

# Clinical Evaluation of Virechan Karma and shirodhara in The Management of Hypertension

Dr. Anupam Singh

Professor & HOD, Swasthritta & Yoga Department. Mahaveer Ayurvedic Medical College & Hospital,  
Meerut Uttar Pradesh

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## ABSTRACT

Cardiovascular diseases are the leading cause of death and disability in India, with hypertension prevalence on the rise globally. Presently, over 1 billion people are affected by hypertension that nearly 30 percent of the Indian population suffers from hypertension, with South Asians, including Indians, being particularly susceptible. Elevated blood pressure affects 1 billion individuals and causes an estimated 10.4 million deaths annually. Despite the availability of potent antihypertensive drugs, they are not without adverse effects, especially in the elderly population. Hypertension can be correlated to *raktatgavata* in Ayurveda. Managements of hypertension solely through medication is often insufficient, necessitating alternative approaches such as Ayurvedic treatments like *Shirodhara* and *Virechan*. These natural healing methods address stress, a significant factor in hypertension management. This article aims to explore the efficacy of *Shirodhara* and *Virechan* in managing hypertension. Aims and objectives: clinical evaluation of shirodhara and virechan karma in the management of hypertension. Material and Methods : 40 patients were selected on the basis of classical symptomatology of *raktatgavata* from the OPD and IPD of department of *Kayachikitsa* of *Dhanwantaeri* Ayurved medical college, Ujjain and randomly divided into two groups- *virechan* with *Shirodharagroup* and shaman trial drug with *shirodhara* group on the basis of inclusion and exclusion criteria. Thereafter the patients were subjected for detailed clinical history and physical examination. Conclusion : *Shirodhara* has a better effect on hypertension as compared to *virechan*.

**Keywords:** *Shirodhara, Virechan, Sodhana, Ashwagandha, Raktatgavata, Hypertension.*

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## INTRODUCTION

Hypertension, a prevalent cardiovascular condition, poses a significant health concern globally, with its burden particularly pronounced in India. As cardiovascular diseases continue to be the leading cause of mortality and morbidity in the country. Elevated blood pressure affects 1 billion individuals and causes an estimated 10.4 million deaths annually. About 33% urban and 25% rural Indians are hypertensive. Of these, 25% rural and 42% urban Indians are aware of their hypertensive status. Only 25% rural and 38% of urban Indians are being treated for hypertension.[1], Effective management of hypertension becomes imperative, Despite advancements in pharmacological interventions, concerns over adverse effects and inadequate control persist, especially among the elderly population.

*Raktatgavata, RaktavritaVata, PranavritaVyana, VyanavritaPrana, ShleshmavritaVyana* etc. Most of the disease entities are not in whole but collectively are the most probable routes of pathophysiology of hypertension according to the Ayurveda, in *RaktapradoshaVikaras* most of the symptoms compiled by *Charaka* are an assembled form of essential hypertension symptoms, in the same chapter *Charaka* has described the aetiopathogenesis of *Mada, Murchha and Sanyasa* which may be the effect of hypertension<sup>[2]</sup>. So *Raktatgavata* is the closest term which can be co related to hypertension

In this context, exploring alternative treatment modalities rooted in traditional medicine, such as Ayurveda, presents promising avenues. Ayurvedic therapies like *Shirodhara* and *Virechan* offer holistic approaches to address hypertension, emphasizing natural healing and stress reduction. This article delves into the clinical study of Ayurveda based trial drug, *Shirodhara* and *VirechanKarma* in managing hypertension, shedding light on their potential as adjunctive therapies in the comprehensive management of this prevalent condition.

### Aim and objective

Comparative evaluation of *virechan karma* with *Shirodhara* and Trial drug with *Shirodharain* the management of hypertension

### MATERIAL AND METHODS

Selection of patients- 40 patients suffering from hypertension were selected for this study

Type of study- Randomized open clinical trial

Total study duration – 30 days

Assessment- Done at the interval of 15 days

#### Inclusion criteria

All the patients of mild essential hypertension were included in the trial according to stage I of JNC 7<sup>th</sup> report.

In this clinical trial - Systolic B.P. - 140-159 mm of Hg

Diastolic B.P. = 90-99 mm of Hg.

#### Exclusion criteria

- All patients of secondary hypertension
- Patients having endocrine disorder.
- Stage 2<sup>nd</sup> hypertensive patients.
- Complications of hypertension as target organ damage.
- Pregnancy induced hypertension.
- Patients who have been used oral contraceptive pills.

From patients, written informed consents were taken before entering into study. The importance of them for adherence to the treatment, do's and don'ts associated with the disease, schedule for follow up, dates for visits to hospital was issued.

#### Laboratory investigations

Following investigations were carried out to rule out secondary hypertension or any other underlying pathological condition.

- Routine investigations like Hb, TLC, DLC, ESR.
- Blood sugar fasting
- Blood urea and serum creatinine
- Lipid profile
- Urine routine and microscopic study, specific gravity.
- E.C.G, chest radiography (If required)

#### Study Methodology

The patients were randomly categorized into the following two groups.

**In Group A** - 20 patients was treated with *Shodhana (Virechana)* therapy + *Shamana (Shirodhara)* therapy for 30 days.

**In Group B** - 20 patients was treated with *Shamana (Shirodhara)* therapy + Trial drug therapy for 30 days.

#### Group A -

In this group the *Virechana* therapy was advocated to the 20 patients with employing the four indigenous drugs combinantly selected named *virechana yoga*. Following the proper methodology, prior to *virechana Karma*, *DeepanaPachana* followed by *AbhyantarSnehana* with *Moorchchhitatil tail*, were under taken.

In *Shamana* therapy *Shirodhara* is done with *JatamansyadiKwatha* which includes *Jatamansi*, *Khurasaniajwain* and *Sarpagandha* drugs for 11 days.

**Table no. 1 Detailed Schedule of Group A**

S.No.	Therapy	Time Duration	Drug and Dosage
1	<i>DipanaPachana</i>	3 days	<i>TrikatuChurna</i> 5 gm B.D. with Lukewarm water before meal
2	<i>AbhyantarSnehan</i>	5-7 days (Depend on <i>Samyakasnigdhalakshanas</i> )	25-175 ml in increasing order daily increasing by 25 ml ( <i>Moorchchhitatil tail</i> )
3	<i>BahyaSnehana and Swedana</i>	3 Annakals	<i>Moorchchhitatil tail</i> for <i>BahyaSnehana</i> then

			<i>sarvangavashpaSwedana</i> with <i>DashamoolaKwatha</i>
4	<i>Virechana Karma</i>	Morning (empty stomach in the morning 9.00 A.M.)	<i>Kutaki</i> - 20 gm <i>Nishotha</i> - 20 gm <i>Aragvadha</i> - 20 gm <i>Falgu</i> - 20 gm 200 ml <i>kwatha</i> of above drug was prepared; 30 ml <i>Erand tail</i> was added to it.
5	<i>Samsarjana Karm</i>	3-7 days (Depends on <i>Shuddhiprakar</i> , <i>Uttama</i> , <i>Hina</i> , <i>Madhyama</i> )	<i>Peya</i> , <i>Vilepi</i> , <i>Akritayush</i> , <i>KritaYush</i> , <i>AkritaKrishara</i> , <i>KritKrishara</i> than <i>Laghuhara</i> and then <i>Purnahara</i> .
6	<i>Shirodhara</i>	11 or 21 days	According to <i>Bala</i> , <i>Prakriti of Roga</i> and <i>Rogi</i> with <i>JatamansyadiKwatha</i>

Total duration of Treatment course 30 days.

### Group B -

In this group 20 patients was treated with Shaman therapy and trial drugs therapy. In therapy *Shirodhara* is done with *JatamansyadiKwath*. In trial drug therapy *sarpagandhaghana* yoga capsule was given in dose of 500 mg with *Gulabaarka* or milk.

**Table no. 2 -Detailed schedule of Group B**

S.No.	Therapy	Time duration	Drug and Dosage
1.	<i>Shirodhara</i>	11 or 21 days	depends upon <i>bala</i> and <i>prakriti</i> of Roga and <i>Rogi</i> with <i>jatamansyadikwatha</i>
2	Trial drug therapy	30 days	<i>Sarpagandhachurnayoga</i> capsule in dose 500 mg B.D. with milk or <i>Gulabarka</i>

\* Total duration of Treatment course 30 days

### Criteria for Assessment

A. On the basis of cardinal sign :

1. By noting the alteration in systolic and diastolic blood pressure, before and after the treatment.
  2. On the basis of effect on pulse pressure and pulse rate.
- On the basis of diastolic and systolic blood pressure, we can score the blood pressure readings as :

**Table no.3 Systolic and Diastolic blood pressure assessment criteria**

Diastolic	Range (mm of Hg)	Score
Normal	<80	0
Pre-Hypertension	80-89	1
Stage-I Hypertension	90-99	2
Stage-II Hypertension	>100	3

Systolic	Range (mm of Hg)	Score
Normal	<120	0
Pre-Hypertension	120-139	1
Stage-I Hypertension	140-159	2
Stage-II Hypertension	>160	3

### Assessment of the total effect

The total effect of therapy was assessed by determining the percentage of score reduction

Assessment	Score
▪ Excellent response	>75%
▪ Marked response	50-75%
▪ Mild improvement	25-50%
▪ No response	<25%

### Statistical Analysis

The information gathered on the basis of observation was subjected to statistical analysis in term of mean (x), standard deviation (S.D.), Standard error (S.E.) and paired test (t) were carried out of  $p < 0.05$ ,  $p < 0.01$  and  $p < 0.001$ . The obtained results were interpreted as

Improvement	$p < 0.05$
Significant	$p < 0.01$
Highly significant	$p < 0.001$ .

### Observation and results

#### Pre treatment observations

Demographic studies

No. of groups : 2

Group A- *Virechan karma with Shirodhara*

Group B – *Shirodhara with trial drug*

**Table no. 4: Category with maximum percentage in particular criteria**

Criteria	Category	Maximum percentage
Age	51 – 60 yrs	45%
Gender	Females	55%
Habitat	Rural	55%
Marital status	Married	85%
Socioeconomic status	Upper class	50%
Occupation	Private job	40%
Addiction	Tea/Coffee	85%
Diet	Vegetarian	67.5%
<i>Koshtha</i>	<i>Madhyam</i>	57.5%
<i>Agni</i>	<i>Mand</i>	42.5%
Salt intake	Extra	67.5%
<i>Prakriti</i>	<i>Pitta kaphaj</i>	40%
Emotional status	Sentimental	32.5%
Weight	51-60 kg	45%

**Table no. 5: Statistical analysis of comparative evaluation of Group A and Group B in subjective parameters of Raktatgavata (Hypertension)**

Parameters	Mean		SD		t- value		p- value	
	Grp A	Grp B	Grp A	Grp B	Grp A	Grp B	Grp A	Grp B
<i>Samtapa</i>	0.9	0.7	0.483	0.823	4.58	4.993	<0.001	<0.001
<i>Headache</i>	0.9	0.45	1.165	0.695	3.059	14.13	<0.01	<0.001
<i>Aruchi</i>	1.1	0.9	0.483	0.737	4.58	4.717	<0.001	<0.001
<i>Bhrama</i>	0.6	0.28	0.836	0.377	4.810	15	<0.001	<0.001
<i>Klama</i>	0.7	0.57	0.666	0.770	4.743	5.55	<0.001	<0.001
<i>Tamodatshana</i>	0.8	0.5	1.34	1.074	3.74	4.32	<0.01	<0.01
<i>Alpanidra</i>	0.8	0.52	1.059	0.84	5.074	8.28	<0.001	<0.001

**Table no. 6. Total Effect on subjective parameters of 40 patients**

Group	BT	AT	D	%Relief	S.D ±	S.E ±	tvalue	P value
A	2.133	0.743	1.39	65.14%	0.39	0.738	10.03	H.Significant
B	2.20	0.61	1.59	72.5%	0.361	0.127	12.51	H.Significant

**Table. No.7: Estimation of Overall Response in Each Group**

S. No.	Assessment	Group A		Group B	
		No. of patients	%	No. of patients	%
1.	Excellent Response (75%)	0	0%	4	20%
2.	Marked Response	8	40%	14	70%
3.	Mild Improvement (25-50%)	12	60%	2	10%
4.	No Response 25%	0	0%	0	0%

## DISCUSSION

As we have taken comparative evaluation of *Virechan Karma* with *Shirodhara* and *Shaman Yoga* with *Shirodhara* in the management of Hypertension, it is mandatory to illustrate mode of action of *Virechan Karma*, mode of action of *Shirodhara*, and *Shaman yoga* and probable process of development of hypertension and effect of therapy on it.

We can Summarize the illustrations under following headings-

1. Analytical discussion of disease
2. Analysis of the mode of action of *Virechan karma*
3. Analysis of the mode of action of *Shirodhara*
4. Analysis of mode of action of *Shaman yoga*

### Analytical discussion of disease

Essential Hypertension is a psychosomatic hemodynamic disease with a multi-factorial pathology and origin of several dietary, environmental and genetic factors. The disease beholds palliative nature even in its early stages. Because of its seriatim complications up to the end organ damage it is also known as a 'Silent' or 'Hidden Killer'. Modern medicine has already invented so many medicines like beta-blockers, calcium channel blockers, ACE inhibitors etc. to keep the blood pressure in its normal ranges. But all these drugs have a long list of adverse effects with them. While *shuddhachikitsa* according to Ayurveda is the one which cure the disease by not producing the other. Besides that Ayurvedic medicines give 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. *shuddhachikitsa* with no adverse effects and which also retracts the life threatening complications of the hypertension and save the hypertensive population.

### Analytical discussion on *Virechan karma*

In *virechan karma* *Nishoth*, *Aragwadphalamajja*, *kutaki* and *falgu* acts as best purgative yoga due to their guna, virya, vipaa and special chemical constituents. *Acharya Charaka* says when *Vata* is obstructed by *Pitta*, *Kapha*, *meda* and *Rakta*, *virechan* should be given [3]The chief culprit is vyanavayu and is a disease of bahya [4], *madhyamarogmarga* and *marmagatvyadhi*, the *virechan karma* the *vayu* is also regulated.

### Analytical discussion on *Shirodhara*

In *Shirodhara karma*, *jatamansi* regulates *raktabharadhikya* by acting on *Hrid-bala*, *sheetal*, *dahaprashamana*, *vednasthapana*, *medhya*, *nidrajanak* and *raktabharniyantrak*.

### Analytical discussion on *Shaman yoga*

In the trial drug therapy, *Sarpagandhachurna yoga* which is the combination of *sarpagandhachurna* and *Rassindura*. *Sarpagandha* exerts the hypotensive effect by depleting noradrenaline from noradrenergic neurons through inhibition of catecholamine storage in post ganglionic adrenergic nerve ending causing peripheral vasodilatation and fall in B.P

In this study both the *Shodhan* and *Shaman* therapy shows significant improvement in the symptoms of Hypertension, also remarkable improvement was seen in systolic and diastolic blood pressure was seen, but Group B Which comprises of *Shirodhara* and *Shaman Yoga* showed better results than Group A which comprises of *Virechan* and *shirodhara*, this may be due to the fact that *Sarpagandha* (*Rauwolfiaserpentina* L) having antihypertensive activity due to reserpine and has anti depressant action on central nervous system and peripheral nervous system by binding to catecholamine storage vesicles present in the nerve cell [5] also *Jatamansi* (*Nardostachys jatamansi* DC) with chemical ingredient like *jatamansi* have reported to possess anti-arrhythmic and antihypertensive activity [6].

## CONCLUSION

Symptoms of Essential hypertension like *shiroruja* was present in 100% patients, *shirogurava* in 90% patients, *alpa-nidra* in 80% patients, *Hridhrava* in 75% patients, *shwasa-krichchhata* in 70% patients, *sphurana*, *trishna* in 65% patients, *klama* and *suptata* in 60% patients, *Daha* and *Vishtambha* in 55% patients *sarpag* and *hachurna yoga capsule* and *shirodhara karma* both are patent in alloying the melody. This medicaments produced highly significant clinical improvement. In subjective parameters like *shiroruja*, *Krodha*, *Samtapa*, *alpa-nidra* give better result with the use of this medicine no significant changes observed in laboratory tests before and after treatment. *Shodhana* therapy (*Virechana Karma*) and *Shirodhara Karma* gave moderate improvement in the patients.

Overall percentage of improvement was 65.14% in group A, 72.50% improvement in Group B. So it can be deducted that *shirodhara* and Drug therapy is more effective in reducing all symptoms of disease

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