

HOLISTIC APPROACH OF INDIAN MEDICINE IN PREVENTION AND MANAGEMENT OF HYPERTENSION “A LIFESTYLE DISORDER”

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ABSTRACT

Hypertension is most common health problem of current era. Hypertension is considered as silent killer of mankind as in most of the cases it often remains asymptomatic in early course of its manifestation. It is one of the most important risk factors in coronary heart disease and cerebrovascular accidents and may also lead to cardiac hypertrophy with heart failure (hypertensive heart disease), aortic dissection, and renal failure. In today's world most of the people worldwide have adopted wrong way of living and eating and are dealing with emotional conflicts and lots of stress in their day to day life. Faulty dietary habits, erroneous way of living, negative emotions as well as long duration stress is serving as major factor in manifestation of hypertension. Hence management of hypertension needs holistic approach. With this perspective present study was planned. Hundred patients of hypertension were selected from the O.P.D. and I.P.D. of the hospital of, *Rishikul Campus* Haridwar and were randomly allocated in two groups of 50 each. Study was conducted for duration of three months. Herbal drugs and yogic measures viz. *asana*, *pranayam*, *japa* and meditation were adopted for present study. Assessment of therapeutic intervention was done on blood pressure reading as well as on ten selected symptoms commonly found in hypertensive patients. All patients were advised take ample amount of fresh fruits and vegetables and restrict salt and fat in diet. The outcome of therapeutic intervention was very encouraging.

Keywords: Hypertension, Indian Medicine, Holistic

INTRODUCTION

Hypertension or elevated arterial pressure is probably most important public health problem. It is common, asymptomatic, readily detectable, usually easily treatable, and often leads to lethal complications if left untreated¹. All definitions of hypertension, including those issued by Joint National Committee (JNC) on prevention, detection, evaluation and treatment of high BP (JNC 7), World

Health Organization (WHO), Internal Society of Hypertension (ISH), DAV and British Hypertension Society are arbitrary². At present, hypertension in adults aged 18 years and older who are not acutely ill, is defined as “SBP of 140 mmHg or greater and / or DBP of 90 mmHg or greater or any level of BP in patients taking antihypertensive medication³. In adults, there is a continuous incremental risk of

cardiovascular disease, stroke and renal disease across levels of both systolic and diastolic blood pressure. Cardiovascular disease risk doubles for every 20 mmHg increase in systolic and 10 mmHg increase in diastolic pressure⁴.

Its prevalence has increased very fast in past few decades and has taken the form of epidemic. A recent report indicate that nearly 1 billion adults globally had hypertension in 2000 and this is predicted to increase to 1.56 billion by 2025⁵. Although traditionally considered a condition primarily associated with economically developed countries, current indications and emerging evidence identify the high global effect of increased blood pressure in all regions and populations in the world. The World Health Organization has identified hypertension, or high blood pressure, as the leading cause of cardiovascular mortality. The World Hypertension League (WHL), an umbrella organization of 85 national hypertension societies and leagues, recognized that more than 50% of the hypertensive population worldwide are unaware of their condition. To address this problem, the WHL initiated a global awareness campaign on hypertension in 2005 and dedicated May 17 of each year as World Hypertension Day (WHD)⁶.

In modern medicine various classes of drugs have been developed for treatment of hypertension but the outcome of such interventions is not very encouraging and many a time patients suffer much due to various side effect of these medication. Hypertensive patients need medication for long duration often lifelong. Drugs of synthetic and chemical origin certainly will produce side effects hence management of hypertension through herbal *Ayurvedic* drugs is wiser approach. For effective management of hypertension it is necessary to address all contributory factors simultaneously and could only be achieved through Indian medicine. This system of medicine believes in holistic approach and provides a range of such measures.

Disorder like hypertension needs holistic management and can be managed much better through this system of medicine. With this perspective present study was planned and entitled as Holistic Approach of Indian Medicine in Prevention and Management of Hypertension “A Lifestyle Disorder”

Review of Literature

Hypertension is a condition of hemodynamic aberration, in which there is persistent rise of blood pressure. It is multifactorial in origin; many different forms of mechanisms partake in precipitation of hypertension. The condition of hypertension is only detectable with the help of an instrument named sphygmomanometer and is coined only before few decades ago and certainly the term hypertension could not be uncovered in literature of *Ayurveda*. Many contemporary scholars of today are of opinion that there is no description of such condition in *Ayurveda* but literary evidences contradict this view. In *Ayurvedic* classics we find an elaborate and scientific description of blood circulation⁸ as well as clinical entities which are considered as complications of hypertension nowadays viz. *bhrām*⁹, *muccha*¹⁰, *sanyas*¹¹, *ardit*¹², *pakshaghat*¹³, *shoth*¹⁴, *bahumutrata*¹⁵. Hence it should be inferred that great scholars of yesteryears were very well aware of condition like hypertension.

Ayurveda propounds the principle of *satakaryavād*. According to its philosophy, each and every action is resultant of some cause. The cause may be immediate/ distant or subtle/gross but definitely it has some cause for its expression. This system strongly believes that a person is free to do any action but is bound to get the fruit of that action. Indian medicine perceives diet, lifestyle, thought, beliefs, and emotion instrumental in bestowing health and disease¹⁶. Unwholesome deeds affecting aforementioned factors definitely bring forth an illness. In present day scenario for various reasons most of the population worldwide is observing

unwholesome diet and lifestyle. Besides it moral and ethical values of the society has been compromised a lot. And this is the basic reason that besides tremendous advancement of technology and improvement in living and eating graph of diseased person is rising high. As far as manifestation of hypertension is concerns faulty dietary habits, erroneous way of living, emotional conflicts and long term stress are serving as potential factors in manifestation of hypertension.

In more than 95% of case, a specific underlying cause of hypertension cannot be found. Such patients are said to have essential hypertension or primary hypertension. The pathogenesis of such cases is not clearly understood. Many factors may contribute to its development, including renal dysfunction, autonomic tone, insulin resistance, and neurohumoral factors¹⁷

MATERIAL AND METHODS

Aim and Objectives

The present study has been undertaken with following aim and objective.

- To study the aetiopathogenesis of hypertension.
- To find an effective safe treatment modality for hypertension.
- To evaluate the efficacy of Tab Pressocalm and *Arjun ksheerpak*.
- To establish the relevance of non-drug approach in management of hypertension.
- To establish the efficacy of holistic approach of Indian medicine.

Plan of Study

Duration of Study: 90 Days

Type of Study: Single Blind

Type of Sampling: Randomized

Selection of Patients:

Present study was conducted at *Rishikul Govt. P.G. Ayurvedic College and Hospital, Haridwar*. Patients of hypertension were selected from OPD/IPD of P.G. dept. of *Kayachikitsa*. Patients of hypertension

referred by other doctors were also incorporated in this study.

A general physical examination on the basis of *Ayurveda* and modern parameters was conducted for all the patients. Patients were examined thoroughly and data was recorded systematically. A special research proforma was designed and duly filled for each patient. A careful evaluation of medical history of patients and inclusion or exclusion of patient was done according to the pre-set criteria. The criterion for selection of patients for present clinical study is as follows:

Diagnostic Criteria

Objective and subjective parameters were utilized for diagnostic purpose.

Objective parameter

The main criterion for selection was the measured blood pressure reading of the patients. For diagnostic purpose blood pressure of the patients was measured three times over a period of at least 3 minutes and the lowest reading recorded. Patients having blood pressure of 140/90 mm of Hg or above were diagnosed as hypertensive and were selected for study.

Subjective parameter

1. Insomnia
2. Headache
3. Anger
4. Excessive perspiration
5. Body ache
6. Vertigo
7. Chest Pain
8. Polyurea
9. Palpitation
10. Breathlessness

Inclusion Criteria

Patients of 20-80 age group having blood pressure 140/90 mm of Hg or more were included for present study. For selection of subjects no discrimination was made on basis of gender, religion, or caste.

Exclusion Criteria

1. Patients of age less than 20 and more than 80 years.
2. Blood pressure below 140/90 mm of Hg.
3. Malignancy.
4. C.H.D
5. Coarctation of aorta
6. Endocrine diseases
7. Pregnancy.
8. Patients having serious complications of renal, cardiovascular, and cerebrovascular system were excluded from this study.

Criteria for Withdrawal

- Personal matters.
- Intercurrent illness.
- Aggravation of complaints.
- Any other difficulty.
- Left against medical advice.

Selection of Drug

Ashwagandh, *Sarapgandha*, *Jatamansi*, *Mandukaprni*, *Guggulu*, *Haritaki*, *Vibhitik*, *Aamalaki*, and *Arjun* were selected for present study. *Arjun* was used to make *ksheerpak* while rest other drugs were used to make tablet. On the basis of their pharmacodynamics actions it was inferred that they will tranquil the mind and will bring down the blood pressure to normal limit. Hence the tablet made by selected drugs was named as Pressocalm.

Grouping of the Patients:

Total 100 patients of hypertension were selected for clinical trial. Patients were randomly allocated into two groups, each comprising of 50 patients.

Group ‘A’: patients of group ‘A’ were treated with Tab Pressocalm

Group ‘B’: patients of group ‘B’ were treated with Tab Pressocalm along with *Arjun ksheerpak*.

Group ‘A’

In this group Tab. Pressocalm was administered. The dose of the drug was 2 B.D. (1 gm) with plain water for 12 weeks.

Group ‘B’

In this group Tab. Pressocalm and *Arjun ksheerpak* was administered. The dose of the tablet was 2 B.D. (1gm) with plain water for 12 weeks.

Besides medication patients of both groups were advised to follow the following regimen:

- *Aasan –Taadaasan, Triyak Taadaasan, Katicakra Aasan, Shashank Aasan, Bhujang Aasan, Ardhamatsyendr Aasan, and Dhanuraasan* each 5 times. After the series of these *Aasanas*, *Shavaasan* was advised for 10 minutes.
- *Pranayam -Bhramari, and Nadi Shodhan Pranayam* (as taught by Pt. Shravana Sharma Acharya) each 5 times.
- *Gayatri mantra japa* for 10 minutes.
- Meditation on full moon for 20 minutes.
- Patients of both groups were also advised to take salt restricted and low fat diet. They were also encouraged to eat *satvik aahar* having ample amount of fresh fruits, vegetables, and milk.

Investigations

- Blood examination-TLC, Hb%, ESR
- Biochemical investigations: Estimations of B. Sugar, B. Urea, S. Creatinine, S. Cholesterol, TG, LDL, HDL, and VLDL
- Urine analysis: Physical, chemical and microscopic examinations were done and presences of albumin, sugar, acetone, R.B.C., pus cell, cast
- Stool examination: Routine and microscopic examination of stool
- Other investigation: Chest x-ray and E.C.G.

Follow up Study

After completion of therapy all patients were advised to report in the OPD once a week for at least 15 days.

Assessment criteria for Overall Effect of Therapy:

Presentation of Data

The collected data were analysed and depicted in the following sequence:

- (1) General observations viz. age, sex, religion etc.
- (2) Result of therapy was evaluated on the basis of reduction in blood pressure reading as well as improvement in other associated complaints.

Percentage of overall improvement

Percentage of overall improvement of each patient was calculated by the following formula:

$$\text{Total BT} - \text{Total AT} / \text{Total BT} \times 100$$

Statistical Analysis

The obtained information were analysed statistically in terms of Mean Score (x), Standard Deviation (S.D.) and Standard Error (S.E.). Wilcoxon sign rank test and Paired ‘t’ test was carried out at the level of 0.05, 0.02, 0.01, and 0.001 of P levels. The results were interpreted as:

- P<0.05 & P<0.02 - improvement
- P<0.01 -Significant improvement
- P<0.001- Highly significant improvement

Criteria for Assessment of Result

The results thus obtained from individual patient were categorized in the following manner:

No Improvement-Patients having 0-20% improvement were kept under no improvement group

Mild Improvement-Patients having 20-40% improvement were kept under mild improvement group.

Moderate Improvement-Patients having 40-60% improvement were kept under moderate improvement group.

Marked Improvement-Patients having 60-80% improvement were kept under marked improvement group.

Excellent Improvement-Patients having 80-100% improvement were kept under excellent improvement group.

Abandon Group-This group included the patients who were unable to continue the treatment for the total duration.

Effect of Therapy

Tab Pressocalm was administered to patients of group ‘A’ whereas Tab Pressocalm and *Arjun*

ksheerpak was administered to patients of group ‘B’. Along with medication all patients were advised to follow non drug therapy viz. *Pranayam*, Meditation, *Gayatri Mantra Japa* and *Yogaasan*.

A. Effect of therapy on blood pressure:

Effect of Therapy on blood pressure in Group ‘A’
Initially the mean score of SBP in group ‘A’ patients was 1.583. After therapy it reduced to 0.021. The change was highly significant having the p < 0.001. Regarding DBP of group ‘A’ patients it was observed that initial mean score was 1.417 after therapy which reduced to 0.0417. The change was highly significant statistically having the p < 0.001.

Effect of Therapy on blood pressure in Group ‘B’
In patients of group ‘B’ initial mean score of SBP was 1.809. After therapy it reduced to 0.00. The change was highly significant having the p < 0.001. Regarding DBP of group ‘B’ patients it was observed that initial mean score was 1.683. After therapy which reduced to 0.0213. The change was highly significant statistically having the p < 0.001.

B. Effect of Therapy on Symptoms:

Effect of Therapy on Symptoms in Group ‘A’

Insomnia (88.73%), Headache (97.37%), Anger (78.78%), Excessive perspiration (84.38%), Body ache (85.18), Vertigo (95.83 %), Chest Pain (86.67%), Polyurea (83.33%), Palpitation (88.89%), Breathlessness (88.89%)

Effect of Therapy on Symptoms in Group ‘B’

Insomnia (89.61%), Headache (98.55%), Anger (79.42%), Excessive perspiration (84.62%), Body ache (84.62%), Vertigo (100%), Chest Pain (86.67%), Polyurea (86.44%), Palpitation (94.44%), Breathlessness (90.48%)

Excellent improvement in blood pressure was noticed in both groups. Overall effect of therapy was excellent in all symptoms except Anger. In Anger marked improvement was observed in both groups though in group B more improvement was observed in Vertigo, Palpitation, and Breathlessness.

DISCUSSION

In present day scenario prevalence of hypertension is increasing day by day. Previously considered a disease of old age is now becoming prevalent in younger age group. The root cause of such presentation is observance of unhealthy lifestyle, unwholesome food, mental conflicts, emotional disturbances, ever declining moral and ethical values of the individual as well as society and stress.

As psychological and somatic disturbances have prime role in manifestation of hypertension. Hence for present study drugs were selected which could balance *tridosha*, normalise *agni*, ward away obstruction, reduce anxiety, calm down nervous system and provide serenity.

Besides drugs non drug measures viz. *Aasan*, *Pranayam*, *Gayatri Mantr* chanting, and Meditation were also incorporated. *Yogic* measures adopted in this study worked synergistically. *Yogic* practices facilitate the free flow of energy, correct the psycho-neuro-endocrine axis, and thus relieve the stress. It seems that the combined effect of selected drugs and yogic interventions helped in lessening the peripheral vascular resistance, stress hormone level and thus effectively checked the on-going offending mechanism and break the process of pathogenesis. As a result blood pressure came down and patients felt great relief in other symptoms also.

Therapeutic Intervention

A. Drugs

Sarpagandha is a potent blood pressure lowering drug and effectively decreases blood pressure. The drugs like *Ashwagandh*, *Jatamansi*, *Mandukaparni*, are known *medhya* drugs. Many recent studies support the view that these drugs decrease stress hormone in body. These drugs helped in relieving stress and induced a sense of well-being in patients of hypertension. Drugs like *Haritaki*, *Arjun*, and *Guggulu* worked through their srotośodhaka and lipid lowering properties. *Amalaki*, *Haritaki*, and *Vibhitak* is mild laxative and are good for heart

health too. Pharmacodynamics characteristics of these drugs also correct the metabolism and it seems that they helped in checking the ama formation, condition of dyslipidemia and process of atherogenesis.

B. Yogic Measures

The practice of different yogic procedures has definite place in the prevention and treatment of different kind of mental and physical disorders specially the stress induced diseases. The regulation of *sattva* (mind) by yogic exercises is highly beneficial in warding off the devastating effect of stress and hardship of life. The probable mechanisms through which blood pressure come under control could be as follows:¹⁹

- Blood pressure increases by sustained activation of Flight and Fight response of the body. *Yoga* effectively switches off the response and brings adrenaline levels down, thus reduces blood pressure.
- The chronic stress induced sustained muscular contraction reduces lumen diameter of blood vessels in the muscles. It in turn increases blood pressure. Stretching of muscles and relaxing the same as done in yogic exercises reverse this effect.
- Sustained muscular contraction sends signals to the brain, thereby it provokes the secretion of stress hormones, and neurotransmitters associated with stress and high B.P. the regular practices of yoga may reverse this.
- Regular *yoga* may reduce the release of ‘vasopressin’-another stress hormone secreted by pituitary gland in the brain. Vasopressin increases blood pressure by vascular contraction.
- The medulla oblongata in the brain has both the respiratory center and the vasomotor center side by side. Fast breathing in stressful situations tends to overspill the electric signals over vasomotor centre thus increasing blood pressure. *Pranayam* regulates breathing and therefore may

- reduce the signal overspill from respiratory center, thus reducing blood pressure.
- Certain posture in *yoga* do offer controlled pressure on kidneys and adrenal thereby possibly regulating blood supply to these vital organs, which mainly regulate blood pressure through secretion of renin , angiotensin, and adrenalin.

CONCLUSION

1. Hypertension is a psychosomatic illness. Disturbance at psyche level plays an important role in its manifestation.
2. Genetic predisposition is also important factor in precipitation of hypertension.
3. Hypertension is multifactorial in origin. Dietetic and lifestyle indiscretion, type A personality, negative emotions, unresolved conflicts and negative outlook towards life all are potential factors for manifestation of hypertension.
4. All the three *dosha* participate in pathogenesis of hypertension. Hypertension is a *vata-pitta pradhan tridoshaj vyadhi*.
5. Formation of *ama* is an important event in *avarana* induced hypertension.
6. *Srotas* which are involved primarily are *rasavaha*, *raktavaha*, and *manovaha srotasa*.
7. *Vata* aggravation, vitiation of *rakta* and *avarana* of *vata*; these three events are crucial in manifestation of hypertension.
8. Hypertension is outcome of wrong dietary and lifestyle choices hence, correction of lifestyle is necessary.
9. Management of hypertension only through drugs is not very lucrative approach. Measures which address psyche are mandatory for successful management of hypertension.
10. Selected drugs and *yogic* intervention worked synergistically and corrected *agni*, relieved vasospasm and peripheral resistance. Also induced a sense of well-being by removing anxiety and stress. Hence it may be concluded that practices such as *yogic* exercises, *pranayam*,

mantra chanting, prayer, surrender to God, and meditation are definitely beneficial when applied with drugs.

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