77% AFG₂) alone at a dose of 625 µg/kg.bw/day. Finally, group 4 was given both 1.5 mL/kg.bw/day pumpkin seed oil and 625 µg/kg.bw/day aflatoxin. All administrations were oral, performed with the aid of a gastric tube and continued for a period of 21 days. At the end of day 21, the liver, lungs, kidneys, brain, heart, and spleen of the animals were excised, and the extirpated tissues were homogenized appropriately. Malondialdehyde (MDA) levels and catalase (CAT), superoxide dismutase (SOD), and glutathione peroxidase (GSH-Px) activities were determined in tissue homogenates. In conclusion, it was determined that aflatoxin exhibited adverse effects on most of the oxidative stress markers. The administration of pumpkin seed oil diminished aflatoxin-induced adverse effects. In other words, the values of the group, which was administered with both aflatoxin and pumpkin seed oil, were observed to have drawn closer to the values of the control group. © 2011 Wiley Periodicals, Inc. *Environ Toxicol* 28: 681–688, 2013.

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