

AN OBSERVATIONAL STUDY ON THE EFFECACY OF TAGARADI CHURNA IN THE MANAGEMENT OF ESSENTIAL HYPERTENSION

Gajanana Hegde¹, Pradeep BC^{2*}

1. Professor & Head, Dept. of PG studies in Kayachikitsa, Govt Ayurveda Medical College, Mysore, Karnataka, India.
2. PG Scholar, Dept. of PG studies in Kayachikitsa, Govt Ayurveda Medical College, Mysore, Karnataka, India.

Received: 02-01-2015; Revised: 13-03-2015; Accepted: 20-03-2015

Abstract

Hypertension has become worldwide problem effecting 29% of adult population. 40-45 million Indians are believed to be suffering with the disease which is a key risk factor for coronary artery disease and renal failure. Today, approximately one billion people worldwide are suffering from high blood pressure and its number is expected to increase to 2.5 billion by the year of 2025. Hypertension is identified as single most important risk factor in both coronary heart disease and cerebrovascular accidents. It may also lead to congestive cardiac failure and renal failure. The treatment of hypertension in contemporary science includes administration of beta blockers, calcium channel blockers, ACE inhibitors and other different modalities; in spite of such a comprehensive approach the treatment of hypertension has still many limitations. The major Drawback is the probable adverse effects and cost of medicine. Hence there is always a scope for management of hypertension with alternative approach making use of cost effective, safer management strategies. The present study was conducted on 30 patients of Essential Hypertension with Tagaradi churna [Tagara (*Valeriana wallichii*), Shankhapushpi (*Convolvulus pluricaulis*), Jyotishmati (*Celastrus paniculata*), Ashwagandha (*Withania somnifera*), Brahmi (*Bacopa monnieri*)] churnas 5 g t.i.d. with water as anupana for a period of 30 days. Observation was done before intervention, 2 mid test assessments were done on 7th and 15th day and post-test assessment was done on 30th day. Intervention revealed that 13 patients had marked improvement, 8 had moderate improvement and 6 had mild relief while insignificant relief was noticed in 3 patients.

Key words: Essential hypertension; Tagaradi churna.

*Address for correspondence:

Dr. Pradeep BC,
PG Scholar, Dept. of PG studies in Kayachikitsa,
Govt Ayurveda Medical College,
Mysore, Karnataka, India.
E-mail: bcpradeep077@gmail.com

Cite This Article

Gajanana Hegde, Pradeep BC. An observational study on the effecacy of Tagaradi churna in the management of Essential Hypertension. Ayurpharm Int J Ayur Alli Sci. 2015;4(3):69-76.

INTRODUCTION

Hypertension is one of the most common complex disorders. The etiology of hypertension differs widely amongst individuals within a large population. Essential hypertension is the form of hypertension. It is the most common type and affects 90-95% of hypertensive patients, it is that variety of Hypertension wherein no obvious underlying cause can be recognized^[1] and there are many risk factors such as sedentary lifestyle, obesity, sodium sensitivity, alcohol intake, and vitamin D deficiency, and it is also related to aging. Sedentary individuals have a 20% to 50% increased risk of developing hypertension. Usually, high blood pressure is asymptomatic. That is why it is often called the "silent killer".^[2] Millions of people have high blood pressure and many do not even know they have this serious condition. Hypertension is a risk factor for all clinical manifestations of atherosclerosis. It is an independent predisposing factor for heart failure, coronary artery disease, stroke, renal disease, and peripheral arterial disease (PAD).^[3] The mortality rate was 56.4% in 1995-2005, today approximately 1 billion people worldwide are suffering from high blood pressure and its number is expected to increase to 2.5 billion by the year of 2025.^[4] Apart from the problem of diagnosis, the management of essential hypertension is also an area which has a lot of limitation considering the idiopathic nature and chronicity of the disease. The lifelong and palliative treatment of hypertension in western science induces many side effects. This is an area where there is a lot of scope for clinical research. An early and effective intervention may minimize the possibility of complications involving multiple systems. So it is an important area for researchers and scholars of Ayurveda to probe the possibility of managing HTN with drugs which have lesser side effects, especially considering the chronicity and lifelong nature of the disease. In this regard, the study was undertaken to evaluate the effect of Tagaradi

churna in the management of Essential Hypertension.

AIMS AND OBJECTIVE

To evaluate the effect of Tagaradi churna [Tagara (*Valeriana wallichii*), Shankhapushpi (*Convolvulus pluricaulis*), Jyotishmati (*Celastrus paniculata*), Ashwagandha (*Withania somnifera*), Brahmi (*Bacopa monnieri*)] in the management of Essential hypertension

MATERIAL AND METHODS

Study design

Patients were selected from the O.P.D and I.P.D of Government Ayurveda Medical College and Hospital, Mysore, India. A total of 44 patients between the age group of 30-70 years fulfilling the criteria for the diagnosis of the disease were registered for the study. Out of these, 14 patients were dropped out during the various stages of study and 30 patients completed the intervention. Data were collected as per the proforma of the case sheet. The study was an observational with pre and post test design.

The ingredients of Tagaradi churna were procured from Abdul Ravoof and son's pansari shop, Mysore, then made into powder and used.

IECC Number

Institutional Ethical Committee Clearance Number is 2505201207

Diagnostic criteria

The 7th report of Joint National committee on prevention, detection, evaluation and intervention of HBP were considered as the standard for the diagnosis of HTN. (Table 1)

Inclusion criteria

Patients of either sex between the age group 30-70 years either treated or freshly detected cases of Essential hypertension were selected. Patients with HTN stage 1 and HTN stage 2 with or without symptoms were included for the study.

Exclusion criteria

Patients suffering from any other systemic disorders which interfere with the course of the disease and intervention were excluded.

Statistical methods

Descriptive statistics, Chi-square test, contingency co-efficient analysis, repeated measure ANOVA, Paired Samples t-test using SPSS for windows software.

Investigations

Patients were subjected to routine investigations of blood, urine etc. to exclude any other systemic disorders.

Intervention

Tagaradi churna (churnas of Tagara, Shankhapushpi, Brahmi, Jyotishmati and Ashwagandha each 1 part) 5 g t.i.d. after food with water.

Duration

Duration of the study was 30 days during which patients were advised for limited usage of salt, fat rich diet, quitting smoking and alcohol and also patients were asked to avoid stressful situations.

Assessment criteria

The assessment was done considering systolic, diastolic and mean blood pressure readings in all 3 postures i.e. supine, sitting and standing

at pre-test i.e. 0th day, 2 mid test assessments on 7th and 15th day respectively and post-test assessments on 30th day.

Overall assessment

The assessment was graded with following manner,

Marked improvement - Reduction in systolic blood pressure in the range of 30-40 mm Hg and diastolic blood pressure up to ≥ 15 mm Hg.

Moderate improvement - Reduction in systolic blood pressure in the range of 20-29 mm Hg and diastolic blood pressure in the range 11-14 mm Hg.

Mild improvement - Reduction in systolic blood pressure in the range of 10-19 mm Hg and diastolic blood pressure in the range 5-10 mm Hg.

Insignificant improvement - Reduction in systolic blood pressure in the range of 0-9 mm Hg and diastolic blood pressure in the range 0-4 mm Hg.

The mean of both is taken and overall assessment is done

OBSERVATION AND RESULTS

Pre-test

Both fresh and treated cases were included. In the present study, 18 patients were fresh and 12 patients were treated earlier. Majority of the patients i.e. 26 patients who approached for treatment were symptomatic. Freshly detected case reported with the complaints such as giddiness, headache and fatigue. The symptoms like Palpitation and insomnia were observed predominantly are known cases of Hypertension. Out of 30 patients, 26 patients had fatigue, followed by insomnia was observed in 22 patients, giddiness in 16

patients, headache in 13 patients and palpitation was found in 9 patients. In both fresh and treated cases, three consecutive blood pressure readings were taken in supine, sitting and standing posture to define initial BP. There was difference between Blood pressure readings taken in different positions such as supine, sitting and standing posture. The systolic Blood pressure was high in supine and sitting position, when compared to standing, while the diastolic pressure was high in standing position, when compared to supine, although in few patients the vice-versa was also observed. The difference in pressure between supine and standing was within 5mm Hg in fresh cases, where as in treated and chronic cases the difference was more than 10mm Hg. Overall, fresh cases were observed with frequent measurement of blood pressure and then intervention was started. In treated cases the earlier medication was withdrawn gradually and completely, after complete withdrawal of earlier treatment flush out period of 7 days was given and then intervention was started.

In the present study familial predisposition was observed in 55% of the cases, excessive salt intake was observed in 38% cases and the risk factors like smoking, alcohol, obesity was found only in 17% of the cases. Overall, fresh cases were observed with frequent measurement of blood pressure and then intervention was started. In treated cases the earlier medication was withdrawn gradually and completely, after complete withdrawal of earlier treatment flush out period of 7 days was given and then intervention was started.

Mid-test: 7th day

Blood pressure readings were taken before and after the procedure, and It was observed that there was a significant decrease in both systolic and diastolic blood pressure i.e. systolic 15-20mm Hg and diastolic 8-12 mm Hg before to after therapy. In some patients the change was observed up to 24 mm Hg systolic and 14 mm Hg diastolic.

After completion of 7th day of procedure most of the patient reported sense of wellbeing and marked reduction in the symptoms. In some patients symptoms like heart burn, nausea & palpitation persisted even after 15th day of intervention.

Post-test observation

After the intervention there was significant reduction in both systolic and diastolic blood pressure, the reduction in systolic Blood pressure was more marked. There was significant reduction in symptoms like fatigue, giddiness, insomnia and palpitation. Overall assessment of the study revealed that out of 30 patients, 13(44%) patients had marked improvement and, 8(26%) moderate improvement and 6(20%) patients had mild relief and insignificant relief was seen in 3(10%) patients. Overall, the study revealed that the selected intervention has significant role to play in the management of essential Hypertension. Reduction of BP was observed markedly with P value < 0.000 (Table 2-7)

DISCUSSION

The result of the study revealed that, Tagaradi churna has effectively lowered Blood pressure and reduced majority of the symptoms, which is statistically highly significant with P value <0.000. The symptoms such as headache, fatigue, giddiness, insomnia were reduced after intervention while other symptoms like palpitation and chest pain showed insignificant response. After observing the mean blood pressure values, it is seen that systolic BP reduced upto 11 mm hg while diastolic BP reduced upto 9 mm hg on 7th day. On 15th day systolic BP reduced upto 15 mm hg and diastolic BP reduced upto 11 mm hg. After treatment systolic BP reduced 20 mm hg and diastolic BP reduced 14 mm hg. Freshly detected and untreated cases responded well while treated cases of more than 2 years of history showed lesser improvement.

Table 1: Range of Blood pressure according to 7th report of the Joint National Committee on detection, evaluation and the treatment of HBP

Hypertension stage	Systolic (mm hg)	Diastolic (mm hg)
Normal	< 120	< 80
Pre Hypertension	120-139	80-89
Stage I Hypertension (mild)	140-159	90-99
Stage II Hypertension (Moderate)	≥160	≥ 100

Table 2: Descriptive statistics of Systolic blood pressure (SBP) in supine posture

	Mean	Std. Deviation	N
SBP BT	151.8000	7.56446	30
SBP 7 th day	139.9000	8.81327	30
SBP 15 th day	137.4000	10.01262	30
SBP AT	133.4000	7.42967	30

Source	Type III Sum of Squares	Df	Mean Square	F	Significance
Change	11946.200	3	3982.067	130.654	0.000
Error (Change)	3474.500	114	30.478		

Table 3: Descriptive statistics of Systolic blood pressure (SBP) in sitting posture

	Mean	Std. Deviation	N
SBP BT	154.6000	6.62054	30
SBP 7 th day	134.3000	10.42820	30
SBP 15 th day	132.9000	7.98617	30
SBP AT	131.1000	8.64444	30

Source	Type III Sum of Squares	df	Mean Square	F	Significance
Change	10596.500	3	3532.167	72.053	0.000
Error (Change)	5588.500	114	49.022		

Table 4: Descriptive statistics of Systolic blood pressure (SBP) in standing posture

	Mean	Std. Deviation	N
SBP BT	151.5000	9.43621	30
SBP 7 th day	139.2000	10.63064	30
SBP 15 th day	134.4000	9.54987	30
SBP AT	129.1500	7.07311	30

Source	Type III Sum of Squares	Df	Mean Square	F	Significance
Change	11946.200	3	3982.067	130.654	0.000
Error (Change)	3474.500	114	30.478		

Table 5: Descriptive statistics of Diastolic blood pressure (SBP) in supine posture

	Mean	Std. Deviation	N
DBP BT	94.3000	4.95347	30
DBP 7 th day	83.5000	7.45160	30
DBP 15 th day	80.9000	7.06288	30
DBP AT	80.2000	5.69025	30

Source	Type III Sum of Squares	Df	Mean Square	F	Significance
Change	5241.675	3	1747.225	61.938	0.000
Error (Change)	3215.850	114	28.209		

Table 6: Descriptive statistics of Diastolic blood pressure in sitting posture

	Mean	Std. Deviation	N
DBP BT	91.2000	7.66125	30
DBP 7 th day	83.2000	7.40981	30
DBP 15 th day	81.7000	7.92797	30
DBP AT	79.6000	3.97889	30

Source	Type III Sum of Squares	Df	Mean Square	F	Significance
Change	4736.475	3	1578.825	45.229	0.000
Error (Change)	3979.450	114	34.907		

Table 7: Descriptive statistics of Diastolic BP in standing posture

	Mean	Std. Deviation	N
DBP BT	90.8000	8.95368	30
DBP 7 th day	82.2000	7.67498	30
DBP 15 th day	81.2000	6.43674	30
DBP AT	76.5000	5.87143	30

Source	Type III Sum of Squares	Df	Mean Square	F	Significance
Change	4196.300	3	1398.767	39.737	0.000
Error (Change)	4012.900	114	35.201		

The results were encouraging in majority of the patients where stress played an important role.

The properties of each ingredients and probable mode of action are explained below

Tagara

It was selected for the study as it has kaphapittahara properties, indicated in Anidra, Raktajaroga.

It has raktaprasadana, nidrajanana, vishagna and it has tranquilizing effect. Hesperidin and 6 methyl apigenin – a flavone glycoside, possess sedative and sleep enhancing properties.^[5] Antistress activity in human trials has shown encouraging result, therefore suggested for stress management.^[6]

Brahmi

Brahmi was selected for the study as it has kaphapittahara properties, indicated in

Raktapitta and is Hridya. It is a nervine tonic which helps to overcome the negative effects of stress. It reduces the effect of stress and nervous anxiety. Brahmi induces a sense of calm and peace. It improves the brain cell function. It helps in relieving nervous congestion and strain from them.^[7] It possesses ushna virya, thereby it reduces vatadosha, which is the main culprit in causing such problem. Due to the presence of tikta rasa, brahmi easily penetrates into the tissue thus giving soothing effect.

Shankhapushpi

It is Tridosahara and considering the Medhya and manovikarahara property of the drug. It has anxiolytic activities and is called the greatest Medhya rasayana. Shankhapushpi is quoted in charaka samhita to be the single greatest herb for enhancing all these aspect of mind power- dhi (leaning), dhriti (memory) and smriti (recall). It is popularly known to treat sleep disorder-stress and anxiety. It helps the quality of sleep by improving mind body co-ordination.^[8]

Jyotishmati

It was selected for the study as it pacifies vitiated vata, kapha, insomnia and urinary retention. Jyotshimati has therapeutic value for anxiety as well has sedative properties. Jyotshimati protects neuronal cells against stress by modulating receptor function of that particular site. It activates healthier functioning of brain and also strengthens a person's ability to endure stress whether emotional or physical. It has been reported to show a relaxing effect on the central nervous system resulting in a significant reduction in anxiety and nervous tension.^[9]

Ashwagandha

Ashwagandha is beneficial in stress related disorders like hypertension, arthritis, diabetes, general debility etc. It works as rasayana that

helps in preventing early aging and rejuvenates the whole body. The herb is considered as an adaptogen that stimulates the immune system and improves the memory, Due to its good penetrating powers, the herb promotes calmness and mental satisfaction.^[10]

CONCLUSION

In this clinical trial it is observed that there is a marked reduction in the levels of BP. Systolic blood pressure reduced considerably than diastolic blood pressure. The symptoms like palpitation, insomnia and chest pain were observed more in treated and chronic cases. Symptoms like headache, insomnia, giddiness and fatigue showed marked improvement, while not much reduction was observed in other symptoms such as chest pain and palpitation. In mild to moderate degree of Hypertension and in freshly detected cases, Tagaradi churna has a significant role to play in managing Essential hypertension and reducing the symptoms of hypertension

REFERENCES

1. Carretero OA, Oparil S. Essential hypertension. Part I: definition and etiology. *Circulation* 2000;101(3):329–335.
2. Braunwald, Fauci, Kasper, Hauser, Longo, Jameson. Harrison's principles of internal medicine, Vol. 2. 16th ed. U.K.: Mc Graw Hills productions; 2005. 246:1463-1480.
3. Retrieved from: <http://en.wikipedia.org/wiki/hypertension> [Accessed on: 15/3/2014]
4. The World Health Report 2002-Reducing Risks, Promoting Healthy Life. Geneva, Switzerland: World Health Organization; 2002. Retrieved form: http://www.who.int/whr/2002/en/whr02_en.pdf [Accessed on: 15/3/2014]
5. Fernandez S, Wasowski C, Paladini AC, Marder M. Sedative and sleep enhancing properties of Linarin, a flavonoids isolated from *Valeriana officinalis*. *Pharmacol Biochem Behav.* 2004;77(2):399-404.
6. Bhattacharya D, Jana V, Debanath PK, Sur TK. Initial exploratory observational pharmacology of *Valerian walichii* on stress

- management: A clinical report. Nepal Med Coll J. 2007; 9(1):36–39.
7. Retrieved form: <http://www.indiamart.com/ayur-vin/products.html> [Accessed on: 13/12/2013]
 8. Retrieved form: http://www.muktavati.com/muktavati_herbal_remedy_for_hypertension.html [Accessed on: 13/12/2013]
 9. Retrieved form: http://www.indiamart.com/santhosh_herbal_products.html [Accessed on: 15/12/2013]
 10. Retrieved form: http://www.muktavati.com/muktavati_herbal_remedy_for_hypertension.html [Accessed on: 13/12/2013]

Source of Support: Nil

Conflict of Interest: None Declared