

عنوان مقاله:

Vitis vinifera (grape) seed extract and resveratrol alleviate bisphenol-A-induced metabolic syndrome: biochemical and molecular evidences

محل انتشار:

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خلاصه مقاله:

The underlying mechanisms of bisphenol-A (BPA) induced metabolic syndrome and the protective role of grape seed extract (GSE) and resveratrol were investigated. Rats were treated with BPA (0 and 35 mg/kg/day, gavage) plus resveratrol (25, 50 and 100 mg/kg/day, ip) or GSE (3, 6, 12 mg/kg/day, ip) or vitamin E (200 IU/kg/every other day, ip). After 2-month, mean systolic blood pressure (MSBP), serum lipid profile, glycaemia and fat index were examined. By ELISA, the serum concentrations of insulin, leptin, adiponectin and paraoxonase 1, and by real time-PCR as well as western blotting, key liver elements in cholesterol hemostasis (Idlr, cyp7a1, abcg5 and 8) and insulin signaling (p-Akt/Akt and p-PI3K/PI3K) were measured. BPA increased MSBP, total cholesterol and LDL-C, and reduced paraoxonase1, and the hepatic expression of both abcg5 and abcg8. It increased the body fat index, leptin, adiponectin, insulin and glycaemia level and decreased the hepatic protein expression of p-Akt/Akt and p-PI3K/PI3K. GSE, resveratrol or vitamin E co-administration along with BPA restored the detrimental effects of BPA in some levels. Herein, predisposing effects of BPA induced metabolic syndrome were restored by GSE and resveratrol, linked to antioxidant properties and regulation of insulin signaling and abcg8 expression.

کلمات کلیدی:

Bisphenol-A; Dyslipidemia; Grape; Hypertension; Metabolic syndrome; Resveratrol

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