

Antihypertensive Activity of Alcoholic Extract of Citrus Paradise Juice in One Clip One Kidney Hypertension Model in Rats

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Abstract : Hypertension is one of the most prevalent cardiovascular disorder. It is responsible for several other cardiovascular disorders. Although many drugs are available for the treatment of hypertension, still a large population has uncontrolled blood pressure. Thus there is an unmet need for new therapeutic approaches for the same. Fruit juice of Citrus paradise contains several flavonoids with vasodilatory activity. We hypothesized that alcoholic extract of Citrus paradise, which contains flavonoids, might attenuate hypertension. The objective of the present study was to evaluate the antihypertensive activity of alcoholic extract of Citrus paradise fruit juice in rats. Hypertension was induced using one clip one kidney model in rats. The renal artery was occluded for 4 h after removal of one kidney. Once stabilized, the ganglionic blockade was performed followed by removal of the arterial clip from the kidney. Removal of clip resulted in an increase in blood pressure which is due to release of renin from the kidney. Alcoholic extract of Citrus paradise fruit juice was then administered at 50 mg/kg and 100 mg/kg dose by intravenous injection. Blood pressure was monitored continuously. Alcoholic extract of Citrus paradise fruit juice reduced hypertension in dose-dependent manner. Antihypertensive activity was found to be associated with vasodilation. The results of the present study showed antihypertensive potential of alcoholic extract of Citrus paradise fruit juice.

Keywords : citrus paradise, alcoholic extract, one clip one kidney model, vasodilation

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