

RESEARCH ARTICLE

Effect of red grape extract on nicotine induced oxidative stress on antioxidants enzymes in the kidney tissue of male albino rat with reference to aging

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ABSTRACT..... The grape (*Vitis vinifera*) commercial juice products from Concord grapes have been applied in medical research studies, showing potential benefits against the diseases. Nicotine is most biologically active chemical in tobacco smoke. Nicotine has been reported to induce changes both *in vivo* and *in vitro*. Pathogen free, Wistar strain male albino rats were used in the present study, rats were divided into 4 groups of six in each group (i) Normal control (NC) (Control rats received 0.9% saline); (ii) Nicotine treated (Nt) (at a dose of 0.6 mg/kg body weight by subcutaneous injection for a period of 2 months); (iii) Red Grape extract treated (RGEt) (red grape extract 50mg/kg body weight (after the standardization) via orogastric tube for a period of 2 months.); (IV) Nicotine + Red Grape (Nt+RGEt) (Rats were received the nicotine with a dose as mentioned for Group II through subcutaneous injection and red grape extract as mentioned for group III via orogastric tube for a period of 2 months). The animals were sacrificed after 24 hrs after the last treatment by cervical dislocation and isolated the kidney tissue such as the activities of the levels of Superoxidedismutase(SOD), Catalase (CAT), Glutathione (GSH) and Glutathioneperoxidase (GPx), were decreased in nicotine treated rats in the kidney tissue and increase was observed in the combination (Nt+RGEt), but at 50 mg/kg body weight found to be more effective. This results stating that red grape extract treated rats are beneficial, especially for the nicotine subjects to improve the antioxidants enzymes and thereby to improve the health status and life span.

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