

Med. čas. 2023; 57(2): 59-65.

ORIGINALNI NAUČNI ČLANAK

doi: 10.5937/mckg57-45647

COBISS.SR-ID 138524169

UDK. 616-008.9-085.06 615.356:577.164.1

THE EFFECTS OF L-CARNITINE IN REDUCING HEPATOTOXICITY OF STATINS IN RATS

ABSTRACT:

Objective

. The first line of treatment for hyperlipidemia is statins. In this group, atorvastatin is the most popular and effective drug. Hepatic toxicity and myopathy are the two observed adverse effects of statins. The active form of carnitine is L-carnitine, a water-soluble compound found in food, the body, and the majority of dietary supplements. There are many uses for L-carnitine in the human body. It assists in the removal of free radicals from the body and lowers hydrogen peroxide production, both of which may guard against liver side effects brought on by statins

Methods. Eighty rats were randomly divided into four main groups: control, L-carnitine, atorvastatin, and combination (L-carnitine + atorvastatin) groups. These groups were subdivided into three subgroups based on different doses of the drugs. The L-carnitine group was divided into L200, L300, and L400. The atorvastatin group was divided into A10, A15, and A20. The combination group was subdivided into AL10/200, AL15/300, and AL20/400. All groups received their treatments daily for one month.

Results. According to our findings, the effects of Lcarnitine (200 mg/kg daily) on the increase in AST brought on by atorvastatin are not statistically significant, although they are significant on the increases in ALT, ALP and TSB. Lcarnitine still has substantial impacts on ALT, ALP and TSB even at larger doses, while its impacts on AST levels had become significant.

Conclusion. Our research highlights the beneficial effects of supplementing with L-carnitine over a four-week period, which effectively mitigates the liver damage caused by atorvastatin.