

عنوان مقاله:

Crocine Restores Hypotensive Effect of Subchronic Administration of Diazinon in Rats

محل انتشار:

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خلاصه مقاله:

Objective(s): In this study, the effects of crocin against subchronic toxicity of diazinon (DZN) on systolic blood pressure (SBP) and heart rate (HR) were evaluated in rats. **Materials and Methods:** Rats were equally divided into 7 groups; control (corn oil), DZN (15 mg/kg), crocin (each group received 12.5, 25 or 50 mg/kg crocin plus DZN), vitamin E (200 IU/kg plus DZN) and crocin (50 mg/kg) treated groups. Rats were given DZN via gavage once a day for 4 weeks. Vitamin E (three times per week) and crocin (once a day) were intraperitoneally injected to rats for 4 weeks. Plasma cholinesterase activity (Elman method), malondealdehyde (MDA) levels in the aortic tissue (Thiobarbituric acid reactive substances or TBARS method); SBP and HR (tail cuff method) were evaluated at the end of 4th week. **Results:** A significant decrease in cholinesterase activity was observed in DZN group ($P < 0.001$). Crocin did not show any effects on cholinesterase activity. DZN increased MDA levels in aortic tissue ($P < 0.001$) in comparison with control group. Crocin and vitamin E plus DZN decreased MDA elevation induced by DZN in aortic tissue. DZN significantly reduced SBP ($P < 0.01$) and increased HR ($P < 0.001$) in comparison with control. Concurrent administration of crocin and DZN, improved the reduction of SBP and the elevation of HR induced by DZN in rat. Crocin alone did not have any effect on SBP and HR. **Conclusion:** This study showed that concurrent administration of crocin and DZN could restore the effects of subchronic DZN administration on SBP and HR in rats.

کلمات کلیدی:

Crocine, *Crocus sativus*, Diazinon, Heart rate, Malondealdehyde, Systolic blood pressure

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