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# Role of *Virechana Yoga* and *Rasayana Yoga* in the management of Essential Hypertension

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## ABSTRACT

Hypertension is the most prevalent cardiovascular disorder in the India. Depending on the criteria for the diagnosis, hypertension can be said to be present in 40-45 millions of the adult population. The latest developments in pharmacology has blessed the human community with certain antihypertensive drugs to suppress the elevated arterial blood pressure; at the same time it is proved that all of the used for it only symptomatic, have sufficient adverse effect and will not cure the disease. So it is need to find out effective medicine for essential HTN. In *Ayurveda* there is no description of such a single disease which can resemble with HTN. As per *Ayurvedic* principles, in case of unknown disease, the physician should try to understand the nature of the disease through *Dosha*, *Dushya* and *Samprapti*; then should initiate the treatment. This clinical trial was conducted on 20 patients of Essential Hypertension (HTN) to compare the effect of *Virechanyoga* and *Rasayanyoga* in the management of Essential HTN. Duration of treatment was 4 weeks. Both the groups showed highly significant results. But *Rasayanyoga* was found to be more effective.

**Key words:** Essential HTN, *Virechanyoga*, *Rasayanyoga*.

## INTRODUCTION

Hypertension is the most prevalent cardiovascular disorder in the india. Depending on the criteria for the diagnosis, hypertension can be said to be present in 40-45 millions of the adult population. In spite of increasing public awareness and a rapidly expanding array of anti HTN medications, HTN remains one of the most common risk factors for cardiovascular morbidity and mortality. The term Essential Hypertension is reserved for about 95% of hypertensions, in which no immediately evident

underlying renal or adrenal cause can be found for the raised blood pressure. The latest developments in pharmacology has blessed the human community with certain antihypertensive drugs to suppress the elevated arterial blood pressure; at the same time it is proved that all of the used for it only symptomatic, have sufficient adverse effect and will not cure the disease. So it is need to find out effective medicine for Essential HTN.<sup>[1]</sup> In *Ayurveda* there is no description of such a single disease which can resemble with HTN. As per *Ayurveda* principles, in case of unknown disease, the physician should try to understand the nature of the disease through *Dosha*, *Dushya* and *Samprapti*; then should initiate the treatment.<sup>[2]</sup>

It is also planned to study EHT in the perspective of vitiated *Vata*, which is thought to be the chief culprit, *Pitta* and *Kapha* complement the effect of vitiated *Vata* and aid the process of disease progression, hence the concept goes in accordance that the disease is *Tridosaja*. *Apakarsana*, *Prakrti Vighata* and *Nidan Parivarjana* are the general principles of therapeutics.<sup>[3]</sup> To find out a proper and feasible therapy based on above said principles; after going

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through the proper diagnostic approaches, the clinical trial with *Virechanyoga* and *Rasayanyoga* was selected.

### OBJECTIVES OF THE STUDY

To compare the effect of *Virechanyoga* and *Rasayanyoga* in the management of Essential Hypertension.

### MATERIALS AND METHODS

#### Selection of the patients

For present study the patients fulfilling the clinical criteria for diagnosis of Essential Hypertension were randomly selected irrespective of their age, sex, religion etc. from O.P.D. of Kayachikitsa Department, I.P.G.T. and R.A., Jamnagar.

#### Diagnostic Criteria

A patient with persistent blood pressure above 140/90 mmHg was designated as Hypertensive. (Three consecutive readings of blood pressure were taken in supine posture and their average was utilized for diagnosis)

To determine systolic and diastolic blood pressure the Krotkoff sound I and V were used.

#### Inclusion Criteria

- The patients having Systolic B.P  $\geq$  140mmHg and Diastolic B.P  $\geq$  90 mmHg were included.

#### Exclusion Criteria

The patients suffering from the following conditions were excluded;

- Arteriosclerosis
- Aortic- regurgitation
- Arterio-venous fistula
- Renal and adrenal pathologies
- Prostate enlargement
- Toxemia of pregnancy
- Malignant HTN
- Other serious systemic disorders

### Investigations

- Routine haematological investigations were carried out to assess the general condition of patients as well as to exclude the pathological conditions.
- E.C.G was conducted to exclude any other underlying pathology.

### Design of groups and management

Patients included in the present study were randomly divided into following two groups,

**Group A:** *Virechanyoga* (*Trivrut, Haritaki, Aragvadha*) - 2gm/day.

**Group B:** *Rasayana Yoga* (*Bhringraj, Goksur, Satavari, Guduchi, Triphala, Ashvagandha, Jatamasi, Vacha*) - 3gm/day.

Duration was same in both groups.

**Duration:** 4 weeks

#### Assessment Criteria<sup>[3]</sup>

A special pro-forma was prepared to study the aetio-pathogenesis, symptomatology and response to the given treatment and any complications. The effect of therapy was assessed by counting the scores before and after 4 weeks of treatment.

#### Dietary restrictions

Patients of both groups were advised to take salt restricted dietary regimen.

#### Assessment of overall effect of therapy

After the completion of treatment the total effect of therapy was assessed in following categories.

| Percentage of Relief | Assessment         |
|----------------------|--------------------|
| >75%                 | Excellent Response |
| 51% - 75%            | Marked Response    |
| 26% – 50%            | Mild Improvement   |
| = and < 25% relief   | No Response        |

**Data Collection and Statistical Analysis**

Data generated from clinical study was collected and analyzed statistically. The improvement in the status of patient was assessed on the grades of various variables compared between pre-trial and post-trial values in terms of percentage (based on mathematical mean and its difference) and the student 't' tests was applied wherever it was felt necessary by using degree of freedom value. The results were interpreted at the level of  $p < 0.001$  as highly significant,  $p < 0.01$  as moderately significant,  $p < 0.05$  as significant.

**Effect of therapies**

Results were assessed on the basis of improvement in systolic and diastolic blood pressure.

**Table 1: Effect of Virechan Yoga on Systolic and Diastolic HTN Score**

| B.P. Group A | Mean Score |     | Diff. | %  | SD   | SE   | t    | p     |
|--------------|------------|-----|-------|----|------|------|------|-------|
|              | B.T        | A.T |       |    |      |      |      |       |
| D.B.P        | 2.2        | 1.1 | 1.1   | 50 | 1.10 | 0.35 | 3.16 | <0.05 |
| S.B.P        | 2.0        | 1.0 | 1.0   | 50 | 0.82 | 0.26 | 3.87 | <0.01 |

**Table 2: Effect of Virechan Yoga on Associated Symptoms of Essential Hypertension.**

| Symptom       | Mean Score |      | Diff | %     | SD   | t     | P      |
|---------------|------------|------|------|-------|------|-------|--------|
|               | BT         | AT   |      |       |      |       |        |
| Shiro Ruk     | 2.0        | 0.4  | 1.6  | 80    | 0.49 | 10.32 | <0.001 |
| Bhram         | 2.0        | 0.71 | 1.29 | 64.43 | 0.45 | 7.53  | <0.001 |
| Tamodarsana   | 2.0        | 0.25 | 1.75 | 87.5  | 0.43 | 8.08  | <0.001 |
| Atidaurbalaya | 2.0        | 0.6  | 1.4  | 70    | 0.49 | 4.56  | <0.005 |

|                  |     |      |      |       |      |       |        |
|------------------|-----|------|------|-------|------|-------|--------|
| Klam             | 2.0 | 0.33 | 1.67 | 83.33 | 0.47 | 10.60 | <0.001 |
| Hraddravav       | 2.0 | 0.5  | 1    | 50    | -    | and   | <0.001 |
| Shvaskruc hata   | 2.0 | 0.5  | 1    | 50    | -    | and   | <0.001 |
| Aruchi           | 2.0 | 0.33 | 1.67 | 83    | 0.58 | 5     | <0.005 |
| Nindra Nash      | 2.0 | 0.5  | 1.5  | 75    | 0.5  | 7.35  | <0.001 |
| Krodh Prachurata | 2.0 | 0.5  | 1    | 50    |      | and   | <0.001 |
| Smritihrasa      | 2.0 | 1.43 | 0.57 | 28.57 | 0.53 | 2.38  | <0.005 |
| Urah Shula       | 2.0 | 1.2  | 0.8  | 40    | 0.45 | 4.0   | <0.005 |
| Prabhut Mutrata  | 2.0 | 1.5  | 0.5  | 25    | 0.71 | 1.0   | >0.10  |

**Table 3: Effect of Rasayan Yoga on Systolic and Diastolic HTN Score.**

| B.P. Group B | Mean Score |     | Diff | %     | SD   | t    | P     |
|--------------|------------|-----|------|-------|------|------|-------|
|              | BT         | AT  |      |       |      |      |       |
| D.B.P        | 1.9        | 1.0 | 0.9  | 47.37 | 0.99 | 2.86 | <0.05 |
| S.B.P        | 1.7        | 0.8 | 0.9  | 52.94 | 0.88 | 3.25 | <0.01 |

**Table 4: Effect of Rasayan Yoga on Associated Symptoms of EHT.**

| Symptoms  | Mean Score |      | Diff. | %    | SD   | t     | P      |
|-----------|------------|------|-------|------|------|-------|--------|
|           | BT         | AT   |       |      |      |       |        |
| Shiro Ruk | 2.0        | 0.25 | 1.75  | 87.5 | 0.46 | 10.69 | <0.001 |

|                                   |     |          |      |               |      |          |            |
|-----------------------------------|-----|----------|------|---------------|------|----------|------------|
| <i>Bhrama</i>                     | 2.0 | 0.8<br>6 | 1.14 | 57<br>.1<br>4 | 0.35 | 8.6<br>4 | <0.0<br>01 |
| <i>Atidaurb<br/>alya</i>          | 2.0 | 0.5      | 1.5  | 75            | 0.50 | 7.3<br>5 | <0.0<br>01 |
|                                   | 2.0 | 0.5      | 1.5  | 75            | 0.50 | 7.35     | <0.001     |
| <i>Klama</i>                      | 2.0 | 0.4<br>4 | 1.56 | 78<br>.0      | 0.50 | 9.3<br>9 | <0.0<br>01 |
| <i>Hruddrav<br/>atva</i>          | 2.0 | 0.5      | 1.5  | 75            | 0.50 | 7.3<br>5 | <0.0<br>01 |
| <i>Shvaskru<br/>chhata</i>        | 2.0 | 0.5      | 1.5  | 75            | 0.50 | 7.3<br>5 | <0.0<br>01 |
| <i>Aruchi</i>                     | 2.0 | 0.8      | 1.2  | 60            | 0.45 | 6        | <0.0<br>1  |
| <i>Nindra<br/>Nasha</i>           | 2.0 | 1.0      | 1    | 50            | 0.58 | 4.2<br>4 | <0.0<br>1  |
| <i>Krodha<br/>Prachura<br/>ta</i> | 2.0 | 0.5      | 1.5  | 75            | 0.50 | 7.3<br>5 | <0.0<br>01 |
| <i>Smritihra<br/>sa</i>           | 2.0 | 1.2<br>5 | 0.75 | 37<br>.5      | 0.46 | 4.5<br>8 | <0.0<br>1  |
| <i>Urah<br/>Shul</i>              | 2.0 | 0.8<br>6 | 1.14 | 57<br>.1<br>4 | 0.38 | 8.0      | <0.0<br>01 |
| <i>Prabhuta<br/>Mutrata</i>       | 2.0 | 1.2<br>5 | 0.75 | 37<br>.5      | 0.96 | 1.5<br>7 | >0.1<br>0  |

### Overall effect of therapy

**Table 6: Groups wise overall effect of therapy on patients of EHT.**

| Results   | Group A |     | Group B |     |
|-----------|---------|-----|---------|-----|
|           | No.     | %   | No.     | %   |
| >75%      | 0       | 0%  | 0       | 0%  |
| 51% - 75% | 8       | 80% | 9       | 90% |

|                    |   |     |   |     |
|--------------------|---|-----|---|-----|
| 26% – 50%          | 2 | 20% | 1 | 10% |
| = and < 25% relief | 0 | 0%  | 0 | 0%  |

### DISCUSSION

Most of the mechanisms associated with Essential Hypertension are far less understood.<sup>[4]</sup> The pathogenesis of HTN takes place at both physical and psychic level one at a time or simultaneously depending upon the *Dosha - Dushya Sammurchhana*. *Agnidushti* results in *Ama* formation and subsequent *Dhatudusti (Rasa and Rakta)*. This leads to *Kha Vaigunya* i.e. obstructive pathology in channels. The *Ama* production results into *Strotorodha* (obstruction) and thus partially blocks the normal *Rasa-Rakta* circulation which further vitiates *Vyana Vayu*. This obstructed *Vyana Vayu* leads to forcible blood flow in the blood vessels causing increased resistance, thereby increasing blood pressure.<sup>[5]</sup>

*Virechana Yoga* contains *Trivrut, Aaragvadha and Haritaki*. *Trivrut and Aaragvadha*, by its *Vata and Pitta Shamak* property, alleviate *Vata and Pitta*.<sup>[6]</sup> *Haritaki* by its *Tridosha Shamaka* properties, helps to alleviate *Kapha* also.<sup>[7]</sup> Dominancy of *Ushna Virya and Madhura Vipaka* in the combination exhibits *Vata Shamaka* properties, which has been considered a main culprit of the disease essential HTN. Vitiating *Tridosha* with main culprits *Vata-Pitta* produce *Shiroruk, Bhrama and Hruddravatva* etc. Symptoms in the essential HTN. These symptoms are pacified by *Kostha Shuddhi Karma, Anulomana, Vata-Pitta Shamaka and Rakta Vishodhana* properties of *Virechana Yoga*.

*Rasayana Yoga* contains *Bhringraja, Gokshura, Shatavari, Guduchi, Triphala, Ashvagandha, Jatamansi, Vacha*. All the drugs of this combination are having *Hrudhya property*.<sup>[8]</sup> *Bhringraja, Shatavari, Ashvagandha, Jatamansi, Vacha* have their impact on *Raktabharadhikya*.<sup>[9]</sup> *Bhringraja, Gokshura, Shatavari and Amlaki* are having *Mutrala property*. *Medhya* property of *Jatamansi, Vacha, Shatavari and Haritaki* helps to improve the state of mind and also enhance *Buddhi, Medha* etc. *Mansika Bhavas*; hence their

effect on *Manovaha Strotas* helps to combat the symptoms like *Chinta, Bhaya, Krodha Prachurta* etc. in the patients. *Ashvagandha and Jatamansi* helps to improve insomnia, by their *Nindrajanana* property.<sup>[10]</sup>

Patients were treated with *Rasayana Yoga* for 4 weeks. The diastolic blood pressure was reduced highly significantly by 9.92%, whereas systolic blood pressure reduced significantly by 12.97% as the effect on cardinal sign-persistent raised blood pressure. As the effect on D.B.P and S.B.P, it was reduced significantly in both i.e. 47.37% and 52.94%. Improvement was seen highly significant in *Shiroruk* (87.5%), *Bhrama* (57.14%), *Atidaurbalya* (50%), *Klama* (78%), *Hraddratva* (50%), *Shvaskruchhata* (50%), *Krodha Prachurata* (50%) and *Urah Shula* (57.14%). Significantly improved symptoms are- *Aruchi, Nindra Nasha and Smritiharsa* (37.5%). In *Rasayana Yoga* treated patients showed marked improvement, Whereas 10% showed mild improvement. No patient remains unchanged.

Patients were treated with *Virechana Yoga* for 4 weeks. The diastolic blood pressure was reduced significantly by 12.4%, where as systolic blood pressure reduced significantly by 19.2% in alteration in blood pressure. In diastolic and systolic blood pressure individually, reduction was observed significantly in both D.B.P and S.B.P. by 50% each respectively. Improvement was seen highly significant in *Shiroruka* (80%), *Bhrama* (64.43%), *Klama* (83.33%), *Hraddratva* (50%), *Shvaskruchhata* (50%), *Nindra Nasha* (75%), *Krodh Prachurata* (50%). Significantly improved symptoms are - *Aruchi* (83%), *Urah Shula* (40%) and *Smritiharsa* (28.57%). In treated patients, 80% patients were markedly improved and 20% were showed mild improvement.

## CONCLUSION

It can be concluded that *Rasayana Yoga* is the best choice of treatment for Essential Hypertension. No adverse reaction was reported by patients during treatment and follow up. Results of this study are very encouraging, but the study was conducted on a small

group of patients, so trial should be conducted on a larger sample size.

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