Antioxidant and antihypertensive activity of extract from Thymus serpyllum L. in experimental hypertension.

Mihailovic-Stanojevic N¹, Belščak-Cvitanović A, Grujić-Milanović J, Ivanov M, Jovović Dj, Bugarsi D, Miloradović Z.

Abstract
The low incidence of cardiovascular disease in Mediterranean countries leads to an increased interest of the scientific community for the Mediterranean diet. Our aim was to evaluate total phenol and flavonoid contents, antioxidant capacity, free radical scavenging activity and potential antihypertensive effect of aqueous extract obtained from Thymus serpyllum L. (wild thyme, TE), an aromatic herb from the Lamiaceae family (highly present in Mediterranean diet), in spontaneously hypertensive rats (SHR) and in normotensive Wistar rats. Total phenol content of TE was 208.33 ± 10.6 mg/L GAE, and rosmarinic and caffeic acids were predominant phenolic compounds. The ferric reducing/antioxidant power and antioxidant capacity analysis revealed strong antioxidative properties of TE. In vitro nitric oxide-scavenging activity of 1 mg/l TE was 63.43% with the IC50 value of 122.36 µg/ml. Bolus injection of TE (100 mg/kg body weight i.v.) induced significant decrease of systolic and diastolic blood pressure and total peripheral resistance in SHR, without effects on these parameters in normotensive Wistar rats. Cardiac index remained unchanged after TE treatment in all experimental rats. Given dose of TE did not show significant nitric oxide-scavenging activity in vivo. Our results indicate that TE may protect against hypertension in experimental model of essential hypertension.

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