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The effects of unripe grape extract on systemic blood pressure, nitric oxide production, and response to angiotensin II administration

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ABSTRACT

Background Hypertension is the most common disease in the world. In Iranian folk medicine, unripe grape juice has been used as antihypertention remedy, but no data is documented for this popular belief. This study was designed to determine the effect of unripe grape extract (UGE) on blood pressure and the response to angiotensin II in rat. Materials and Methods Unripe grape was collected, air dried, and extracted and concentrated. Four groups of Wistar rats received single doses of 125, 250, and 500 mg/kg of UGE or saline, respectively. The direct blood pressure and the serum nitrite level were measured one hour post UGE administration. The animals also were subjected to the infusion of various angiotensin II concentrations (100, 300, and 1000 mg/kg/min), and blood pressure was determined. Results Mean arterial, systolic, and diastolic pressures (MAP, SP, and DP) in all UGE treated groups were less than the control group, but only at the dose of 125 mg/kg (Group 1) they were significantly different ($P < 0.05$). The level of nitrite in groups 1-3 were significantly greater than the control group ($P < 0.05$). No significant differences were detected for the MAP, SP, and DP to different concentrations of angiotensin II among these groups. Conclusion UGE potentially attenuate MAP, SP, and DP via vasodilatation induced by nitric oxide production.

KEYWORDS

Angiotensin II . blood pressure . nitric oxide . unripe grape extract . VitisVinifera

REFERENCES