

Antihypertensive action of geraniin in rats.

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Abstract

The effects of geraniin, one of the ellagitannins purified from the leaves of *Sapium sebiferum*, on blood pressure were investigated in the spontaneously hypertensive rat (SHR). A single intravenous bolus injection of geraniin into anaesthetized SHRs lowered the arterial mean blood pressure in a dose-dependent manner without affecting the heart rate. A similar action was also observed in the normotensive (WKY) rat that received this compound at a higher dose. Geraniin did not modify the baroflex sensitivity in the phenylephrine-challenged SHR. This tannin reduced the plasma noradrenaline in a dose-dependent fashion which was not influenced by adrenalectomy. Failure of the antagonists, idazoxan and yohimbine for alpha 2-adrenoceptors as well as haloperidol and domperidone for dopamine receptors, to reverse the antihypertensive actions of geraniin ruled out the possible mediation of these receptors. Moreover, geraniin attenuated the pressor responses to exogenous noradrenaline and Bay K 8644 to a similar degree, indicating the direct effect of this compound on vascular activity in rats. These results suggest that geraniin possesses the ability to lower systemic blood pressure through the reduction of noradrenaline release or by direct vasorelaxation.