

## **Garlic oil ameliorates ferric nitrilotriacetate (Fe-NTA)-induced damage and tumor promotion : Implications for cancer prevention**

### **Abstract**

Intraperitoneal injection of ferric nitrilotriacetate (Fe-NTA) to rats and mice results in iron-induced free radical injury and cancer in kidneys. This study was designed to investigate the effects of garlic oil on Fe-NTA-induced damage and tumor promotion. Pretreatment of rats with garlic oil at a dose regimen of 50-100 mg/kg body weight for a week significantly and dose dependently protected against Fe-NTA induced damage as well as tumor promotion. Garlic oil afforded protection against hepatic lipid peroxidation, generation of hydrogen peroxide, preserved glutathione levels and activities of antioxidant enzymes. A protection against Fe-NTA induced hepatic tumor promotion was also apparent as inhibition in the modulation of hepatic tumor markers viz., ornithine decarboxylase activity and DNA synthesis. These results clearly demonstrate the role of oxidative stress and its relation to tumor promotion and suggest protective effects of garlic oil against Fe-NTA induced hepatic toxicity and it can serve as potent chemopreventive agent to suppress oxidant-induced tissue injury and carcinogenesis. © 2007.