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Management of Essential Hypertension (*Ucharaktachap*) - A Pilot Study

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ABSTRACT

Hypertension is the most common lifestyle disorder today. Hypertension may be a chronic and sometimes asymptomatic medical condition during which systemic blood pressure is elevated beyond normal. Fewer than half of those with hypertension are conscious of their condition and lots of others are Modern treatment modalities are effective for the management of hypertension but pose human beings to their unwanted complications on their long-term use. The conventional antihypertensive drugs have many adverse effects & are not well tolerated which led to non-compliance, switching & discontinuation of treatment. There is no direct description of HTN in *Ayurveda* but based on its clinical presentation and similarity between pathogenesis factors for hypertension can be correlated with *Raktadhatugata Vata (Vatpradhan)* and it is considered as *Tridoshaja Vyadhi*. Treatment for hypertension in *Ayurveda* on the idea of Balancing all three Doshas. So *Nidan Parivarajan*, proper dietary habits, Yoga, Meditation along with *Ayurvedic herbs* can be beneficial for balancing the state of mind, maintaining as well as reducing blood pressure. *Ayurveda* has various classical formulations and single herbs having *Hridya, Kaphahara, Vatahara, Balya, Raktaprasadana*, etc. properties which are safe and cost-effective too. In present study *Nitya Virechana Karma* has been selected as *Shodhana* measure, to trump over offending *Tridosas*, as *Virechana* has also been equally effective in *Rakta* vitiation. In the present study *Shamana* remedy (*Amritanagaradi Kashayam*) has been selected taking in to view the aspect of the preventive, curative and also *Dosha Pratyani* effect of *Shamana Yoga* drugs.

Key words: High Blood Pressure, Lifestyle disorder, Nitya Virechan, Shodan, Shaman

INTRODUCTION

Hypertension (HTN) is a lifestyle disorder occurs due to faulty lifestyle and stressful psychological conditions with a low estimate of remission and recovery. The 2017 American College of Cardiology and American Heart Association (ACC/AHA) blood pressure guidelines recommended some striking changes in the diagnosis and management of hypertension.^[1] Diagnostic criteria of HTN are systolic blood pressure

above 130 mm Hg and diastolic above 80 mm Hg.^[1] Hypertension is called as a silent killer because majority patients (85%) are asymptomatic^[2] and cause adverse effect to brain, kidney, heart and peripheral arteries over a period.^[3] Hypertension is precisely responsible for 57% of all stroke deaths and 24% of all coronary heart disease (CHD) deaths in India.^[4] About 26.4% of the world adult population in 2000 had hypertension and 29.2% were predicted to have this disorder by 2025.^[5] In 95% cases of the hypertension, the primary etiological factors are still unknown^[6] but are presumed to be due to genetic and environmental factors.^[7] Although antihypertensive therapy certainly reduces the risk of cardiovascular and renal disease, but lifelong usage of antihypertensive drugs is associated with detrimental effects.^[8] Hence to attain and maintain good health, hypertensive patients are looking towards *Ayurveda*.

In *Ayurveda*, the regulation of blood pressure is governed by the *Tridoshas* viz *Vata (Prana and Vyana)*, *Pitta (Sadhaka)* and *Kapha (Avalambaka)*, *Dushya* like

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Rasa, Rakta and Meda, with the proper functioning of Mana (mind) and Oja which are situated in heart and helps in circulation of blood. On the basis of strong resemblances between etiological factors,^[10] symptoms,^[11] involvement of *Doshas* and *Dushya* in the etiopathology and complication,^[12] it is believed *Vata Dosha* to be the main culprit. Hence, Essential Hypertension can be correlated with *Vata Pradhana Tridoshaja Vyadhi*.

Acharya Charaka has mentioned that if there is *Bahudosha Avastha*, then morbid toxins should be eliminated by the purificatory process.^[13] *Virechana* is mainly indicated in *Pitta* and *Shonita* predominant *Vyadhi*.^[14] As *Pitta Dosha* is having *Asharaya-Ashrayi Sambandha* (mutual interdependence) with *Rakta Dhatu*, so *Virechana* is significantly beneficial in *Rakta Dushtijanya Vyadhi*.^[15] In *Vatapradhana Vyadhi*, *Mridu Sanshodhana* is the choice of treatment.^[16] *Nitya Virechana* is a type of *Mridu Sanshodhana*. There are many *Virechana* drugs described in *Samhita*. Among them, *Aargvadh* is considered as *Mriduvirechnanam*.^[17] So in this study, *Aargvadh Churna* was selected for *Nitya Virechana* and *Amritanagaradi Kashayam* was selected as a *Shaman* drug in the management of Essential Hypertension.

AIM AND OBJECTIVES

To evaluate the effect of *Nitya Virechan (Argvdhadi kashayam)* and *Amritanagaradi kashayam* in the management of essential hypertension (*Uchcharaktachap*).

MATERIALS AND METHODS

Source of patient

The patients suffering from hypertension (*Uchchraktachap*) attending the OPD of Pt. Khushilal Sharma Govt. Ayurvedic Hospital, Bhopal. Overall, 8 patients were included in the study fulfilling the diagnostic, inclusion and exclusion criteria. A detailed history taking and physical examination were carried out in these patients. The clinical data along with the elaborated assessment of the condition were recorded in specially designed case proforma. Among 9 patients,

7 completed the treatment, 2 patients did not complete the whole treatment due to unknown cause.

Diagnostic criteria

Subjective criteria

- *Swedhadhikya* (Excessive sweating)
- *Klama* (fatigue)
- *Bhrama* (giddiness)
- *Shirhashool* (headache)
- *Anidra* (insomnia)

Objective criteria

Table 2: Diagnostic criteria of Hypertension (ACC / AHA blood pressure guidelines)

Category of HTN	Systolic blood pressure	Diastolic blood pressure
Normal	< 120mmhg	< 80
Pre HTN	120 -129 mmhg	<80 mmhg
Stage 1HTN	130-139 mmhg	80- 89 mmhg
Stage 2 HTN	≥ 140 mm	≥ 90 mm Hg

Inclusion criteria

1. Patients of essential hypertension without taking any hypertensive medicine.
2. Patients with systolic blood pressure 120-140 mmHg & Diastolic blood pressure 80-90 mmHg.
3. Patients between the age group 20 to 50 years.
4. Patients fit for *Virechan Karma*.

Exclusion criteria

1. Patients below 20 yr and above 50 years of age.
2. Patients with systolic blood pressure > 120mmHg & Diastolic blood pressure >90mmHg.
3. Patients receiving antihypertensive drug.
4. Complicated hypertensive cases eg. congestive cardiac failure, neuropathy
5. Diabetic patients.

- 6. Secondary hypertension.
- 7. Pregnant women.
- 8. Patients taking oral contraceptive pills and steroids etc.

Assessment criteria

Grading of subjective criteria

Swedhadhikya

1	Able to do both routine special activities without discomfort	0
2	Mild sweating by heavy work	1
3	Sweating with moderate work relieves soon	2
4	Sever sweating with mild work but no disturbance to the routine	3
5	Sever sweating with mild work disturb the routine	4

Anindra (Disturbed sleep/ Insomnia)

1	Sound sleep	0
2	Disturbed sleep wakes up 1-2 times a night	1
3	Difficult to onset remains disturbed in night	2
4	Very less sleep in small intervals and makes patient irritable	3
5	Unable to sleep without medicine	4

Bhrama (Giddiness)

1	Nil	0
2	Rarely <i>Bhrama</i> for some movement during change of posture	1
3	Often for some movement during change of posture	2
4	Often for each movement even in lying condition also	3

5	Patient unable to hold himself without any support	4
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Klama (Fatigue)

1	Nil	0
2	Rarely feeling of tiredness without any exertion	1
3	Rarely feeling of tiredness without any exertion with any inability in concentration	2
4	Frequency feeling of tiredness without any exertion with inability in concentration	3
5	Continuous feeling of tiredness without any exertion with inability in concentration	4

Shirshool (Headache)

1	Nil	0
2	Rarely headache relieve without medicine	1
3	Frequent headache relives by rest does not disturb daily activity	2
4	Frequently severe headache disturbs daily activities requires medicine	3
5	Continues severe headache disturbs sleep and daily activities not manage by medicine	4

Objective criteria

Systolic and diastolic blood pressure

Treatment regimen

SN	Therapy	Drug	Days
1.	<i>Nitya Virechana</i>	<i>Aragvadh Kashaya</i>	30
2.	<i>Kashaya Pan</i>	<i>Amritanagaradi Kashaya</i>	30

Ingredients of Amrita Nagaradi Kashayam (for Pana)

SN	Drug	Latin Name	Family
1.	Guduchi (Amrita)	Tinospora cordifolia	Menispermaceae
2.	Nagar (Shunthi)	Zingiber officinalis	Zingiberaceae
3.	Dhanyak	Coriandrum sativam	Umbelliferae

Ingredients of Argvadh Kashayam (for Virechana)

SN	Drug	Latin name	Family
1.	Aragvadha	Cassia fistula	Leguminoceae

RESULT

The values of data were expressed as a percentage of relief and mean-standard error of the mean. The data were analysed by Student's 't' test for comparing before and after treatment obtained scores. The level of significance is expressed as $P > 0.05$ as insignificant, $P < 0.05$ and 0.01 as significant, $P < 0.001$ as highly significant.

S N	Sympto ms	Mean		M D	SD	SE	% Reli ef	t- tes t	p- valu e	Res ult
		BT	AT							
1.	Swedha dhikya	2.7 1	0.8 6	1.8 5	0.6 9	0.2 6	68 %	3.7 52	0.00 28	VS
2.	Klama	2.2 9	0.4 3	1.8 6	0.5 3	0.2 0	81 %	5.3 07	0.00 02	ES
3.	Anindra	2.1 4	1 4	1.1 4	0.5 8	0.2 2	53 %	3.3 60	0.00 57	S
4	Bhrama	2.2 9	1.1 4	1.1 5	0.6 9	0.2 6	50 %	2.5 73	0.02 44	S
5.	Shirahsh ool	1.1 4	0.7 1	0.4 3	0.4 9	0.1 8	37 %	1.3 41	0.20 46	NS

VS - Very significant, ES - Extremely Significant, S - Significant, NS - Not significant

- Swedhadhikya - the mean score of Swedhadhikya in this study, before treatment was 2.71 and after treatment it was reduced to 0.86. So, the mean difference was 1.85, with percentage relief of 68% which was statistically very significant ($P=0.0028$).

- Klama - the mean score of Klama in this study, before treatment was 2.29 and after treatment it was reduced to 0.43. So, the mean difference was 1.86, with percentage relief of 81% which was statistically extremely significant ($P=0.0002$).
- Anindra - the mean score of Anindra in this study, before treatment was 2.14 and after treatment it was reduced to 1. So, the mean difference was 1.14, with percentage relief of 53% which was statistically significant ($P=0.0057$).
- Bhrama - the mean score of Bhrama in this study, before treatment was 2.29 and after treatment it was reduced to 1.14. So, the mean difference was 1.15, with percentage relief of 50% which was statistically significant ($P=0.0244$).
- Shirahshool - the mean score of Shirahshool in this study, before treatment was 1.14 and after treatment it was reduced to 0.71. So, the mean difference was 0.43, with percentage relief of 37% which was not significant ($P=0.2046$).

DISCUSSION

Essential Hypertension is a psychosomatic haemodynamic disease with a multi-factorial pathology and origin of several dietary, environmental and genetic factors. Modern medical science has already invented so many medicines, to keep the blood pressure in its normal ranges. But all these Drugs have a long list of adverse effect with them. The Ayurvedic medicine gives side benefits instead of side effects. Therefore, the Ayurvedic therapeutics, have attracted considerable glamour for providing safe and effective remedies. Numerous researches have been done time and again to reprove the worth of these time-tested medicaments. Yet, there is a necessity for pursuing further research to find out some safe and effective therapy i.e. Shodhan Chikitsa with no adverse effects and which also retracts the life threatening complications of the Hypertension and save the Hypertensive population. In Ayurveda, there is no direct references regarding hypertension and as per Ayurvedic principles, in case of unknown disease, the physician should try to interpret the features of the disease

through the involvement of *Dosha*, *Dushya* and its etiological factors involved in the pathogenesis of the disease and treat accordingly.^[18] Blood Pressure is the outcome of many physiological activities which is regulated by the *Tridoshas viz Vata (Prana and Vyana), Pitta (Sadhaka), and Kapha (Avalambaka) Doshas, Dushyas like Rasa, Rakta and Meda*, with the proper functioning of *Mana* and *Oja* which are situated in heart and helps in pumping of blood.^[19] On the basis of involvement of these factors, hypertension is said to be *Vata Pradhana Tridoshaja Vyadhi*. Further after understanding the EHT on the basis of *Ayurvedic* fundamentals, the treatment has been selected in compliance with the principles propounded. Among *Shodhana karmas*, *Virechana* was selected for present study due to its acceptability, less complications and popularity.

Aragvadha Kashaya

Aragvadha has *Madhur* and *Tikta Ras, Guru, Shit* and *Madhur* in *Vipaka*. It is useful to reduce various diseases like Fever (*Jwara*), Skin Diseases (*Kushta*), Rheumatic Diseases (*Amavaata*), Cervical Lyrnphadenitis (*Gandamaala*), Cardiac Diseases (*Hrudroga*), Worm Infestations (*Krimi*), Abdominal Pain (*Shoola*), Abdominal Disorders (*Udararoga*), Polyuria (*Prameha*), Dysuria (*Mootrakrucha*), Bloating of Abdomen (*Gulma*) etc. It also reduces all the three *Dosha*. It acts as laxative (*Mrudurechaka*). The fruit of it is said to be Laxative (*Sramsanam*), increases taste perception (*Ruchya*), reduces skin disorders (*Kushta*), *Pitta* and *Kapha*. This is said to be the best drug for laxation and it is also said to be the best for the elimination of *Doshas* of the gastrointestinal tract (*Kostashuddikaram Param*). The fruit *Majja* of *Aragvadha* is having major chemical constituents like rhein dianthraquinone glucosides, Sennoside A, Sennoside B and fistulic acid. Purgative activity: The aqueous extract of the fruit pulp had significant purgative action; the activity is due to the presence of anthraquinones present. *Aragvadha* exhibit analgesic, carminative, anti-inflammatory, antioxidant, hepato protective, immunomodulatory and hydragogue activities.^[23] When administered as laxative helps in alleviating the symptoms of hypertension by initiating

the excretion of sodium and reducing vascular resistance.

Mridu Sanshodhana has been mentioned as the line of treatment of *Vata Vyadhi*. *Nitya Virechana* is a type of *Mridu Sanshodhana*. The probable mode of action of *Nitya Virechana* with *Argavadh Churna* can be understood by the dominant pharmacodynamics which helps in removing obstruction (*Margavarodha*) and eliminates the excess morbid toxic materials (*Kledamsha*) through *Adhobhaga* by the predominance of *Jala* and *Prithvi Mahabhutas*. Thereby it helps in pacifying *Kapha* and *Pitta Doshas* which altogether has its effect on *Rakta* due to *Ashraya-Ashrayi Sambandha* and regulates *Vata Dosha* by its *Anulomana* action and ultimately balances the *Tridosha*. Thus, *Nitya Virechana* acts either by hyper osmotic action or by reducing fluid electrolyte retention in the blood helps in expulsion of morbid *Doshas* from the body in less quantity and thereby reduces the total volume of *Rasa* and *Rakta* and maintaining the electrolyte balance and ultimately decreased blood pressure. Hence, we can conclude that *Nitya Virechana* with *Aragvadh Churna* acts by *Pittakaphahara, Sukhavirechaka, Anulomana* and *Raktashodhaka* properties, which helps in maintaining osmotic pressure, thereby regularize *Tridosha* and reduces hypertension.

Amritanagaradi Kashayam

Kashayam contains *Ardraka (Zingiber officinale), Amrit (Tinospora cordifolia), and Dhanyak (Coriandrum sativam)* as its active ingredients.

Ayurvedic properties and action of composition -

1. *Guduchi (Tinospora cordifolia) - Rasa - Tikta and Kashay, Guna - Guru and Snigdha, Virya Ushna, Vipaka - Madhura* and Effect on *Tridosha - Tridoshahar*.
2. *Shunthi - Rasa - Katu, Guna - Ruksha and Teekshan, Virya - Ushna, Vipak Madhur* and Effect on *Dosha - Kaphahara*.
3. *Dhaynaka - Rasa - Kashay and Tikta, Guna - Laghu Snigdha, Vipak - Madhur, Veerya - Ushan*, Effect on *Doshas - Tridoshahar*.

CONCLUSION

Hypertension is a common disorder of present era. Essential Hypertension is a psychosomatic hemodynamic disorder which is well explained in modern. Hypertension can be correlated with *Vata Pradhana Tridoshaja Vyadhi* in Ayurveda based on the similarities in etiological factors, clinical features, complications etc. Statistically significant reduction in clinical symptomatology of hypertension and significant improvement was found in Systolic and Diastolic blood pressure. From the outcomes, we can conclude that *Nitya Virechana* with *Argvadh Kashay* is effective to reduce Systolic and Diastolic blood pressure in Essential Hypertension. In this study none of the patients had developed any adverse effects during the course of treatment. The sample size was small and the study duration was too short to draw exact conclusion, thus the study with large sample and optimum duration should provide more improvement.

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