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# Comparative study of Olmesartan and Telmisartan on reduction of raised diastolic blood pressure in patient with age more than 40 years

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**Abstract**
*Hypertension is a major risk factor for cardiovascular morbidity and mortality. Antihypertensive drug is used to reduce blood pressure. In addition, angiotensin receptor blocker has shown beneficial effect for controlling target organ damage. Furthermore unlike ACE inhibitor these agents have side effect profile that is similar to that of placebo. Study was carried out for production of hypertension by psychogenic stress method. In present work done by me antihypertensive effect of olmesartan and telmisartan 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 group, blood pressure was significantly less in both olmesartan and telmisartan (p=.000). Reduction of blood pressure with olmesartan was more than with telmisartan at the end of work. Olmesartan is more efficacious than telmisartan as far as blood pressure reduction is concerned.*
**Keyword:** *olmesartan, telmisartan, Antihypertensive effect.*

## Introduction

Hypertension is a very common abnormality in human[1]. It is recognized as a major risk factor for cardiovascular morbidity and mortality.Essential feature of hypertensive heart disease is left ventricular hypertrophy[2]. Microscopically the cardiac myocytes are enlarged and contain large, hyperchromatic, box-car shaped nuclei. The main organs (target or end organs) that suffer the ravages of high blood pressure are the heart, brain, kidney, and blood vessels.[3] Telmisartan does not produce any active metabolite. It is excreted unchanged in bile. Dose reduction is required in liver disease.[4] ARBs are usefully combined with diuretics for the treatment of hypertension.[5]

## Material and Method

This work was done at the department of pharmacology of Lord Buddha Koshi Medical College & Hospital, Saharsa, Bihar. Regarding ethical aspect I had informed concerned authority of this college. The patients were grouped as control, olmesartan and telmisartan for inducing rise in blood pressure. For studying rise in blood

pressure psychogenic stress method was used. Each group contained 10 patients. Blood pressure was measured of all 3 groups for twenty days from the month of june to july 2016. The difference in blood pressure was observed.[6] For this purpose patient with the age of more than 40 years were taken. Dose of olmesartan taken was 20mg once daily and telmisartan was 20mg once daily.

**Statistical Analysis**

Data was presented in (mean + SEM) and were analysed using student's t-test and ANOVA were applied to compare significance between different groups ($P < .05$)[7]

**Results and Discussion**

Diastolic blood pressure change from baseline was measured for different groups. It was (19.5 +- .59), (14.86+ - .43) and (13.0 +- .57) respectively for control telmisartan and olmesartan groups from baseline. The mean blood pressure in three group varied significantly [F(2,27)=140.54 P=.000] The mean diastolic blood pressure change from the baseline of olmesartan group was more than that with telmisartan group [t (18) = 8.04p =.000]. There was also more decline with telmisartan than with control group[t (18)=6.35 p=.000]. In year 2008 Nakayama et. al did a research work and found that olmesartan had more potent arterial blood pressure lowering effect than telmisartan.[8]

**Conclusion**

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

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