

Thesis Title Hypotensive and Antihypertensive Effect of
Cymbopogon Citratus Decoction in Deoxycor-
tosterone Acetate-Salt Hypertensive Rats.
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Abstract

The aim of this study is to examine the hypotensive and antihypertensive effect of *Cymbopogon citratus* decoction in normal and deoxycorticosterone acetate/salt (DOCA/salt) hypertensive rats by intravenous injection. The effect of the decoction given oral and intraperitoneal routes were also examined in DOCA/salt hypertensive rats. In addition, the effect of daily intake of the decoction in prevention the development and in treatment of hypertension were studied in DOCA/salt rats. The results were

1. The intravenous injection of decoction in normal rats (13.3-90.0 mg dried weight of plant material/kg) and hypertensive rats (13.3-40.0 mg dried weight of plant material/kg) (n = 5) caused a reduction in blood pressure. The potency and duration of action were dose dependent. There were two phases of action. The first phase was immediate with maximum response at 0.2 min and short duration (0.6-4.0 min) while the second phase was at 30 min with maximum response at 60 min and long duration (90 min). the decoction reduced blood pressure of hypertensive rats better than normotensive rats and affected diastolic pressure greater than systolic pressure.

2. In comparative study of the decoction from dried and fresh leaves at equal amount in hypertensive rats (n=5), suggested that there were no significantly different in potency at any time but the duration of action of diastolic pressure of fresh leaves decoction was significantly longer than dried leaves decoction.
3. The decoction given oral and intraperitoneal routes at dose D₁ (20 g of dried plant material/150 ml decoction, given at 4 ml/kg) had no effect on systolic blood pressure in hypertensive rats (n = 6) over 4 hours of observation.
4. Daily intake of the decoction at dose D₂ (20 g of dried plant material/150 ml decoction, given at 8 ml/kg) once a day for 7 weeks could not prevent the development of hypertension. The increase in systolic blood pressure of DOCA/salt rats (n = 30) were similar to the prevention group (n = 10) and were significantly higher than those of normal (n = 10) and sham (n = 10) controls since the third week of study. The prevention group had significantly decreases in gain weight from the second to the seventh week and in heart rate during the second to the fifth week.
5. Daily intake of decoction at dose D₁ and D₂ in rats at hypertensive state for 8 weeks (n = 8 and n = 6, respectively) could not reduce blood pressure of these rats. The decoction had slightly effect on heart rate. The prevention group continued to have a significant low weight gain.

These results suggest that decoction of *Cymbopogon citratus* leaves were not appropriated in therapeutic use in human. The role of *Cymbopogon citratus* in the treatment or prevention of hypertension must be further investigated especially the mechanisms involved in the second phase of reduction in blood pressure.