

عنوان مقاله:

Alleviation of cisplatin-induced hepatotoxicity and nephrotoxicity by L-carnitine

محل انتشار:

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خلاصه مقاله:

Objective(s): To assess the protective effect of L-carnitine in reducing cisplatin toxicity via estimating biochemical tests, histomorphometric, and immunohistochemistry (IHC) of β -catenin and cyclin D. Materials and Methods: Fifteen adult male rabbits were used in this study and allocated into ۳ groups; Group ۱ (Control negative), rabbits of this group were not given any treatment. In group ۲, the animals were injected with cisplatin single-dose/per week. Group ۳ rabbits were treated with Cisplatin+L-carnitine orally by gavage tube for ۲۹ days. At the end of the experiments, blood samples from all rabbits were taken from the earlobe, and then the biochemical test was done, the kidney and tissue sections were prepared for both H& E and IHC for both β -catenin and cyclin D genes. Results: Treatment with L-carnitine reduced the injury effect of cisplatin via a decline in serum creatinine, urea, bilirubin, GPT, GOP, and ALP significantly ($P < 0.05$). Also, administration of LC attenuates the histopathologic abnormality in the kidney (۱۵.۷۱% vs ۸۵.۱۸%) and liver (score ۳ vs ۱۵) induced by cisplatin. L-carnitine elevates the expression of β -catenin and cyclin D in renal and hepatic parenchyma by diffuse, moderate-strong positivity vs cisplatin that showed local-weak staining. Conclusion: These findings imply that L-carnitine, by its pleiotropic actions in activating Wnt signaling, alleviates cisplatin-induced renal and hepatic destruction. It might be a method of preventing cisplatin-related nephrotoxicity and hepatotoxicity.

کلمات کلیدی:

β -catenin, Cisplatin, Cyclin D, Hepatic regeneration, L-carnitine, Tubular necrosis

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