

RESEARCH ARTICLE

Protective effect of Vitamin C against valproic acid on liver: Histological and biochemical changes on local rabbits

Abstract:

Objective: This research was designed to examine the impact of vitamin C on valproic acid-induced hepatotoxicity.

Methods: Male rabbits

Results: The results showed the extent of the effect of valproic acid alone and with vitamin C alone on the levels of the liver enzymes AST (aspartate aminotransferase) and ALT (alanine aminotransferase) compared to the control group. The results of the AST levels showed a significant increase in the valproic acid group compared with the rest of the groups, while the group treated with vitamin C with valproic acid showed a significant decrease compared with the valproic acid group alone. Microscopic examination of liver tissue from the valproic group exhibited serious vacuolar degeneration with necrosis of hepatocytes, inflammatory cell infiltration in the portal area, recent thrombus, and congestion of the central vein. Liver samples from the valproic group displayed mild vacuolar degeneration of hepatocytes. Liver sections from the valproic + Vitamin C group showed a restoration of normal hepatocyte architecture.

Conclusion: Vitamin C can lessen the harmful oxidative effects of valproic acid in liver cells by acting as an antioxidant agent.