


**Research Article**
**CLINICAL EVALUATION OF *JATAMANSI CHURNA* IN THE MANAGEMENT OF ESSENTIAL HYPERTENSION**
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**ABSTRACT**

In an open clinical trial 20 patients of grade-I and grade-II uncomplicated Essential Hypertension of either sex aged between 25-70 years, were given *Jatamamsi Churna* in a dose of 10 grams per day in two equal divided doses for a duration of 60 days. At the end of trial period their systolic blood pressure was reduced from 148.9 mm of Hg to 132.6 mm of Hg and diastolic blood pressure was reduced from 97.1 mm of Hg to 86.4 mm of Hg. Pulse pressure, mean blood pressure, and various clinical features were also significantly reduced after the therapy. No untoward effects were reported by any patient and their biochemical and Hematological parameters also remained within normal limits, both before and after the therapy. Thus trial drug i.e. *Jatamamsi churna* may prove an ideal drug for the management of grade-I and grade-II Essential Hypertension.

**KEYWORDS:** Essential hypertension, *Jatamamsi churna*, untoward effects.

**INTRODUCTION**

Hypertension is emerging as one of important public health problem in the developed as well as developing countries. In today's competitive world and modern life style, anxiety, stress and strain are increasing alarmingly and influencing the development of various psychosomatic disorders including Hypertension. It is a major risk factor for the development of coronary artery disease, stroke, congestive heart failure and renal disorders<sup>[1]</sup>. Hypertension affects approximately one billion individual's word wide. Recent data from Framingham Heart study suggest that individuals who are Normotensive at the age of 55 have a 90 percent life time risk for developing Hypertension<sup>[2]</sup>.

In clinical trials, Anti-Hypertensive therapy has been associated with reduction in stroke incidence averaging 35-40 percent; myocardial infarction 20-25 percent, and heart failure, more than 50 percent<sup>[3]</sup>. Recent clinical trials have demonstrated that effective blood pressure control can be achieved in most patients who are Hypertensive, but the majority will require two or more Anti-Hypertensive drugs<sup>[4]</sup>. Presently a number of effective Anti-Hypertensive drugs are available but they are not free from untoward effects. Beta blockers can cause fatigue, cold extremities, Bradycardia, heart failure and Angiotensive converting enzyme inhibitors can cause cough, rash, and proteinuria etc. <sup>[5]</sup> An Anti-hypertensive drug should ideally improve patient's compliance. Any treatment administered should be directed to not only control blood pressure, but also prevent target organ damage, thereby preserving cardiac and renal functions which increases patients life span. <sup>[6,7]</sup> One of the safest and potent anti-hypertensive drug from the reservoir is *Jatamansi churna* (*Nardostachys jatamansi*). It is used traditionally in the treatment of nervous headache, hypertension, epilepsy, intestinal colic, hysteria and depressive illness.<sup>8</sup> More than 25 active principles have been isolated from the rhizome part of this plant which

includes alkaloids jatamansone, nardostachone, jatamansic acid, coumarins, lignan, neolignans and sesquiterpenes<sup>[9-10]</sup>. So still the quest for safe and ideal antihypertensive drug is there. So based on these facts we have made an effort to find a safe Anti-Hypertensive therapy through an Ayurvedic herbal formulation. The present clinical trial was conducted to evaluate the efficacy of *Jatamamsi Churna*<sup>[11]</sup> in the management of grade-I and grade-II essential hypertension.

**Inclusion Criteria**

Twenty cases of grade-I and grade-II Hypertension between 25 to 75 years of age of either sex were included in the trial. Gradation of blood pressure was done on the basis of recommendations of Joint National Committee on Detection Evaluation and Treatment of High Blood Pressure i.e. JNC-7 as :

**Table 1: Gradation of blood pressure**

Category	Systolic B.P. in mm of Hg	Diastolic BP in mm of Hg
Stage-I	140-159	90-99
Stage-II	≥160	≥100

**Exclusion Criteria**

All the patients of secondary hypertension, patients having diastolic BP > 110 mm of Hg and systolic BP > 180 mm of Hg, Hypertension associated with pregnancy and hypertension along with complications of target organs.

**Material and Methods**
**Method of Study**

Registered patients were given *Jatamamsi Churna* in a dose of 10 grams/day in two equal divided doses and advised it to make as decoction i.e., *Kashaya* with 5gms of *Churna* per dose for 60 days. Patients has been selected from OPD of *Kayachikitsa* Dept from Dr.BRKR Govt Ayurvedic College and Hospital, were thoroughly assessed

on the basis of various subjective and objective parameters after every 15 days till the completion of trial period i.e. 60 days. However change in systolic, diastolic and mean blood pressure was the main criteria of assessment. Patients were also asked to report untoward effects if any, such as nausea, vomiting, giddiness, insomnia etc. Base line Haematological and Biochemical parameters including TLC, DLC, ESR, Hb, Fasting blood sugar, B. Urea, S. Creatinine, Lipid profile, Urine routine and microscopic examination were assessed both before and after therapy to observe the effects of trial drugs on other systems of the body.

## Observations and Results

Mean systolic blood pressure which was 148.9 mm of Hg before treatment was reduced to 132.6 mm of Hg and mean diastolic blood pressure came down from 97.1mm of Hg to 86 mm of Hg after 60 days of therapy. Reduction in both systolic and diastolic blood pressure was statistically highly significant ( $P < 0.001$ ). Effects of the therapy on mean blood pressure, pulse pressure and symptomatology are shown in Table No. 2 and 3 respectively. Base line haematological and biochemical parameters at the beginning and end of the study did not show any abnormality (Table No. 4).

**Table 2: Effects of the Therapy on Blood Pressure**

Variable in	BT	Mean Score AT			60 days	% of relief	SD ±	SE ±	T	P
		15 days	30 days	45 days						
Systolic BP	148.9	141.1	135.6	133.8	132.6	10.94	12.9	2.8	5.73	<0.001
Diastolic BP	97.1	94.7	88.6	86.6	86.4	11.01	10.18	2.27	4.69	<0.001
Mean BP	113.8	110.6	100.06	98.1	96.2	15.42	25.9	5.7	2.21	<0.05
Pulse Pressure	51.8	49.2	47	47.2	45.2	12.75	10.51	2.3	2.76	<0.05

**Table 3: Effects of the Therapy on Clinical Features**

Clinical Features	Mean Score		% of relief	SD ±	SE ±	T	P
	BT	AT					
Headache	1.7	0.45	73.52	0.824	0.184	5.69	<0.001
Santapa	0.4	0.1	75	0.57	0.12	2.51	<0.005
Padadaha	0.25	0.15	40	0.3	0.06	1.49	>0.05
Krishtha	1.55	0.2	87.09	0.933	0.20	6.75	<0.001
Bhrama	0.85	0.15	82.15	0.732	0.16	4.27	<0.001
Klama	1.1	0.2	81.81	0.55	0.12	7.2	<0.001
Tamodarshana	0.3	0.1	66.66	0.52	0.11	1.78	>0.05
Prabhuta mutrata	0.25	0.05	80	0.41	0.091	2.18	<0.05
Krodha	0.75	0.2	73.33	0.604	0.13	4.07	<0.001

**Table 4: Effects of the Therapy on Biochemical Profile**

Variable in	Mean Score		% of relief	SD ±	SE ±	T	P
	BT	AT					
S.Cholesterol	208	199.8	3.94	6.92	1.54	4.97	<0.001
VLDL	30.35	29.2	3.78	0.98	0.22	5.2	<0.001
LDL	112.5	110.95	1.42	1.56	0.34	4.5	<0.001
HDL	58.9	57.3	2.71	2.68	0.6	5.3	<0.001
S.Triglycerides	153.65	150.15	2.27	2.68	0.6	5.3	<0.001
B.Urea	25.5	24.4	4.3	0.98	0.21	5.2	<0.001
S.Creatinine	0.56	0.52	7.1	0.06	0.12	3.75	<0.001
FBS	87.6	86.4	3.1	0.95	0.21	5.6	<0.001

## DISCUSSION

Hypertension is a multifactorial disease. Most of the patients of uncomplicated Hypertension remain asymptomatic during early years of the disease. A lot of Anti-Hypertensive drugs are available today but none of them possess curative potential. Because all the currently available drugs have just palliative effect hence they are required to be taken throughout the life. Due to this reason untoward effects associated with presently available drugs are inevitable. Recent clinical trials have demonstrated that majority of the Hypertensive patients require multiple antihypertensive drugs for optimum blood pressure control.<sup>[4]</sup> Due to prolonged multiple drug therapy annoying untoward effects are further augmented, leading to decreased compliance in asymptomatic patients. So still the quest for an ideal and safe Anti-Hypertensive drug is there. Present trial is an attempt to develop an ideal herbal

Anti-Hypertensive drug which is potent and safe for long term use.

In this study the trial drug fulfilled all the lacunae mentioned above, as it significantly reduced systolic blood pressure by 16.3 mm of Hg, diastolic blood pressure by 10.7 mm of Hg. Pulse pressure and mean blood pressure were also statistically significantly lowered by 6.6 mm of Hg and 17.6 mm of Hg respectively. Various clinical features except *Padadaha* and *Tamodarshana* were also significantly improved after the therapy (Table No. 3). Hypertension accelerates the development of Atherosclerosis, especially when combined with other risk factors such as Dyslipidaemia. After therapy, there was marginal reduction in serum total cholesterol, VLDL and triglycerides. (Table No. 4)

Animal experimentation has proved the Anti-Hypertensive activity of *Jatamamsi*. Pharmacological studies have also revealed its central depressant action and vascular smooth muscle relaxation properties. So probably Anti-Hypertensive action of *Jatamamsi* is mediated partly through reduction in cardiac output and partly through reduction in peripheral resistance. During the course of treatment all the patients reported a growing feeling of well being and none of them reported any untoward effect.

#### CONCLUSIONS

Optimum blood pressure control is desirable to reduce long term cardiovascular mortality and morbidity. The trial drug i.e. *Jatamamsi Churna* can be an effective and ideal Anti-Hypertension drug in grade-I and grade-II essential Hypertension at the prescribed doses. It can be more useful in the management of essential Hypertension with associated dyslipidemia. It has been found to be free from any untoward effects. More studies are desperately required for thorough assessment of Anti-Hypertensive potential of trial drug i.e. *Jatamamsi*.

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