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# Comparative study of olmesartan and losartan in patient with hypertension for reduction of diastolic blood pressure

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**Abstract**
*Hypertension also known as high blood pressure is long term medical condition in which blood pressure in the arteries is persistently elevated. Antihypertensive drugs are used to reduce blood pressure. Angiotensin receptor blocker shows beneficiary effect to control target organ damage. Study was carried out for production of hypertension by psychogenic stress method. In present work done by me antihypertensive effect of olmesartan and losartan was compared with control and with each other. Student t-test was done to compare result. It was found that blood pressure varied significantly across the three groups (p= .000) Compared to control, blood pressure was less in both olmesartan and losartan.*
*(p= .000) Reduction of blood pressure with losartan was less in comparision to olmesartan at end. Olmesartan is more efficacious than losartan as far as blood pressure reduction is concerned.*
**Keyword:** *Losartan, Olmesartan, Antihypertensive effect.*

## Introduction

Hypertension is sustained elevation of the arterial pressure[1].

Essential feature of hypertensive heart disease is left ventricular hypertrophy[2].

The main organs that suffer the most are heart, kidney and blood vessels[3].

Both olmesartan and losartan belong to angiotensin receptor blockers. ARBS are usefully combined with diuretics for the treatment of hypertension[4].

Losartan causes fall in BP in hypertensive patient which lasts for 24hours, while heart rate remains unchanged and cardiovascular reflexes are not interfered[5].

## Material and Method

This work was done at the department of pharmacology of vardhman Institute of medical sciences, pawapuri Bihar. Regarding ethical aspect, I had informed concerned authority of this college. The patients were grouped as control, losartan and olmesartan for inducing rise of blood pressure. For studying rise in blood pressure psychogenic stress method was used. Each group contained 10 patients. Blood pressure was measured in all 3 groups for twenty days from the month of February to March 2019. The difference in blood pressure was observed.

For this purpose patient with age of more than 45years were taken. Dose of olmesarten taken was

20mg once daily whereas for losartan was 50mg once daily.

## Statistical Analysis

Data was presented in (mean±SEM) and were analysed using student's t-test and ANOVA was applied to compare significance between different groups (P<.05).

## Result and Discussion

Diastolic blood pressure change from baseline was measured for different group. It was (19.44±.57), (14.86±.43) and (15.87±.54) respectively for control, olmesartan and losartan group from baseline. The mean blood pressure in three group varied significantly [ $F_{(2,27)}$=120.52, p=.0010 ]

The mean diastolic blood pressure change from baseline of olmesartan group was more than that with losartan group [t(18)=8.04 p=.000] there was also more decline with olmesartan than with control group [t(18)=6.32 p=.000] In year 2007 opril Suzanne et. al did similar work and found that reduction of diastolic blood pressure was more with olmesartan than with losartan or Irbesartan.

## Conclusion

Olmesartan is more efficacious than losartan as evident from the above observation as far as diastolic blood pressure lowering is concerned.

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