HYPERTENSION– IN AYURVEDIC PARLANCE

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Abstract - Since last few decades, people are leading towards more stressful lives, due to the rapid modernization and lifestyle errors. As a resultant, 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 going to be global capital of hypertension. There is variety of reasons which contributes towards hypertension like stress, obesity, genetic factors, ageing etc. Though a lot of potent antihypertensive drugs are available in modern medicine now a day, but most of them have untoward effects. The principal aim of Ayurveda is 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 (pathogenesis) and then should initiate the treatment. So it becomes our prime concern to understand hypertension thoroughly in Ayurvedic parlance.

Index Terms – Hypertension, obesity, Antihypertensive drugs

1. INTRODUCTION
According to recent clinical data provided by WHO, India is going to be capital of HTN in the near future due to lifestyle modifications (1). There is variety of reasons which contribute to develop HTN, like stress, obesity, genetic factors, ageing etc. As we all know, hypertension rarely exhibits symptoms before it damages the kidney, heart and brain. Hypertension is an important worldwide public health challenge and remains a major cause of morbidity and mortality worldwide (2). Mostly it is asymptomatic medical condition in which arterial blood pressure is raised beyond normal. In such condition, the heart is forced to deliver prompt required blood to the tissues, which puts strain on the heart and arteries. If such condition is continuously going on, the additional strain leads to cardiovascular dysfunction and it contributes to develop congestive heart failure, myocardial infarction and kidney failure. (3). Now a day many potent antihypertensive drugs are available but most of them have untoward effects (4). The treatment of HTN should be directed not only to control blood pressure, but also prevent target organ damage (5), thereby preserving cardiac and renal functions. Hypertension is a major risk factor for CAD, CHF and renal disorders (6).

In Ayurveda there is no such description of any disease which can resemble with HTN. As Ayurveda describes, in case of unknown disease, the physician should try to understand the nature of the disease through Dosha, Dushya, the site of manifestation and etiological factors.

2. AIMS - To explain hypertension in terms of Ayurveda and to find out the factors involved in the pathogenesis of hypertension in Ayurvedic parlance.
Resemblance of hypertension with Ayurvedic perspective on the basis of sign and symptoms as described in the classical books on Ayurveda, modern literature, available research updates and scientific information available on internet etc.

3. LITERATURE REVIEW
The lateral pressure exerted on the wall of arteries due to the contraction of the heart is called Blood Pressure (7). 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. Hypertension is classified in to primary and secondary hypertension. Various factors which affect B.P are Vessel Elasticity, Blood Volume, Cardiac Output and Peripheral Resistance (8).

There is a strong connection between our body and mind. If there is a psychological factor which affects the medical condition, then it is important to treat the psychological problem as well as the medical problem. If the hypertension is stress stimulated, treatment should be planned accordingly. As per Ayurveda, Vata is regulator and stimulator of Mana (mind). We should not neglect this basic principle while treating hypertension.
3.1 Ayurvedic perspective- Ayurveda has vividly described Hridaya as the prime site of Vyana Vayu (9) and processes of Rasa Vikshepana (circulation) by Vyana Vayu which seems to be very helpful to understand the disease (10). In Ayurveda the signs and symptoms of the disease can be understood in terms of Dosha, Dushya, Srotasas, etc. Looking at HTN from this perspective, we can assume that vitiated Vata Dosha is the main cause of the disease, as the Dhatu Gati or Vikshepa is achieved by Vayu itself (11). Pitta and Kapha complement the effect of vitiated Vata and support the progress of the disease with Rasa and Rakta, Rakta (whole blood) being the main mediator of vitiation. This suggests the involvement of Tridosha in hypertension. Various research work done on hypertension also suggests that it is a ‘Vata Pradhan Tridoshaja Vyadhi’ which is greatly influenced by Mana. Thus HTN may be considered as Sharir and Manas Roga (Ubbayashrita Vyadhi) (12).

Academicians of Ayurveda has suggested different terms for HTN – like Raktagata Vata, Shiragata Vata, Raktaevritta Vata, Dhamani Prapurnata, Rakta Vikshepa, Rakta Sampida, Vyana Bala, Dhamanipratichaya, Rudhira Mada and RaktaVata.

4. FACTORS INVOLVED IN RAKTAGATA VATA (HYPERTENSION)

4.1 Dosh

4.1.1 Prana vayu: In contemporary medical science, the functions of nervous system have been described which resembles to the Prakrita Prana Vayu. ‘Hridaya Dhruka” (i.e. Dharana of Heart) the function of Prana Vayu (13) and it can be consider as the function of Vagus nerve. In addition to this, vasomotor centre controls the blood pressure by ANS. 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.

4.1.2 Vyana vayu: Vyana Vayu is responsible for various kinds of movements in the body (14). With the help of Vyana 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.

4.1.3 Samana vayu: According to Acharya Charaka, after digestion ‘Samana Vayu’ helps in the transportation of Rasa into the heart and from there it circulates in the whole body (15). Thus Samana Vayu has an important role in the circulation.

4.1.4 Apana Vayu: Vitiation of Apana vayu hampers the excretion of the Purisha (faecal matter) and Mutra (urine) 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.

4.1.5 Avalambaka Kapha: The normal rate, rhythm, contractility and tone of cardiac muscles can be correlated with functions of Avalambaka Kapha as Acharya Susruta has described ‘Hridaya Avlambana karma” ( to strengthen and to nourish the heart) of Avalambaka Kapha (16). Thus it keeps heart in a healthy state and enhances its continuous pumping capacity.

4.2 Dushya

In circulatory system the main constituents which circulate all over the body are Aahar rasa (first nutritive pool just after the digestion), Rasa Dhatu (lymph etc.) and Rakta Dhatu (blood etc.). In the context of blood pressure Rasavaha, Raktaevahata and Medovaha Srotasas are important. Annavaha Srotas get vitiated due to untimely intake of large quantity of unwholesome food and impairment of Agni (digestive capacity).

4.2.1 Rasa dhatu- Acharya Charaka has described various factors in Vimanashthana, which are responsible for Rasavaha Srotas Dushti, eg. Excessive intake of Guru (heavy), Shit (cold), excessively unctuous food, and constant worry (17).

4.2.2 Rakta dhatu- Raktaevahata Srotas get vitiated due to intake of food and drinks which are irritant, unctuous, hot and liquid; excessive exposure to sunlight and fire (18).
4.2.3 Meda dhatu- excessive intake of fatty diet and day time sleep causes the disturbance in the metabolism of lipid (19), which finally results in to DhananiPratichaya (Atherosclerosis / Arteriosclerosis) leading to genesis of HTN.

4.2.4 Agni – As per Ayurvedic parlance “Agni (Digestive or Metabolic fire)” is an important factor in the pathogenesis of all the diseases. Agni Dushti (imbalance of fire) occurs mainly at two levels Jatharagni (main digestive fire at gross level) and Dhatwagni (digestive fire at the level of tissues). Atimatrasana (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. Saptadhvatagni and Panchamahabhutagni. Jatharagni Mandya results into the formation of Ama (undigested material which acts as an antigen) which finally results in Strotorodha (blockade of circulatory channels) and vitiation of all Doshas. It will ultimately increase peripheral resistance and lead to HTN. Atherosclerotic changes in vessels can be an outcome of chronic Agnimandya (Defective metabolic process) and Ama. Acharya Charaka has already described Dhamani Pratichaya as one of Nanatmyaja disease of Kapha dosha (20).

4.2.5 Mana: In Ayurveda Pragyaparadha (imbalance of intellect) and Asatmendriyartha Samyoga (disrupt harmony between the functions of a particular system) are considered to be the root causes for every disease, which indicate the involvement of psyche. Manas Bhavas (Emotions) such as Chinta (worry), Krodha (anger), Bhaya (fear) etc. plays an important role in the pathogenesis and prognosis of disease as well as response to the treatment of the disease. Modern medical science also considers involvement of psyche as causative factors for hypertension.

4.3 Samprapti (Pathogenesis of hypertension): Most of the mechanisms associated with secondary HTN are clear and can be completely understood. However, those associated with Primary or essential hypertension, far less understood. The pathogenesis of hypertension takes place at both physical and psychic level simultaneously depending upon the Dosha-Dushya Sammurchhana. Agnidushti results in Ama formation and subsequent Dhatusdushti (Rasa and Rakta). This leads to Khavaigunya (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 BP.

5. MANAGEMENT- management of HTN should be planned according to Dosha and Dushya involved in pathogenesis. Manasa Bhavas plays an important role in the pathogenesis and prognosis of the disease, and also affects the response to the treatment. Hence, the type of therapy recommended should be one that can pacify these disturbed Manasika Bhavas too.

5.1 Panchakarma-

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

5.1.2 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 (purification) procedures like Vaman, Virechan can be advised according to Dosha Pradhanya.

5.1.3 Basti (Medicated enema) – Basti therapy is specially designed for the Vata disorders. According to Dosha Dushti and Rugna Bala, Karma Kala or Yoga Basti can be advocated.

5.1.4 Raka mokshan (Blood letting) – it is an important procedure which helps to normalize the blood viscosity and blood volume, thus helps to maintain normal BP.

5.2 Diet
Dietary modification is very important to prevent the development of hypertension or potentially combat and reduce high blood pressure. Lowering sodium intake (especially from table salt) reduces excessive water retention, which helps maintain normal blood pressure. Excessive use of sodium chloride damages arteries and other tissues, which may initiate atherosclerosis and lead to HTN (22). Adopting a high potassium diet helps rid the renal system of excess sodium and restore sodium/potassium balance.
5.3 Yoga
With the help of meditation, yoga and other mind-body relaxation techniques stress can be reduced which lowers the blood pressure. Shavasana, Sukhasana Dhanurasana, Makarasana, Vajrasan and 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. With the help of these mental peace and relaxation can be achieved. Scientific data has proved that meditation and prayer techniques lower blood pressure on a short term and long term basis. On metabolic level it causes decrease in various biochemical inducers and aggravators of atherosclerosis.

5.4 Other
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. The tar of smoke and the injurious components of the tobacco products produce hardening of blood vessels (arteriosclerosis), plaque in the blood vessels, which can make narrowing of the inner diameter of blood vessels, increases the peripheral resistance and thus increase BP.

6. CONCLUSION
As we all know that number of patient’s of HTN are rising day by day and soon India is going to be the capital of HTN. In this perspective peoples are looking towards Ayurveda in a search of an ideal and safe treatment. In Ayurveda equilibrium of Doshas, Dhatu, 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), Dhatu 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 (healthy-unhealthy diet and life style pattern) mentioned in Ayurveda.

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, Vihar 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.
REFERENCES


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