Antihypertensive Effect of Celery Seed on Rat Blood Pressure in Chronic Administration

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ABSTRACT

This study investigated the effects of different celery (*Apium graveolens)* seed extracts on blood pressure (BP) in normotensive and deoxycorticosterone acetate–induced hypertensive rats. The hexanic, methanolic, and aqueous-ethanolic extracts were administered intraperitoneally and their effects on BP and heart rate (HR) were evaluated in comparison with spirnolactone as a diuretic and positive control. Also, the amount of n-butylphthalide (NBP), as an antihypertensive constituent, in each extract was determined by HPLC. The results indicated that all extracts decreased BP and increased the HR in hypertensive rats, but had no effect on normotensive rats. The data showed that administration of 300 mg/kg of hexanic, methanolic, and aqueous-ethanolic (20/80, v/v) extracts of the celery seed caused 38, 24, and 23 mmHg reduction in BP and 60, 25, and 27 beats per minute increase in the HR, respectively. Also, the HPLC analysis data revealed that the content of NBP in the hexanic extract was 3.7 and 4 times greater than methanolic and aqueous-ethanolic extracts. It can be concluded that celery seed extracts have antihypertensive properties, which appears to be attributable to the actions of its active hydrophobic constitutes such as NBP and can be considered as an antihypertensive agent in chronic treatment of elevated BP.