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Liver modifying enzymes by selenium alone or combined with lycopene against galactosamine-induced acute hepatic injury in rats

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epatitis is one of the major public health problems worldwide and was known to be the second cause of death after cancer. We designed this study to examine the potential hepato-protective effects of lycopene (Lyco) and selenium (Se) against galactosamine (Gala) induced hepatitis in rats. Seventy five (75) male albino rats were grouped into five of fifteen rats each. GP 1: Control. Animals in Groups (II-V) were injected i.p with Gala (30 mg/kg b.w daily) for 5 days. GP III: Rats were orally pretreated with lycopene (15 mg/kg b.w). GP IV: Rats were pretreated orally sodium selenite (0.1 mg/kg b.w) by gavages. GP V; rats treated with both Lyco and Se. Results obtained showed that, the level of serum IL-6, TNF- a, NO and MDA were markedly increased as a result of Gala compared with control group. Administration of combined Lyco and Se reversed these effects and significantly reduced the elevated levels of IL-6, TNF-a, NO and MDA compared with Gala untreated. Administration of combined treatment resulted in a significant improvement of antioxidant activities (SOD, catalase) in gala injected compared with untreated. Non significant change was recorded in the activities of UDP-glucuronoyltransferase and sulphotransferase in animals injected with Gala but the activity of glutathione S-transferase was significantly elevated (p<0.001). Oral administration of LYCO+SE for 30 days in animals injected with gala showed improvement in the activity of glutathione S-transferase as compared with non treated rats (P<0.001) but not returned to normal. In conclusion; the combined effect of Lyco+Se showed a potent hepato-protective action against Gala induced hepatitis. It was concluded that, Lyco+Se possess hepato-protective action against hepatitis induced by galactosamine through inhibition of release of inflammatory mediators and enhance antioxidant capacity.

Biography

Jehan A Khan is currently a Faculty in biological sciences in King Abdulaziz University in Kingdom of Saudi Arabia.

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