



## CLINICAL STUDY TO EVALUATE THE EFFECT OF TRIPHALADI VIRECHANA KARMA IN THE MANAGEMENT OF ESSENTIAL HYPERTENSION

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### ABSTRACT

Hypertension is one of the major causes of death all over the world. It accounts for 6% of death worldwide. Increased blood pressure is the cause of 50% of heart disease, stroke and heart failure. Long term use of antihypertensive drugs is associated with adverse effect. According to *Ayurveda* hypertension is *Tridoshaja Vata-Pitta Pradhana* disorder with *Dusthi of Rasa, Rakta, Meda*. *Ayurveda* radical treatment like *Panchakarma*, corrects the basic pathology by eliminating the chief causative factors. *Virechana Karma* is best for the elimination of vitiated *Pitta Dosha* and it regulate movement of *Vata Dosha*. Thus present study has been conducted on 15 patient to evaluate Effect of *Triphaladi Virechana Karma* in the management of Essential Hypertension. The result have been analysed statically with *Triphaladi Virechana karma* highly effective in reducing both systolic and diastolic blood pressure level which was statically extremely significant ( $P < 0.001$ )

**KEYWORDS:** *Virechana Karma, Triphala Taila, Hypertension, Tridoshaja Vata-Pitta Pradhana Vyadhi.*

### INTRODUCTION

Hypertension is one amongst the most alarming health problems of present era. More than 95% cases of hypertension are of essential hypertension. Hypertension is called a silent killer because it rarely exhibits symptoms before it damages the heart, brain or kidney. Over the period of time, the hypertension leads to cardiovascular dysfunction and is a primary contributing cause of congestive heart failure, myocardial infarction, pulmonary embolism, cerebral aneurysm and kidney failure. About 26.4% of the world adult population in 2000 had hypertension and 29.2% were projected to have this condition by 2025.

**National Health and Nutrition Examination Survey (NHANES)** reported that, about 16 million take medicine, but still don't have their blood pressure under control. Increased blood pressure was the cause of an estimated 9.4 million deaths and 162 million years of life lost in 2010 and the cause of 50% of heart disease stroke and heart failure, 13% of deaths overall. Although anti-hypertensive therapy clearly reduces the risk of cardiovascular and renal disease, large segment of the hypertensive population are either untreated or inadequately treated. Long term use of antihypertensive drugs associated with adverse effect like, insomnia, slow heart rate, kidney failure.

According to *Ayurveda* hypertension is *Tridoshaja Vata – Pitta Pradhana* disorder with *Dusthi of Rasa, Rakta, Meda*. *Ayurveda* through its holistic approach and radical treatment like *Panchakarma*, corrects the basic pathology by eliminating the chief causative factors. Among the *Panchakarma* treatments *Virechana Karma* is best for the elimination of excessively vitiated *Pitta Dosha* and to correct *Agni*. It regulates movement of *Vata Dosha*, which are the basic factors involved in the etiopathogenesis of hypertension. *Virechana Karma* followed by oral administration of herbs which are basically *Rasayana, Medhya, Mutrala, Deepana* and *Hridya* in nature.

### AIMS AND OBJECTIVES

Effect of *Triphaladi Virechana karma* in the management of Essential Hypertension.

### MATERIALS AND METHODS

- Clinical Study materials** 15 patients
- Source of data**

15 patients were selected randomly from OPD & IPD of Kayachikitsa, Jammu Institute of Ayurveda and Research, Jammu which were diagnosed of essential hypertension as per WHO criteria for Diagnosis of hypertension and sign and symptom described in

classical text of Ayurveda.

**c) Inclusion Criteria**

1. Patients of both sex between the age group 20 to 60 yrs.
2. Patients who already diagnosed as essential hypertension were selected.
3. Mild and moderate grade patients of hypertension as per WHO criteria were included.
4. Patients fit for clinical trial.

**d) Exclusion Criteria**

1. Secondary hypertension
2. Pregnancy induced hypertension
3. Patient on oral contraceptive pills, steroids.
4. Patient associated with serious illness like malignancy, HIV and Tuberculosis.

**Criteria for Assessment**

**a) Subjective Parameters**

1. Shirshool (Headache)
2. Bhrama (Giddiness)
3. Klama (Fatigue)
4. Hrutdravata (Palpitation)
5. Swedhadhikyata (Excessive sweating)
6. Anidra (Insomnia)

Assessment of above subjective parameters was done according to grading pattern

**b) Objective parameters**

Assessment of change in both systolic and diastolic blood pressure level in supine position.

**Table I: WHO criteria for Diagnosis Hypertension.**

Category of HTN	Systolic BP (mmHg)	Diastolic BP (mmHg)
Normal	<120	And <80
Pre hypertension	120-139	or 80-89
Stage 1 hypertension	140-159	or 90-99
Stage 2 hypertension	160	or 100
Isolated systolic hypertension	140	and <90

1. Haematological Test: Hb%, TLC, DLC, ESR.
2. Biochemical Investigation for inclusion and exclusion of patients
  - a) Renal function test (Blood urea, Sr. Creatinine).
  - b) Blood Sugar (Fasting, Post prandial).
  - c) Lipid profile (Sr. Triglyceride, Sr. Cholesterol).

**Methodology:** 15 patients received Virechana Karma.

**Virechana Karma:** Classical *Virechana Karma* was administered in the following steps.

**I Poorvakarma**

**1. Deepana and Paachana**

- **Drug:** Panchakola Choorna.
- **Dose:** 3 grams three times a day orally after food.
- **Duration:** 3 to 7 days i.e., till *Nirama Lakshana* achieved.
- **Anupaana:** Sukoshna Jala.

**2. Snehapana**

- **Drug:** Triphala Taila
- **Dose:** In an increasing order started with small dose on first day between 30 to 50ml depending upon appetite (Agni Sthiti), second day onwards the dose of *Taila* was increased according to *Agnideepti* (increased power of digestion).
- **Time of administration:** Between 6.30 am to 7 am.
- **Duration:** 3 to 7 day i.e., till *Samyak Snigdha Lakshana* were obtained.
- **Anupaama:** *Ushna Jala*
- **Advise:** Advised to take hot water for drinking and to avoid exposure to excessive wind, sunlight, emotional exacerbations etc.
- **Diet:** Liquid, warm light diet like rice, gruel, green

gram soup with little vegetables. Advised to avoid junk food, fast food, fat, spicy, heavy, bakery items, snacks and cold items.

**3. Sarvanga Abhyanga and Svedana**

*Sarvanga Abhyanga* with *Dashamoola Taila* done for 25 to 30 minutes followed by *Mridu Bashpa Svedana* for 5 to 10 minutes, carried out for 4 days including the day of *Virechana Karma*.

**4. Diet during three days gap**

Diet including rice gruel, green gram soup, sour fruits like grapes, sweet lemon, orange and pomegranate was advised.

**II) Pradhanakarma**

**1. Preparation of Virechana yoga**

**Virechana yoga contains**

- Triphala Kvatha (25gm): 100 ml
- Trivrith Choorna: 15 grams
- Aragwadha Churna: 15gm
- Eranda Taila: 30 ml
- Draksha: 50gm

**2. Administration of Virechana Yoga**

After *Sarvanga Abhyanga* and *Mridu Svedana* patients were examined for the vitals like pulse, blood pressure then above mentioned *Virechana Yoga* was administered in between 9.30 to 10.00 am with warm water.

- **Advise:** Patients were instructed to take warm water repeatedly, not to sleep in the afternoon, not to sit under fan or near the window, not to roam outside in the

flowing winds, sunlight, have a rest on the bed and to attend the urge of defecation.

### 3. Observations of the patient

The observations like the time of initiation of *Virechana Vega* (urge of defecation), total number of *Virechana Vega*, time of completion, nature of vega, *Kshudha Pravritti*, examination of vitals, *Lainghiki Lakshana*, *Amtiki Lakshana*, *Vyapad* if any were noted.

### III. Pashchatkarma

- Samsarjana Krama* was advised for 3,5 and 7 days depending upon *Avara*, *Madhyama* and *Pravara Shuddhi* respectively.
- Avoid- Excessive Speech, travelling, exercise, sitting and lying in improper posture, exposure to wind, cold, heat and dust and to avoid heavy, oily food stuffs and suppression of natural urges.
- In general advised to take luke warm water.

**Follow Up:** Follow up of the patients was done weekly upto 1 month.

## CLINICAL OBSERVATIONS AND RESULT

### (i) Data related to Demographic data

Maximum 46.66% of patients were from the age group of 41- 50 years, 60% were female, 76.66% married, 85% were of Hindureligion, 43.33% were graduates, 50% were house wife's, 73.33% were from middle class, 70% were of vegetarian, 43.33% were having Mandagni, 73.33% were having *Madhyama Koshtha*, 43.33% belonged to *Vata Pitta Prakriti*, 67.77% each were having *Madhyama Satva* and *Madhyama Samhanana*. *Vyayama Shakti* was *Avara* in 56.55%, 46.66% were taking *Madhura Rasa Pradhana Ahara*, 53.33% patients were having addiction to tea alone.

### (ii) Data related to disease

53.33% patients were having the positive family history,

56.33% each patients were having chronicity history of in between 4 to 10 year, 46.33% were taking *Madhura*, *Snigdha Ahara* (milk products), 73.33% patients were giving history of day sleep, 23.33% of patient were having history of anxiety and tension, 56.66% of patients were taking antihypertensive drugs regularly, 26.66% of patients were not on antihypertensive therapy.

### (iii) Data related to treatment

Out of 15 patients, in 53.33% of patients *Deepana Pachana* was given for 5 days, maximum 46.66% of each patient was administered. *Snehapana* for 4 and 5 days, maximum 53.33% of patients had between 11 to 20 *Virechana Vega*, *Kaphanta Shuddhi* was observed in 60% of the patients. *Lainghiki Shuddhi* like *Shareera Laghuta* was observed in 86.66% of patient, *Indriya Prasadana* were observed in 80%, *Agni Deepti* in 73.33% of patient maximum 83.33% followed *Samsarjana Krama* for 5 days, *Virechana Vyapad* like vomiting were observed in 80%, *Agni Deepti* in 73.33% of patient maximum 83.33% followed *Samsarjana Krama* for 5 days, *Virechana Vyapad* like vomiting was observed in 13.33% of patients and 6.66% each complained headache and pain abdomen.

### (iv) Results

The data obtained in clinical study is subjected to statistical tests and analyzed in two parts:

- Objective Parameter
- Subjective Parameter

### Statistical Methods

- Student paired t test (two tailed, dependent) has been used to find the significance of objective parameters)
- Wilcoxon test was used for the assessment of subjective parameters.

**Table III. Showing Statistical analysis on objective parameters: Effect of *Virechana Karma* on systolic blood pressure (PAIRED 't' TEST).**

BP	Mean BP in m m h g			Mean diff.	% Relif	S.D.	S.D.	't'	'p'
	BT	After DP	147.27						
Systolic Pressure	160.67	After SN	134.00	26.667	16.18	14.960	3.863	6.904	<0.0001
		On the daybof Vir	141.73	18.933	11.78	16.298	4.208	4.499	0.0005
		After Vir.	132.00	28.667	17.84	17.674	4.563	6.282	<0.0001

(DP- Deepana, Pachana. SN- Snehapana. Vir.-Virechana.)

The initial mean of systolic blood pressure before treatment was 160.67. It was reduced to 147.27 after *Deepana Pachana*, 134 after *snehapana*, It was increased to 141 on the day of *Virechana* but after *Virechana* it was again reduced to 132. The relief was 8.3%, 16.18%, 11.78%, 17.84%, respectively which is statically extremely significant with corresponding 'p' value of 0.0002, p<0.0001, p 0.0005, p<0.0001.

**Tab. IV: Effect of Virechana karma on diastolic pressure (PAIRED 't' TEST).**

BP	Mean BP in m m h g			Mean diff.	% Relif	S.D.	S.D.	't'	'p'
	BT	After DP	After SN						
Diastolic Pressure	105.3	94.667	91.33	10.667	10.67	7.037	1.817	5.870	< 0.0001
			92.000	14.00	13.33	15.024	3.879	3.609	0.0028
			86.00	13.333	12.69	21.931	5.662	2.355	0.0337
				19.333	18.40	12.228	3.157	6.123	<0.0001

The initial mean of Diastolic blood pressure before treatment was 105.33. It was reduced to 94.66 after Deepan- Pachana, 91.33 after snehapana, slightly increased to 92 on the day of *Virechana* then reduced to 86 after *Virechana*, with relief of 10.67%, 13.33%,

12.69%, 18.40%, respectively. The corresponding P value < 0.0001 is statistically extremely significant, (P0.0028) is statistically very significant, (P0.0337) is considered as significant, (P<0.0001) extremely significant.

**Table V: Effect of Virechana karma in Subjective Parameters. (Wilcoxon match paired signed rank test).**

Chief complaint	BT	After Vir	Mean Diff.	% Relief	S.D.	S.E.	'w'	'p'
<i>Hrutdravatva</i>	3.800	2.333	1.467	38.60	0.7432	0.1919	120.	< 0.0001
<i>Bhrama</i>	1.800	0.8000	1.000	55.55	0.3780	0.09759	105.	0.0001
<i>Klama</i>	2.067	1.267	0.8000	38.703	0.4140	0.1069	78.00	0.0005
<i>Shirashoola</i>	1.400	0.5333	0.8667	61.90	0.3519	0.09085	91.000	0.0002
<i>Anidra</i>	2.133	0.9333	1.200	56.25	0.8619	0.2225	105.00	0.0001
<i>Sweda dhikyata</i>	2.200	1.333	0.8667	39.39	0.5164	0.1333	78.00	0.0005

- Hrut dravatva** – The previous mean value of *Hrut dravatva* 3.8 was reduced to 2.33 after *Virechana karma* with relief of 38% which is statistically extremely significant. (P <0.00001)
- Bhrama** – Before giving *Virechana karma* the mean value of *Bhrama* was 1.800 which reduces to 0.80 after *Virechana karma* with a relief of 55.55%. It shows statistically extremely significant (P<0.0001) result after *Virechana karma*.
- Shirashoola**- The previous mean score of 1.4 was reduced to 0.53 after *Virechana karma* with a relief of 61.90%. The results are extremely significant (Pis 0.0002) after *Virechana karma*.
- Klama** – The previous mean score of 2.067 was reduced to 1.267 after & *Virechana* with a relief of 38% and showing a statistically extremely significant results (P 0.0005) after *Virechana*.
- Anidra** - The mean value of *Anidra* was 2.133 initially which came down to 0.93 after *Virechana Karma* with relief of 56.25% which is statistically highly significant (P0.0001).
- Swedadhikyata** – Before treatment the mean value of *swedadhikyata* was 2.20 which reduced to 1.333 after *Virechana Karma* with relief of shows statistically significant result (P0.0005)

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