

## Study the Effectiveness of *Lachesis muta* 30C in Patients with Essential Hypertension in the Age Group of 20-75 Years

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### ABSTRACT

The World Health Organization (WHO) considers Hypertension (HTN) as a most common health issue in the growing population nowadays. Studies say that prevalence of essential hypertension is around 85- 95% and prevalence of secondary hypertension is only 5%. However, homoeopathy is used as alternative in such cases i.e.; HTN, but it has very good clinical results in cases of HTN. *Lachesis Muta* 30C is the remedy for circulatory effect and has been observed in reduction of Blood Pressure (BP) by acting on circulation in many cases, but very few researches has been done to prove it. This study was aimed to investigate whether the homoeopathic medicine *Lachesis Muta* 30C has effect in reducing blood pressure levels in essential hypertensive patients or not. It is a monocentric, phase II clinical trial, and single arm, single blind study conducted at outpatient department of Bharati Vidyapeeth Deemed University- Homoeopathic College & Research Centre, Pune. Total 34 patients (Male and Female in between the age from 20 yrs to 75 yrs.) were enrolled in this study. Out of which, four patients were dropped out and 30 patients completed their follow-up. Blood pressure was measured in sitting position. The final outcome was decrease in blood pressure after 10-12 weeks of outpatient care. A significant reduction observed in blood pressure levels of hypertensive patients before and after treatment and patients symptomatically relieved as well. The mean reduction in SBP was 8.80 mm of Hg (95% CI 9.9, 7.7) and DBP was 9.86mm of Hg (95% CI 10.2, 9.72) after Completion of study (10-12 weeks of treatment). Homoeopathic medicine *Lachesis Muta* 30C produced significant effect in reduction of the blood pressure level on essential hypertensive patients.

**Keywords:** *Lachesis Muta* 30C, Hyperten-Sinogenic Factors, HTN, Silent Killer, Homoeopathy.

### INTRODUCTION

Hypertension is a very important public health issues in India and leads annually approx. 1.1 million deaths. It is estimated to account for 10.8% of all deaths and 4.6% of all disability adjusted life years (DALYs) in the country. As per the World Health Statistics 2012, it is estimated 57 million global deaths in 2008, 36 million (63%) were due to non-communicable diseases (NCDs). The largest proportion of NCD deaths is caused by cardiovascular

diseases (48%). Most people with hypertension have no symptoms at all; this is why it is also known as the 'silent killer'. HTN is an "iceberg disease".<sup>[1]</sup> The new (2017) guidelines of WHO recommends that Hypertension in adults aged 18 years and older who are not acutely ill, is defined as SBP of 140 mm Hg or greater and/or DBP of 90 mm Hg or greater at any level of BP in patients taking anti-hypertensive medications. Hypertension without any identifiable cause is called

Essential/Primary hypertension & it affecting 85%-95% of hypertensive patients which is mostly attributed to psychological, genetic (40%-60%) and environmental factors. Whereas only 5% patients suffering from hypertension is caused by specific underlying disorder like endocrine disease, kidney disease is called secondary HTN. [2,9-11]

The Factors that increase BP, such as high salt intake (30%), Alcohol intake (30%) and obesity (38%) will be called, "hyperten-sinogenic factors". Other risk factors of essential Hypertension are Age, Genetics and Positive family history (40-60%), Sex: males > females, Hormonal factors: increased rennin, Ethnic: blacks> whites, Neurotransmitters: nor adrenalin acetylcholine, dopamine, serotonin, Psychological stress, less physical activity, Increase intake of saturated fat, caffeine, Smoking (31%). These are the most important risk factor for diseases of the brain, kidney, heart and peripheral arteries which may prove fatal if not managed effectively. [3,12]

#### **ACC/AHA 2017 Hypertension guidelines** (13<sup>th</sup> November, 2017)

Classification of hypertension according to Joint national committee (JNC-8)

- Normal Hypertension - Systolic B.P. <120 mm Hg, and Diastolic B.P. < 80 mm Hg
- Elevated B.P. - Systolic B.P. 120-129 mm Hg and Diastolic B.P. < 80 mm Hg
- Stage 1- Systolic B.P. 120-139 mm Hg and Diastolic B.P. 80-89 mm Hg
- Stage 2 - Systolic B.P.  $\geq$  140 mm Hg, and Diastolic B.P  $\geq$  90 mm Hg
- Hypertensive crisis- Systolic B.P.  $\geq$  180 mm Hg, and Diastolic B.P  $\geq$  120 mm Hg [4]

Despite multitude of anti-hypertensive drugs are available, only 17% to 27% of HTN patients achieve optimal B.P. [5] although modern system of medicine has many drugs for treating HTN, but it is confounded by bothersome adverse drug

reaction. To reduce the complication of cardiovascular disease the main aim is to reduce blood pressure at normal range. [6]

The complications of High B.P. are Cardiomyopathy, CVAs or cardiac strokes, Hypertensive retinopathy, encephalopathy etc. According to statistics of WHO, homoeopathy is the 2nd most useful health care system in the world and It has lot of potential to help in reducing the high blood pressure in the community. Lack of scientific validation by clinical trial made this drug the choice for this study. [7,15] In this study Lachesis Muta used in its 30<sup>th</sup> potency, which is prepared from snake poison (poison of bushmaster snake). Like all snake poisons, Lachesis decomposes the blood, rendering it more fluid. It is an Effective drug & prompts in its action. It also reduces fast heart beating and A High blood pressure. [8,14]

#### **MATERIAL AND METHOD**

This study was conducted at outpatient department of Bharati Vidyapeeth Deemed University Homeopathic College & Research Centre, Katraj, and Pune. It is monocentric, Phase 2 clinical trial, single arm, single blind, and randomized, interventional study to see the effect of Lachesis 30C in cases of primary hypertension in the age group of 20-75 years. Cases presented with complaints of elevated blood pressure level in resting systolic BP to 130mmHg or more & diastolic BP 90mmHg or more with no identifiable causes. Medicine was administered to all patients in 30 size globules & in the dosage of 3 pills x BD orally, no water intake for at least 15 – 20 minutes. Drug was stored in Bharati Vidyapeeth Homeopathic Hospital pharmacy, Katraj, Pune as per the rules of Pharmacopoeia (HPI), under appropriate temperature. Log no. & batch no. was maintained. All participants were also asked to continue with their prescribed medication for duration of the study. Patients were enrolled in this study from Bharati Vidyapeeth Medical Foundation

Homeopathic Hospital, peripheral OPD, Various rural & urban camp series, OPD and IPD from 2019-2020 (Approximately 52 weeks). Total 34 Cases (male & female) were selected based on inclusion, and exclusion criteria those who were wanted to participate willingly in research. Participants were enrolled in the study only after signing the informed consent form. Each case was followed up for approx 3 months. 1st follow-up taken after 7 days, thereafter 15 days or earlier and/or later than per the need. Medical history, physical examination (including vital signs, systemic examination) was recorded on a case form. BP readings were taken on right arm with manual sphygmomanometer in the sitting position according to standard operating procedures. Individual with any systemic illness, secondary organ damage from hypertension were excluded from the study. The Routine tests of patients include

Complete blood count, Serum electrolytes, Blood Sugar level, Lipid profile, renal function test, and a 12 lead ECG has been done before the enrolment in research study. Parameter used: systolic blood pressure & diastolic blood pressure. Inclusion Criteria: All the patients presenting with primary hypertension without any major systemic complications, Patients of both sexes & age group between 20-75 yrs. Patient below 140 systolic B.P. and below 100 diastolic B.P., The ability to give informed consent & comply with study procedures and Legal capacity. Exclusion criteria: Patients who require emergency medical intervention or severe Co-morbidities, Patient without written consent, Limited communicative ability, Patients with any systemic illness, Patients above 140 systolic and above 100 diastolic B.P., Consumption of sedative medications, Person who is on regular anti-hypertensive medication.

### Statistical Analysis:

[Table-1] Statistical analysis of Systolic and Diastolic blood pressure before and after treatment.

Observation	N	Mean ± SD	SEM	MIN	MAX	Median	'P' Value	Mean of difference	
SBP BEFORE TREATMENT	30	139.1 ± 2.080	0.37	130	140	140	<0.0001	SBP before and after Rx	DBP before and after Rx
SBP AFTER TREATMENT	30	130.1 ± 5.040	0.92	120	140	130			
DBP BEFORE TREATMENT	30	94.93 ± 3.956	0.72	94	100	94		8.800	9.867
DBP AFTER TREATMENT	30	85.07 ± 4.354	0.79	84	94	84			

(P Value <0.0001 = Considered to be statistically highly significant.)

### RESULTS

Total 34 patients (n=34) were selected on the basis of age group from 20 to 75 years. Out of which 20 were male (58.82%) & 14 were female (41.17%) according to sex wise distribution. The mean age of the patient was 55.21 years (mean age of Male patients = 54.5 and mean age of female patients 55.92) with 38.23% prevalence rate of patients in age group of 60-69 years of age (age wise distribution). Mean of SBP before treatment = 139.1, Mean of SBP after treatment = 130.1, Mean of DBP before treatment = 94.93, Mean of DBP after treatment = 85.07. So, the P value is <0.0001.

### DISCUSSION

Hypertension is one of the most common lifestyle diseases which have a worldwide prevalence. Among this essential hypertension has prevalence rated of 95% and if not treated on time it may lead to complications and increase mortality rate. The present study was primarily aimed to investigate the effectiveness of the homeopathic medicine Lachesis Muta 30C in the management of cases of essential hypertension between the age group 20-75 years. Kinds of research have been done in homeopathic system on hypertension but very little work has been done on individual homeopathic medicine Lachesis. Therefore, single remedy Lachesis Muta

30C was selected for this study. It has got action on cardiovascular system producing hypotensive effect and help in reduction of blood pressure. In this study 34 cases (male & female, age 20-75yrs.) of essential hypertensive patients were selected. 30 patients completed the study. They were subjected for 10-12 weeks of treatment with Lachesis Muta 30C after proper case taking and the change in B.P. levels before and after the treatment were evaluated, which showed a positive effect on the hypertensive status of the patients in the study sample. This effect was demonstrated by the results of the statistical analysis using student paired, "t" test, which manifests that the pretreatment, and post treatment levels of blood pressure are evidently, different. It proves that Lachesis Muta 30C has scope in the treatment of hypertension. Age wise distribution was calculated by taking out the mean. The mean age is calculated as 55.21% years. Most of the patients were found in the age group of 60-69 years. This suggests that advanced age has more risks for developing essential hypertension. Sex wise distribution was also calculated in percentage, where it was found that Out of 34 cases, 20 were male (58.82%) & 14 were female (41.17%) which indicates that prevalence of hypertension is more common in males as compared to females. Finally, this study data propose that homoeopathic medicine Lachesis Muta 30C has significantly favorable effect in patients suffering from essential hypertension. It can be adopted as an alternative public health approach in restraining the high prevalence of hypertension worldwide. As per the synopsis concern we mentioned certain scale for measurement of the improvement of the patient (reduction of BP), that is -

When the reduction of blood pressure level is more than 10-20 mm Hg is considered as Marked improvement, More than 6-10 mm Hg = Moderate improvement, Less than 4-6 mm Hg = Mild improvement.

## CONCLUSION

Hypertension is widespread and very common lifestyle disease that has severe impact especially on adults and old age people. In this research study 30 patients has completed it. The result indicates there was decline in blood pressure in cases of essential hypertensive patients. Treatment with Lachesis Muta 30C has produced an early, sustained, and significant fall in BP and it has also proven as safe and effective in the treatment of essential hypertension. Therefore, Lachesis is a good choice as a specific remedy for regulating blood pressure in essential hypertensive patients. Since it is a small sample study, research should be done in the future considering large sample and extending the duration of the study. Further, studies with randomized placebo control group can provide a greater resource for proving that Lachesis Muta 30C is effective in the treatment of essential hypertension.

## Conflict Of Interest

There was no point of conflict of interest between the authors.

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