

Renoprotective Effect of Red Grape (*Vitis vinifera* L.) Juice and Dark Raisins Against Hypercholesterolaemia-induced Tubular Renal Affection in Albino Rats

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Abstract

This study aimed to assess the efficacy of Red grape juice (RGJ) and dark raisins (DR) in protecting the renal tubules against hyper cholesterolaemia-induced pathological changes.

Forty albino rats divided into four groups were utilized in this study. They included the control, high cholesterol diet (HCD)-fed, HCD+RGJ-fed, and HCD+DR-fed groups. Blood and insulin levels, lipid profile and kidney functions were assessed at the start of the experiment. The kidney was assessed histopathologically using light and electron microscopes. The integrity of the renal tubules was assessed immunohistochemically.

Administration of HCD resulted in marked affection of the structure of the renal tubules. Both RGJ and DR, when administered along with the HCD for 12 weeks, improved the lipid profile, kidney functions as well as the histologic and cellular changes-induced by hyper cholesterolaemia in the rat's kidney. The effect of raisins was superior to RGJ which might be due to its high contents of fibers and proteins.

This study highlighted the importance of supplementation of red grape and raisins in protection against the harmful effects induced by deposition of fat on the renal tubules' structure and function.