

HYPERTENSION - AN AYURVEDIC PERSPECTIVE**¹Vithalani Lalitkumar V., ²Dalvi Sanjay A., ³Lele Vinayak T., ⁴Sakharkar Bhagyashri V.**¹Asst. Professor and HOD (Dept. of Kriyasharir) Bhaisaheb Sawant Ayurved College,
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India**ABSTRACT**

A scientific and technological revolution has occurred over the last three decades. Due to the rapid modernization, people are leading more stressful lives. As a resultant, the hypertension is one of the widespread disorders which came across in practice. About 26.4% of the world adult population in 2000 had hypertension and 29.2% were projected to have this condition by 2025. India is labelled as global capital of hypertension. Nowadays, not only lifestyle disorders are becoming more common, but they are also affecting younger populations. Hence, the population at risk shifts from 40+ to may be 30+ or even younger. Hypertension results from a variety of reasons like stress, obesity, genetic factors, over use of the salts in the diet and ageing. As we all know, hypertension is called a silent killer because it rarely exhibits symptoms before it damages the heart, brain or kidney. Though a lot of potent antihypertensive drugs are available today in modern medicine, but none of them is free from untoward effects. The principal focus of *Ayurveda* is on maintaining good health and adopting a healthy way of life. In *Ayurveda* there is no description of such a single disease which can resemble with hypertension. 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. So it becomes our prime concern to understand hypertension thoroughly with *Ayurvedic* perspective. This research paper is a sincere effort to understand hypertension in terms of *Ayurveda*, which will be beneficial for treatment as well as preventive purpose.

Key Words- High Blood Pressure, Lifestyle disorders, *Raktachapa*, Silent killer.

INTRODUCTION

The World Health Organization (WHO) has identified India as one of those nations that is going to have most of the

lifestyle disorders in the near future. Hypertension results from a variety of reasons like stress, obesity, genetic factors, over use of the salts in the diet and ageing. As we all know, hypertension is called a silent

killer because it rarely exhibits symptoms before it damages the heart, brain or kidney.¹ Hypertension is an important worldwide public health challenge and remains a major cause of morbidity and mortality worldwide.² About 26.4% of the world adult population in 2000 had hypertension and 29.2% were projected to have this condition by 2025.³

Hypertension is a chronic and often asymptomatic medical condition in which systemic arterial blood pressure is elevated beyond normal. As such, the heart is forced to work harder to overcome the increased systemic pressure in order to deliver blood to tissues, which puts strain on the heart and arteries. Over the period of time, the additional strain leads to cardiovascular dysfunction and is a primary contributing cause of congestive heart failure, myocardial infarction, pulmonary embolism, cerebral aneurysm and kidney failure.⁴ Though a lot of potent antihypertensive drugs are available today but none of them is free from untoward effects. Especially the elderly population poorly tolerates these drugs. Beta blockers often cause fatigue, cold extremities, bradycardia and heart-failure. Similarly, angiotensin converting enzyme inhibitors may cause cough, rash etc.⁵

Ideally, an antihypertensive drug should achieve optimum blood pressure control and improve patient's well being. Any treatment administered should be directed not only to control blood pressure, but also prevent target organ damage, thereby preserving cardiac and renal functions.⁶ Hypertension is a major risk factor for the development of coronary artery disease, stroke, congestive heart failure and renal disorders.⁷

In *Ayurveda* there is no description of such a single disease which can resemble with hypertension. As per *Ayurvedic*

principles, in case of unknown disease, the physician should try to understand the nature of the disease through Dosha, the site of manifestation, etiological factors and then should initiate the treatment.⁸ Hence it becomes necessary to study multiple factors viz. *Dosha Vruddhi*, *Dhatu Dushti*, *Strotas* involved and their role in causation of hypertension for proper understanding of disease, its prevention and treatment.

Aims and objectives-To find out the factors involved in hypertension as per *Ayurvedic* perspective and to explain hypertension in terms of *Ayurveda*. This research paper is a sincere effort to understand hypertension in terms of *Ayurveda*, which will be beneficial for treatment as well as preventive purpose.

Material And Methods –To study signs and symptoms resembling hypertension with *Ayurvedic* perspective, classical books on *Ayurveda*, modern literature, available research updates and scientific information available on internet etc. were searched and analyzed.

Literature Review

Hypertension-The tension exerted on the wall of arteries by the strength of the contraction of the heart is called "Blood Pressure".⁹ In adults hypertension is a condition in which the blood pressure is higher than 140 mm Hg systolic or 90 mm Hg of diastolic on three separate readings recorded several weeks apart.¹⁰

Types of Hypertension-There are two types: 1. Primary or essential hypertension (97-98%) has no clear underlying cause but appears to be the result of interplay of complex genetic and environmental factors. 2. Secondary hypertension (2-3%) is caused by a specific underlying mechanism usually involving kidneys or endocrine system.

Factors Affecting Blood Pressure-These include 1.Vessel Elasticity 2.Blood Vol-

ume 3. Cardiac Output 4. Peripheral Resistance. Peripheral resistance depends upon blood viscosity, vessel diameter and vessel length. Several other factors and conditions may play a role in development of hypertension such as smoking, overweight or obesity, lack of physical activity, excessive salt intake, alcohol consumption, stress and family history of high blood pressure.¹¹ There is a close connection between our body and our mind. If there is a psychological factor affecting a medical condition, it is important to treat the psychological problem as well as the medical problem. If there is stress related hypertension treatment should be planned accordingly. As per *Ayurveda*, *Vata* is regulator and stimulator of *Mana* (mind). One should not neglect this basic principle while treating hypertension.¹²

Ayurvedic Perspective- Description of *Hridaya* and processes of *Rasa Vikshepana* (circulation) by *Vyana Vayu* is helpful to understand the disease. Though the exact nomenclature of the disease to some extent is controversial, the signs and symptoms of the disease can be understood in terms of *Dosha*, *Dushya*, *Strotasa*, etc. Looking at hypertension from this perspective, we can assume that vitiated *Vata Dosha* is the main cause of the disease, as the *Dhatu Gati* (*Rasa Gati*) or *Vikshepa* is achieved by *Vayu* itself.¹³

Pitta and *Kapha* complement the effect of vitiated *Vata* and support the progress of the disease with *Rasa*, *Rakta* (whole blood) being the main mediator of vitiation. This suggests the involvement of *Tridosha* in hypertension. Inference of previous research work done is that hypertension is nothing but a '*Vata Pradhan Tridoshaja Vyadhi*', be greatly influenced by *Mana*. Therefore it may be considered as *Sharir* and *Manas Roga* (*Ubhayashrita Vyadhi*). *Sharir* and *Satva* (*Mana*) have

been designated as the habitats of *Vyadhi* by *Acharya Charaka*.¹⁴

Academicians of *Ayurveda* suggested different names to demonstrate the phenomenon - like *RaktaGata Vata* (*Y.N. Upadhyaya* - 1950), *Shiragata Vata* (*Acharya G.N. Chaturvedi* - 1962), *Avritta Vata* (*Acharya R.K. Sharma* - 1966), *Dhamani Prapurnata* (*Acharya A.D. Athavale* - 1977), *Rakta Vriddhi* (*Acharya G.N. Chaturvedi* - 1981), *Rakta Vikshepa* (*Shukla J.P.* - 1954), *Rakta Chapa* (*Ravani. & Mahaishkar U.B.* 1967), *Rakta Sampida* (*Pandey S.B.* 1972), *Vyana Bala* (*Triguna B.* 1974), *Dhamanipraticaya* (*Athawale A.D.*), *Rasa Bhara* (*Athawale T.S.* 1979), *Rudhira Mada* (*Dwivedi V.N.* 1991), *RaktaVata* (*Sharma P.V.* 1993).¹⁵ This list goes on with different concept by different *Vaidyas* and it creates confusion for upcoming *Ayurvedic* generation regarding causative factors, pathophysiology, complications and exact treatment modalities of hypertension.

Factors involved in Hypertension:

Dosha:

Prana Vayu: In modern science, the functions of nervous system have been described similar to description of the *Pra-krita Prana Vayu*. '*Hridaya Dhruka*; (i.e. *Dharana* of Heart) the function of *Prana Vayu* can be correlated with the vagal inhibition of nervous system.¹⁶ In addition to this, vasomotor center controls the blood pressure by autonomic nervous system; similarly *Prana Vayu* also controls the regulation of blood pressure by controlling *Vyana Vayu*. So pathology of *Prana Vayu* can cause abnormality of heart as well as vessels.

Vyana Vayu: *Vyan Vayu* is said to be responsible for various kinds of movements in the body.¹⁷ With the help of *Vyan Vayu*, heart contracts and propels blood (*Rasa Rakta Dhatu*) continuously all over the

body. So, it suggests the involvement of *Vyana Vayu* in regulation of blood pressure.

Samana Vayu: According to *Sharangadhara* after the digestion process 'Samana Vayu' helps in the transportation of *Rasa* into the heart and from there it circulates in the whole body.¹⁸ Thus *Samana Vayu* has an important role in the circulation.

Apana Vayu: Vitiating of *Apana Vayu* hampers the excretion of the *Purisha* and *Mutra* affecting homeostasis which may affect blood pressure. From the above fact it can be concluded that *Apana Vayu* also plays a role in regulation of normal blood pressure.¹⁹

Avalambaka Kapha: Normal rhythm, contractility, and tone of cardiac muscles can be correlated with functions of *Avalambaka Kapha*.²⁰ Thus; it keeps heart in a healthy state and enhances its continuous pumping capacity.

Dushya: In circulatory system *Aahar Rasa*, *Rasa Dhatu* and *Rakta Dhatu* are the entities which circulate all over the body. In the context of blood pressure *Rasavaha* and *Raktavaha Srotas* are important as they are related to 'Rasa-Rakta Samvahana'. *Annavaaha Srotas* get vitiated due to untimely intake of large quantity of unwholesome food and impairment of *Agni* (digestive capacity).

Rasa Dhatu- Acharya Charaka in *Vimanashtana* described various factors responsible for *Rasavaha Srotas Dushti*, viz. excessive intake of *Guru* (heavy), *Shit* (cold), excessively unctuous food, and constant worry.

Rakta Dhatu- Raktavaha Srotas get vitiated due to intake of food and drinks which are irritant, unctuous, hot and liquid; excessive exposure to sunlight and fire.²¹

Agni: *Agni* is an important factor in the

pathogenesis of all the diseases. *Agni Dushti* occurs at two levels *Jatharagni Mandya* and *Dhatwagni Mandya*. *Atimatrashana* (excessive diet), *Viruddhashana* (intake of food having opposite properties), and *Adhyashana* (intake before the digestion of previous food) are the factors which cause *Jatharagni Mandya*. It will affect all other *Agni* viz. *SaptaDhatvagni* and *Panchamahabhutagni*. *Jatharagni Mandya* will cause *Ama* formation which results in *Strotorodha* and vitiating of all *Doshas*. It will ultimately increase peripheral resistance and can lead to hypertension. Atherosclerotic changes in vessels can be an outcome of chronic *Agnimandya* and *Ama*. *Acharya Charaka* has already described *DhamaniPratichaya* as one of *Nanatmyaja* disease of *Kapha dosha*.²²

Mana: In *Ayurveda Pradnyaparadha* and *Asatmendriyarthasamyoga* are considered as the root causes for every disease, which indicate the involvement of psyche. *Manas Bhavas* like *Chinta* (worry), *Krodha* (anger), *Bhaya* (fear) etc. plays an important role in the pathogenesis, progression and prognosis of disease as well as response to the treatment of the disease.²³

This fact reveals that *Mana* is also involved in hypertension and the disease should be considered as psychosomatic. Modern medical science also considers involvement of psyche as causative factors for hypertension.

Samprapti (Pathogenesis of hypertension): Most of the mechanisms associated with secondary hypertension are crystal clear and completely understood. However, those associated with essential hypertension are far less understood. The pathogenesis of hypertension takes place at both physical and psychic level one at a time or simultaneously depending upon the *Dosha-Dushya Sammurchhana*. *Ag-*

nidushti results in *Ama* formation and subsequent *Dhatudushti* (*Rasa* and *Rakta*). This leads to *KhaVaigunya* 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.²⁴

Chikitsa (Treatment)- Treatment of hypertension should be planned according to *Dosha* and *Dushya* involved in pathogenesis. *Manasa Bhavas* like *Chinta*, *Krodha*, *Bhaya*, etc., plays an important role in the pathogenesis, progression, and prognosis of the disease, and also have effect on the response to the treatment. Hence, the type of therapy recommended should be one that can pacify these disturbed *Manasika Bhavas*.

Panchakarma: *Abhyanga* (Massage) – *Sarvanga Abhangya* with specially formulated oils helps to increase elasticity and flexibility. It correct and enhance the blood flow in healthy manners.

- a- *Vaman* and *Virechan* (Emesis and purgative therapy) – If the patient is having *Uttam Bala* and having mild or moderate type of hypertension without any other complications then *Shodhana* procedures like *Vaman*, *Virechan* can be advised according to *Dosha Pradhanya*.
- b- *Basti* (Medicated enema): – *Basti* therapy is specially designed for the *Vata* disorders.

It is also called as *Ardha Chikitsa* by stalwart *Acharyas*. According to *Dosha Dushti* and *Rugna Bala*; *Karma*, *Kala* or *Yoga Basti* can be advocated.

Diet- Dietary modification is very important to prevent the development of hypertension or potentially combat and re-

duce high blood pressure. Lowering sodium intake (especially from table salt) reduces excessive water retention, which helps maintain normal blood pressure.²⁵ Excessive use of sodium chloride is toxic and damaging to arteries and other tissues, which may initiate atherosclerosis and lead to hypertension. Adopting a high potassium diet helps rid the renal system of excess sodium and restore sodium/potassium balance. *Acharya Charaka* has also considered *Lavana* as a substance not to be used in excessive quantity for longer duration.²⁶ Additional dietary changes beneficial for reducing blood pressure include adopting the diet which is rich in fruits, vegetables, whole grains and low-fat dairy products, reducing consumption of refined sugar and heavily processed food, reducing caffeine intake, and limiting alcohol consumption.²⁷

Yoga - Stress reduction from practicing meditation, *yoga*, and other mind-body relaxation techniques can lower blood pressure.²⁸ *Yoga* is formulated for many reasons and the health restoration is one of them. *Shavasana*, *Sukhasana* *Dhanurasana*, *Makarasana*, *Vajrasana*, along with regular practice of *Pranayama* are found to be very useful for lowering blood pressure in normal as well as hypertensive individuals if performed accurately and adopted as a lifestyle.²⁹ According to *Bruhadaranyaka* and *Chhandogya Upanishadas* the ultimate aim of *Pranayama* and *Yogic* techniques is to control *Prana*. This target is difficult to achieve, but mental peace and relaxation thus achieved could be used as a therapeutic tool. *Patel* and others in Britain have shown that meditation and prayer techniques lower blood pressure on a short term and long term basis. This factor may be important in primary prevention of coronary atherosclerosis. On metabolic level it causes a decrease

in various biochemical inducers and aggravators of atherogenesis. Also Significant decline in cardiovascular risk factors, hypertension, dyslipidemias and obesity have been reported by Patel et al in Britain using group meditation techniques, and in India by Mahajan et al in Delhi and Damodaran et al in Mumbai.³⁰

Hrudayotpatti: Acharya Sushruta has described 'Shonit Kapha Prasadajam Hridayam', which means while development of Garbha in uterus, heart is formed by the purest portion of Rakta (blood) and Kapha.³¹ These originating constituents should be considered while treating cardiac ailments. Drugs acting on these constituents can offer more reliable results.

Other strategies effective at reducing blood pressure - These include weight reduction and regular aerobic exercises such as brisk walking, jogging running etc. Weight loss reduces the resistance burden on the vascular system, and regular exercise improves blood flow and helps to reduce resting heart rate and blood pressure. Discontinuing tobacco use in any form has also shown to lower blood pressure. The tar of smoke and the injurious components of the tobacco produce hardening of blood vessels (arteriosclerosis), plaque in the blood vessels, which can make narrowing of the inner diameter of blood vessels. Abstaining from cigarette smoking reduces the risks of stroke and heart attack associated with hypertension. Alcohol consumption can enhance the fat accumulation.³² Obese people often have hypertension (elevated blood pressure) because the additional blood vessels in their adipose tissue increase their total blood vessel length. Resistance to blood flow through a vessel is directly proportional to the length of the blood vessel. The longer a blood vessel, the greater is the resistance. An estimated 650 km (about 400 miles) of additional

blood vessels develop for each extra kilogram (2.2 lb) of fat.³³

CONCLUSION

It has been found that the percentage of hypertensive patients is rising sharply in spite of number of antihypertensive drugs in modern medicine. Human race today is looking towards Ayurveda in a search of an ideal and safe treatment. Hence to get the perfect management of hypertension without any side effects is a need of present era. In Ayurveda equilibrium of Doshas, Dhatus, Malas and Agni are considered as healthy state of an individual. In nutshell we can say that while observing hypertension through Ayurvedic spectacle one or more of the following three possibilities should be considered.

1. Pathophysiological changes in the form of vitiation of Dosha (Vata, Pitta and Kapha), Dhātu and Mala Dushti.
2. Psychological changes i.e. disturbances at the level of Mana (Manovaha Strotas Vikara).
3. Structural changes as complications of long term hypertension on various organs like heart, blood vessels, kidney etc.

After thorough study of literature and fundamentals in both Ayurveda and Modern medicine, it is concluded that Ayurvedic approach to treat a disease according to its Samprapti (pathogenesis) is very practical and should not be overlooked. This review of hypertension showed that the disease can be well managed by following Pathya-Apathyaas mentioned in Ayurveda (avoidance of the etiological factor). Considering detailed conceptual part we can definitely say that Ayurveda describes appropriate lifestyle and diet management called as Aahar and Vihar for maintaining homeostasis and thereby preventing hypertension.

Proper medication as per Ayurvedic guidelines (along with proper Aahar, Vi-

har and Yoga) will definitely control blood pressure without any untoward effects. Additional benefit of Ayurvedic management is absence of hazardous effects which is very important in view of the global acceptance of Ayurveda.

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