

# COMPARISON OF EARLY EFFECTS BETWEEN REST AND ANTIHYPERTENSIVE MEDICATION IN PATIENTS WITH HYPERTENSIVE URGENCY AT EMERGENCY DEPARTMENT ENTRY

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## Background

Patients with hypertensive urgency (HU) are frequently observed at emergency department entry. Although HU didn't accompany any target organ damage (TOD), TOD will be able to occur after a while. In the past we took a rapid lowering of blood pressure for granted. This management, however, could cause events of brain ischemia or stroke, it is recommended to take a rest in patients with HU as a surrogate management recently.

## Objectives

We hypothesized that rest could reduce blood pressure as effective as antihypertensive medications.

## Design and Methods

This was a open-label, randomized controlled trial in a single center. We recruited subjects with HU at emergency department (ED) entry. HU was defined if systolic blood pressure (SBP) was more than 180 mmHg and/or diastolic blood pressure (DBP) was more than 110 mmHg in continuative measurements in 5 minutes. Patients were excluded if they were suspicious of hypertensive emergency presenting with pulmonary edema, decreased consciousness, or definite motor deficit, if they had acute coronary syndrome or aortic dissection which needed emergent reduction in BP. Subjects were randomly assigned to take a rest (n=65) or take a telmisartan (40mg tablet, orally; n=65) immediately. Measurements of BPs were repeated every 30 minute for two hours. The primary endpoint was reduction in MBP (mean BP) from 10 to 35% after 2 hours.

## RESULTS

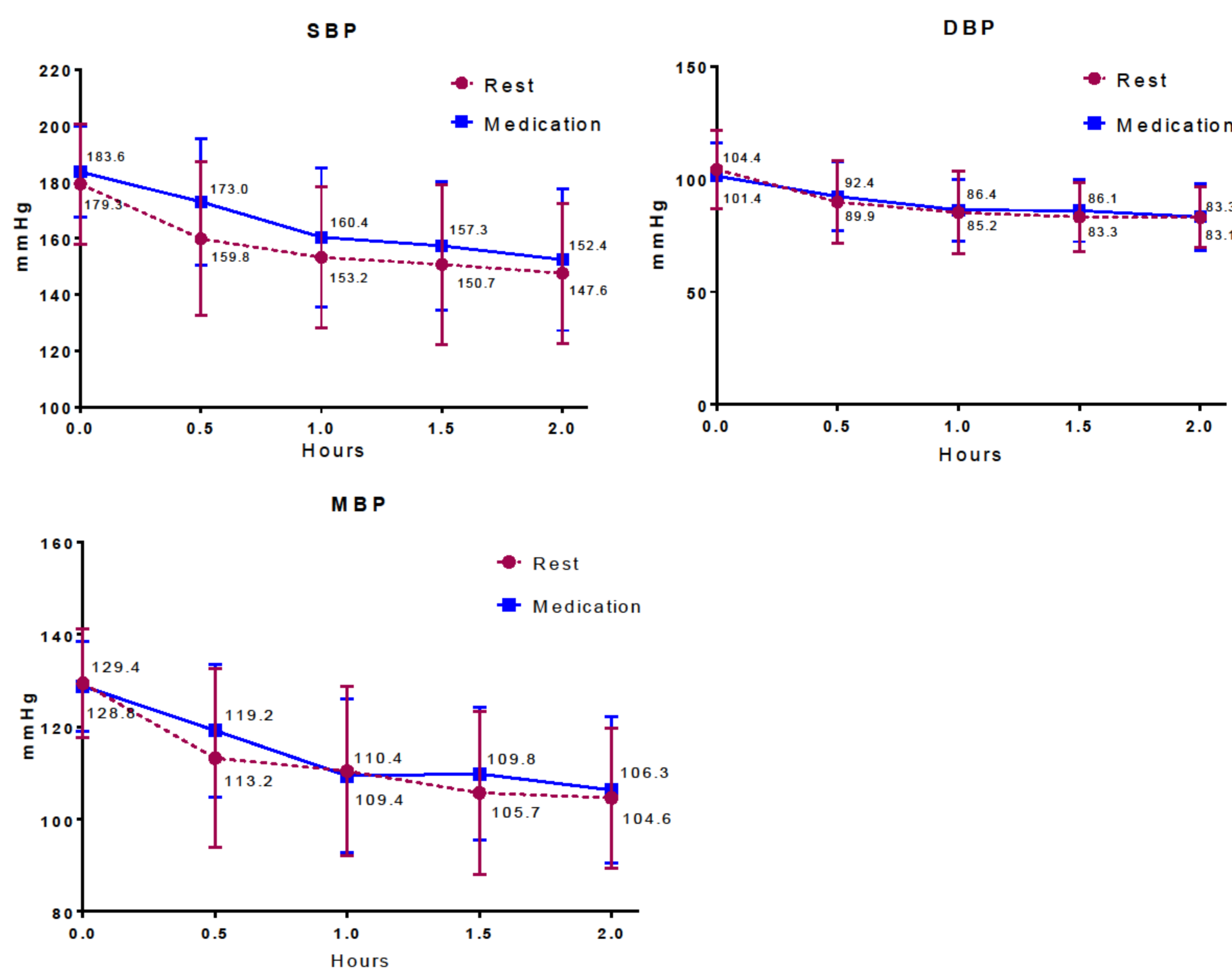
Rest group showed significant reduction in SBP/DBP (-31.7/-21.3 mmHg, p=0.000), which was comparable to the medication group (-31.2/-18.1 mmHg, p=0.000 vs baseline). In analysis using general linear model SBP, DBP, and MBP showed significant differences within 2 hours (all p=0.000), however change of SBP, DBP, and MBP had no significance between 2 groups (all p>0.05). Rest group achieved primary endpoint in 46 patients (70.8%), compared with medication group in 45 patients (69.2%: relative risk, 0.888; 95% confidence interval [CI], 0.63 to 1.49).

Table 1. Participant's baseline characteristics

	Rest, n=65	Medication, n=65
Age (years)	70.4 ± 11.6	73.1 ± 9.3
Men (%)	51 (78.5)	55 (84.6)
BMI (Kg/m <sup>2</sup> )	24.4 ± 3.8	23.7 ± 3.1
<b>Concomitant disease, n (%)</b>		
Diabetes mellitus	22 (33.8)	25 (38.5)
Hypertension	57 (87.7)	51 (78.5)
Dialysis	4 (6.2)	2 (3.1)
Stroke	20 (30.8)	20 (30.8)
IHD	18 (27.7)	11 (16.9)
<b>Precipitating factors, n (%)</b>		
Skip medication in hypertension	21 (36.8)	22 (43.1)
Pain	22 (33.8)	23 (35.4)

BMI, Body mass index; IHD, Ischemic heart disease. p>0.05 for all variables.

Figure 1. Changes in SBP, DBP, and MBP of rest and medication group after ED entry.



## CONCLUSIONS

As early treatment for patients with hypertensive urgency, rest can be as effective as antihypertensive medication in lowering BP.

