



Potential hepatoprotective effect of combining vitamin C and L-Carnitine against acetaminophen induced hepatic injury and oxidative stress in rats.

Zeinab A. El-Gendy¹, Seham A. El-Batran¹, S.A.H.Youssef², A. Ramadan², Azza H.M. Hassan³ and Rania F. Ahmed¹.

¹Department of Pharmacology, National Research Centre, (ID: 60014618), Dokki, 12622, Giza, Egypt.

²Department of pharmacology, faculty of vet. Med. Cairo University, 12211, Giza Egypt.

³Department of pathology, Faculty of vet. Med. Cairo University, 12211, Giza Egypt.

Abstract : Acetaminophen is one of the most popular OTC analgesics and antipyretics especially among women unfortunately; its miss use can result in serious hepatic injury. In the present study hepatoprotective activity of L-carnitine plus Vitamin C against acetaminophen induced hepatic damage in Adult Female Wistar albino rats was evaluated. L-carnitine at dose levels of 25 and 50mg/kg p.o. /day plus Vitamin C 100 mg/Kg p.o. /day were administered for 21 days. On day twenty-one; hepatic injury was induced by administering a single dose of 600mg/Kg body wt. p.o. of acetaminophen. Results revealed that combining L-carnitine and vitamin C reduced serum liver enzymes; Aspartate amino Transferase (AST) and Alanine amino Transferase (ALT), decreased cholesterol level and low density lipoproteins (LDL-Cholesterol), increased high density lipoproteins (HDL-Cholesterol), dropped interleukin-6 (IL-6) and tumor necrosis factor alpha (TNF α), hindered the progression of oxidative stress as seen by increasing glutathione (GSH) level and reducing malondialdehyde (MDA) and nitric oxide (NO_x) contents. In conclusion; we can recommend the use of vitamin C in combination with l-Carnitine to protect against adverse effects that could result from over dosage of acetaminophen.

Key words : L-Carnitine, Vitamin-C, InterLeukein-6, Acetaminophen, Liver injury.