

A Comparative Study of Efficacy of Amlodipine Vs Telmisartan in Stage I Hypertension in Tribal Population of Northern Telangana.

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INTRODUCTION

- Hypertension exerts a substantial public health burden on cardiovascular health status and healthcare systems in India.
- Hypertension is directly responsible for 57% of all stroke deaths and 24% of all coronary heart disease (CHD) deaths in India^[1].
- Antihypertensive drugs can be applied to provide effective blood pressure control while minimizing side effects.^[2]
- Amlodipine, is a dihydropyridine CCB that binds to a transmembrane site on L-type calcium channels within cardiac and smooth muscle cells, inhibiting calcium ion influx with downstream disruption of myosin-actin interactions to reduce muscle contractility.^[3]
- Telmisartan is highly selective for the angiotensin II type 1 receptor (AT1) includes vasoconstriction; activation of the protein kinase C, NADPH oxidase, Janus kinase/signal transducer and activator of transcription cascade; release of catecholamines from the adrenal medulla; aldosterone secretion; and cell proliferation.^[5]
- Besides significant reduction in BP, telmisartan also have beneficial effects on various metabolic parameters, where amlodipine is not effective. The effects of telmisartan on the metabolic profile is additional attribute beyond its established antihypertensive effect.^[6]

STUDY METHODOLOGY

INCLUSION CRITERIA

- Age more than 25 years and less than 55 years both males and females.
- Blood pressure of $\geq 140/90$ mmHg.

EXCLUSION CRITERIA

- Pregnant women and lactating mothers.
- Hypertension with other cardiac, renal, liver and other comorbidities
- Drug allergies.

• **STUDY DESIGN:** Prospective randomized open- labelled comparative study.

• **STUDY SETTING:** General Medicine OPD, RIMS Adilabad.

• **STUDY DURATION:** 6 months.

• **SAMPLE SIZE:** 60.

30 subjects will receive oral 5mg Amlodipine.

30 subjects will receive oral 20mg Telmisartan.

STUDY PROCEDURE

- The study was conducted after approval from Institutional Ethical Committee & written informed consent is taken from participants before conducting the study.
- Patients presenting to General Medicine OPD of RIMS, Adilabad was clinically tested for diagnosis of Stage I Hypertension.
- Each patient was subjected to the detailed medical history and physical examination.

4. Measurements of systolic and diastolic BP performed manually with a calibrated sphygmomanometer in supine position. Three measurements of BP were taken (each 5 minutes apart) and average value was noted.
5. Blood samples are tested for blood sugar, renal function, liver function and lipid profile.
6. Patients is grouped by randomization technique according to random sampling method into 2 study groups:

Group 1: Will receive oral 5mg Amlodipine.

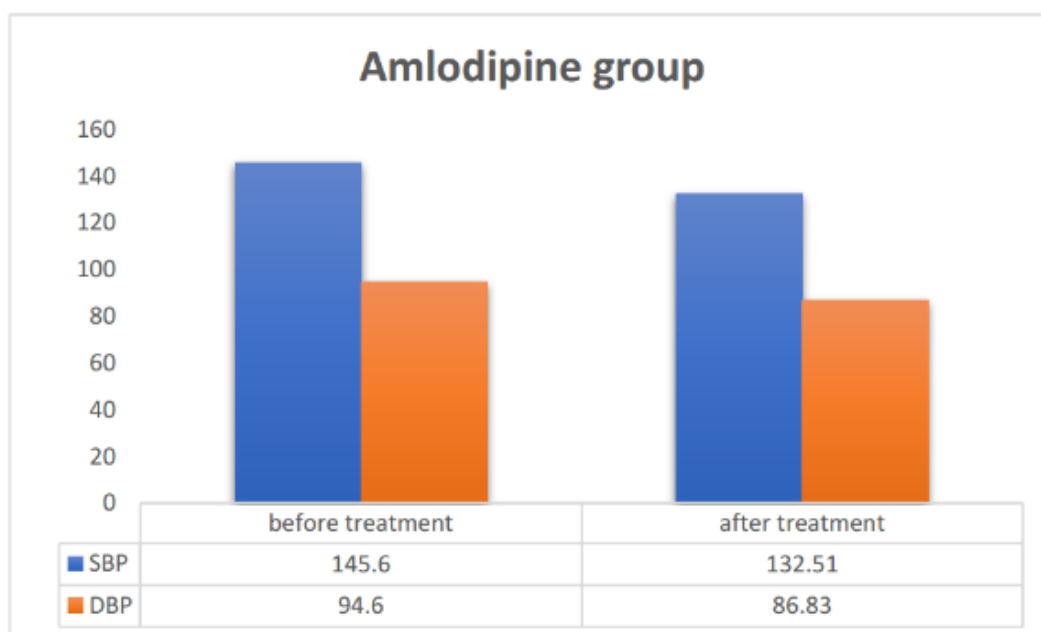
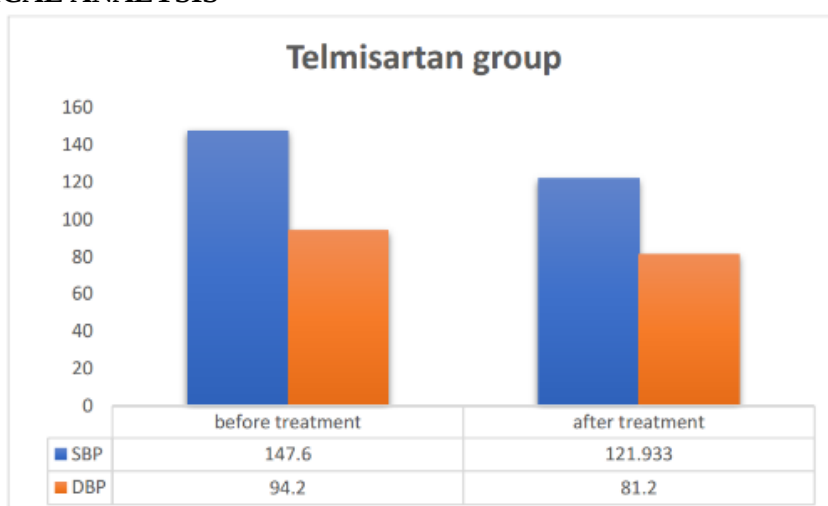
Group 2: Will receive oral 20mg Telmisartan.

7. Follow updone after every month for 6 consecutive months.

DATA ANALYSIS- Data is entered into Microsoft Excel and analysis is done using the statistical package for social sciences (SPSS).

- Mean, Standard Deviation(SD), proportion will be measured.
- Student 't' test is used wherever applicable.

STATISTICAL ANALYSIS



RESULTS & CONCLUSION

- The mean value of systolic BP in Telmisartan group decreased from baseline by 17.43% and 13.79% in diastolic BP.
- On comparing with Amlodipine, Telmisartan reduced mean systolic BP significantly more by 8.42% and 5.59% in diastolic BP.

CONCLUSION:

- Besides significant reduction in BP, Telmisartan also have beneficial effects on various metabolic parameters, where Amlodipine is not effective. The effects of Telmisartan on the metabolic profile is additional attribute beyond its established antihypertensive effect.

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