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A perusal on Ayurveda perspective on Hypertension and its Management.

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Abstract: Hypertension is the most frequent illness nowadays. Hypertension affects one out of every five people. According to the World Health Organization, hypertension affects 23.10 % of men and 22.6 % of women in India over the age of 25. The major cause of hypertension in today's society is a sedentary lifestyle and poor eating habits. Excessive salt consumption, alcohol use, and smoking are all variables that contribute to the development of hypertension. The Aharaja nidan, Viharaja nidan, and Manasik nidanas, which vitiate Vata, Pitta, and Kapha, are all responsible for the development of hypertension. The Ayurvedic method to treating an illness based on its Samprapti (pathogenesis) is extremely practical since it addresses three components at once, namely Ahara, Vihara, and Ausadha. Pathya-Apathya (healthy-unhealthy food and lifestyle pattern), Ahara and Vihara, Shamana and Shodhana Chikitsa can all help with hypertension. Sarpagandha churna, Ashwagandha churna, etc. have been referenced in Ayurvedic literatures. Shodhana chikitsa uses bio-cleansing techniques like Basti, Virechana Karma, and Shirodhara with medicinal solutions to assist the body eliminate impurities.

Keywords: Hypertension, Shamana chikitsa, Shodhana chikitsa, Basti, Virechana, Yoga.

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Introduction:

Ayurveda stands out in today's medical world of specialisations and super-specialties because of its holistic approach to the body as a single unit. When addressed independently, the body is difficult to understand since all of its components coexist with interdependence and reciprocal interaction. Humanity has only just begun to recognise the holistic approach to health that Ayurveda advocated years ago, with the multidimensional qualities of body, mind, and soul. Life has been made easier for man in recent years as a result of technological advancements but in the race of money and so-called development, man has left his prime goal of Dharma, Artha, Kama and Moksha behind. This has resulted in development of various diseases and Hypertension is one of them.^[1]

Because of its incidence, morbidity, and consequences, hypertension is a condition that is garnering global attention. Because it seldom causes symptoms before causing damage to the heart, brain, or kidney, it is known as the silent killer.^[2] Hypertension affects 600 million individuals globally, according to estimates. Hypertension will affect almost one-third of persons over the age of 20, or 1.56 billion people globally, by 2025.^[3] It is a significant public health concern in both emerging and wealthy economies.^[4] Hypertension is thought to be responsible for 6% of all fatalities globally. Recent studies from India have shown the prevalence of HTN to be 25% in urban and 10% in rural people in India.^[5,6] Hypertension is linked to dietary salt intake, alcohol consumption, psychological

stress, and a lack of physical exercise in populations. Symptoms of prolonged hypertension include headache, giddiness, palpitation, and fatigability, etc.^[4]

There is no clear link between hypertension and Ayurveda in the classics. However, according to Ayurvedic writings, in the instance of an unknown ailment, the physician should first try to identify the nature of the condition by looking at the dosha, the place of expression, and the etiological variables, before starting therapy.^[7] Various Ayurvedic scholars have coined different names for hypertension such as, Raktagata Vata, Siragata Vata, Avrita Vata, Dhamani Prapurana, Rakta Vikshepa, Vyana Prakopa, Raktamada, Uchharaktachapa, Vyana Atibala etc.^[8] Different points of view have been chosen in each of these words, but no one has argued that the major pathophysiology in hypertension occurs in Rakta together with the blood arteries.

Aims and Objectives

Detailed study of Hypertension according to Ayurveda

Material and Methods

Detail description of Rakta prodashaj Vikara was collected from different classic books and previous research articles from internet. Detail of hypertension was collected from different modern classic books and Ayurvedic literatures.

Concept of Blood pressure in Ayurveda

Raktadhatu is also known as Drava (liquid) dhatu. As a result, it has the inherent ability to flow. Additional power (Nodana, Abhighata, Dhamana, Sarana) is necessary to sustain circulation up to the end tissue, in addition to

the inherent quality of flowing, which is given by the heart's contractions and relaxations, as well as the pulsations in the arteries. Blood pressure is the pressure imposed by circulation. Three humours, Vata dosha, Pitta dosha, and Kapha dosha; seven Dhatus (Rasa dhatu, Rakta dhatu, and so on); and Malas (Mutra, Purisha, and so on) are regarded the underlying cause of all bodily functions in Ayurveda. To comprehend blood pressure in terms of Ayurveda, one must examine the Srotasa through which it passes, as well as Hridaya, Oja, and Mana functions.^[9] Rasa Rakta Samvahana is the Sanskrit word for circulatory system. It is multidirectional, and its kinetics vary depending on the location of the body and Saptadhatu's demands. Rasadhatu, the product of digestion and very tiny in nature, circulates all over the body in three directions, according to Acharya Sushruta's theory of circulation based on direction. Hridaya circulates in three directions: Shabda, Archi and Jala santanavat, which are all connected to the degree of kinetic force (cardiac output).^[9] Vyana Vata, a component of Vata Dosha, continually drives blood out of the heart and distributes it, according to Charaka.^[10,11] As a result, the systolic blood pressure reached during cardiac contraction is regulated by Vata (Vyana Vata). Prana Vata, which is located in the Moordha (Brain), governs the Hridaya (heart) and performs Dhamani Dharana (arterial perpetuation) [16], and so controls heart rhythm. Diastolic blood pressure falls under the Kapha Dosha (Kapha preserves the structural integrity of human organs), particularly the Avalambaka Kapha,

since diastolic blood pressure is controlled by the resistance supplied by the structure of the heart and blood arteries. As a result, the diastolic BP is determined by peripheral resistance (the resistance experienced by blood in the blood arteries). Because of the Tikshna (rapidity), Drava (fluidity), and Sara (diffusion) Guna, the participation of Na⁺ and Ca²⁺ ions are responsible for auto-rhythmicity of the heart can be attributed to Pitta. Vatadosha is the subject of these Gati (directional paths). If the direction and kinetic force of Vatadosha change in any way, it might cause high or low blood pressure. These conditions may be altered by obstruction of their natural directions and kinetics leading to hypertension.^[11]

Aetiology of Hypertension

There are a number of predisposing variables that contribute to hypertension: ^[12,13]

- Consumption of alcoholic beverages (Madyapana)
- Salt ingestion (Lavana)
- A sedentary lifestyle (Ati Snigdha, Madhur, and Divaswapna)
- Mental stress
- Physical strain (Krodha, Bhaya, Shoka)
- Raktapradoshaja nidana- Unwholesome, hot and sharp wine, excessive food, meat of aquatic animals, rotten, putrefied food and which has mutually contradictory qualities (Viruddha).
- Beeja Dosha (Genetic considerations) - Sthaulya and Prameha in family history

- Some precipitating illnesses for secondary hypertension include Roga – Madhumeha (diabetes), Sthoulya (obesity), Hridroga (heart disease), and Vrika roga (renal disease)

Sampraprti Ghatakas

- Doshas - Vata (All five types; mainly Vyana Vayu), Pitta (Sadhaka and Pachaka), Kapha (Avalambaka)
- Dushya - Rasa, Rakta, Meda
- Agni - Jatharagni, Dhatvagni
- Ama - Jatharagni, Dhatwagni-Mandya Janya
- Srotasa - Rasavaha, Raktavaha, Manovaha, Medovaha
- Srotodushti - Ati-pravritti, Sanga Type, Siragranthi
- Udbhava Sthana - Ama-pakwashaya
- Sanchara Sthana - Rasayani (dhamanis)
- Adhithana - Manodaihika (Psychosomatic) Hridaya, Sira, Dhamani, Srotas
- Rogamarga – Bahya, Madhyama

Sampraprti ^[14,15]

Depending on the Dosha-Dushya Sammurchhana, the pathogenesis of hypertension occurs at both the bodily and psychological levels at the same time. Because Vata (Vyana vata) is primarily responsible for blood circulation, Hypertension is almost always caused by its impairment. It can be harmed by its own Prakopa (aggravation) caused by Vataja Nidanas (etiological reasons for Vata) or vitiated by other Doshas and Dhatus. In the pathophysiology of hypertension, the idea of obstruction of normal Vata functioning plays

a crucial role. Sadhak pitta and Shonita are vitiated by excessive salt and alcohol consumption. Avalambak kapha is vitiated by sedentary living, and psychological tension vitiates Prana vayu, Raja tama bhava. Prana vayu has a negative impact on Hridaya and its constituents, such as Sadhak pitta, Avlambaka kapha, and Oja. Agnidushti results in Ama formation and subsequent Dhatodushti (Rasa and Rakta). The Ama production results into Strotorodha (obstruction) and thus partially blocks the normal Rasa- Rakta circulation which further vitiates Vyana Vayu. Exaggerated contractility of the heart is caused by Prakupita Avalambakakapha, whereas exacerbated Vyana vayu causes enhanced Gati (the force of blood ejection from Hridaya). These occurrences cause blood to be forced out of the Dhamanis, leading to increased resistance in the arteries and high blood pressure. At the same time, due to Aharaja, Viharaja, and Manasa Hetu, there is Jathargnimandya, which produces Ama and as a result of Rasa raktadi dushti with Apkava rasa raktadivruddhi, blood viscosity and fluidity rise. As a result, hemodynamic changes occur, causing heat to pump at a higher pressure. Obesity has been blamed for causing hypertension to emerge. Siras (hypertension adhithana) are descended from the Medodhatu. Strotasavarodha is caused by a vitiated Medo dhatu. Ruksha guna vridhi induces hardening of blood vessels and a decrease in vascular elasticity, resulting in a reduction in blood vessel lumen (Sira and Dhamani).

Rupa

Ayurveda is a science that looks at indications and symptoms using the Panchagyanendriya pariksha system. Darshana, Sparshana, and Shravana pariksha are used to measure blood pressure. Some of the features noticed are:^[12,13]

- Shirahshoola (Headache)
- Nidranasha (Insomnia)
- Bhrama (Giddiness)
- Tamodarshan (Black Out)
- Daurbalya (Weakness)
- Hridadravata (Palpitation)
- Krodha prachurata (Excessive anger)
- Klama (tiredness)
- Sweda
- Kampa (Seizures)
- Tandra
- Raktameha (Urinary symptoms)
- Klama (Vomiting)

Preventive Methods

Any illness should be treated first with Nidana Parivarjana. It is possible to control hypertension by avoiding all of the conditions that cause Rakta Dhatu Dushti. Dinacharya, Ritucharya, and Achar Rasayana can help you live a healthier life. Following these rules correctly can help to minimise stress and play an essential role in hypertension prevention and control.

Pathya Ahara and Vihara^[16,17]

- More use of fruits and green vegetables
- Reduce intake of oily, salty, sour and spicy food items
- More use of Barley, Sorghum (Jowar), wheat, green gram (Moong dal), Bitter gourd (karela), Bottle gourd, etc.
- Regular blood pressure check-up

- Lifestyle modifications like timely intake of balanced diet, regular physical exercise, daily brisk walking for half an hour
- Weight reduction
- Timely sleeping and awakening
- Regular practice of Yoga, Meditation etc.

Apathya Ahara and Vihara

- Aalsya (Fatigue)
- Divashyan
- Ratrijagran
- Smoking
- Alcohol consumption
- Over eating
- Unhealthy diet
- Meat, excessive protein and oil
- Excessive spicy food and salt in daily diet
- Excessive intake of Lavana and Amla Ras.

Curative Methods^[18,19,20,21]

Shodhana Chikitsa – As hypertension is Vata Pitta Pradhana Raktaprodash Vikara, the vitiated Doshas are eliminated from the body using Virechana Karma (medicated purgation), Basti Karma (medicated enema), and Shirodhara.

- ❖ Virechana Karma - Raktapittahari Kriya is used to treat Raktapradoshaj Vikara, and Virechana is the finest treatment for Pitta Dosha. Virechana Karma is recommended in Raktapradoshaja vikara, hence it is an effective therapy for hypertension here. Virechana's direct technique of evacuating the fluid from Rasa Rakta results in a reduction in fluid volume.

It can remove excess sodium ions and excrete potassium. Bicarbonate levels are depleted in watery stools. It can also keep the acid-base balance in check.

- ❖ Basti - The lower region of the GIT is richly supplied with parasympathetic nerves, which when stimulated with Basti may produce a drop in the rennin angiotensin aldosterone complex, as well as vasodilation and a reduction in blood pressure, by activating the vasomotor centre.
- ❖ Shirodhara - Constantly pouring of liquid in a relaxed and comfortable position has a calming and relaxing impact on the brain, resulting in sleep. Shirodhara materials are always heated, causing vasodilation of all channels and therefore improved circulation, which in turn enhances the blood circulation of the brain. This also helps in higher cognitive functioning. As a result, psychological symptoms gets improved.

Shamana Chikitsa– The goal of Shaman therapy is to bring all of the Doshas into balance and keep them there. For the prevention and treatment of hypertension, the following medications (single/compound formulation) are routinely used (to be taken under Ayurvedic medical supervision)

- ❖ Single drugs - Amalaki, Rudraksha, Haridra, Japapushpam, Jatamamsi, Bhringraj, Sadabahar, Sarpagandha, Shankhapushpi, Vacha.^[18]
- ❖ Compound drugs - Arjun Ksheerpaka, Brahma Rasayan, Guduchi

Rasayanam, Madhuparnyadi Yogam, Medhya Rasayanam, Medhya Vati, Sarpagandha Ghan Vati, Shodashang Kashaya, Vacha-Mansyadi Yoga.

- ❖ Raktaprasadaka Aushdhi - Sariva (Hemidesmus indicus), Manjishta (Rubia Cordifolia)
- ❖ Mutral Dravyas (Diuretic) – Gokshura (Tribulus terrestris), Punarnava (Boerhavia diffusa).
- ❖ Medhya Rasyana – Bramhi (Bacopa monnieri), Sarpghandha (Rouvolfia serpentina), Shankhapushpi (Convolvulus pluricaulis).
- ❖ Kashayam (Decoction) - Jatamansi Hima, Dashmool Kwath, Arjun Kwath, Punarnava Kwath, Mahamanjistha Kwatha
- ❖ Choorna (Powder) - Choorna of Sarpagandha, Arjuna and Gokshura, Ashawagandha Choorna, Tagar
- ❖ Bhasma (Rasa preparation) - Mukta Pisti, Jaharmohra Pisti, Mukta Shukti.
- ❖ Vati (Tablet) - Sarpagandha Ghana Vati, Brahmi Vati

Yoga - Blood pressure can be lowered by practising stress reduction strategies such as meditation, yoga, and other mind-body relaxation practises. Yoga if performed correctly and embraced as a lifestyle, Shavasana, Sukhasana Dhanurasana, Makarasana, and Vajrasana, as well as regular practice of Pranayama, have been proven to be particularly effective in decreasing blood pressure in both normal and hypertensive individuals.^[22] The ultimate goal of Pranayama and Yogic practices, according to the Upanishads, is to govern Prana. Although

achieving this goal is challenging, the mental serenity and relaxation that results might be employed as a therapeutic technique.^[23]

Discussion

Blood pressure is defined as pressure or force of circulating blood against the artery wall. Blood pressures differ between individuals. Normal blood pressure is considered to be less than 120/80 mmHg. When blood pressure elevated due to any reasons, it is termed as hypertension. In today's environment, hypertension is a frequent ailment.^[24] Hypertension is detected in every sixth individual. It affects the majority of persons in their later years of life. Heart disease and stroke kill about 12 million people each year, accounting for more than half of all deaths and disability. Depending on the Dusha-Dushya Sammurchhana, the pathogenesis of hypertension occurs one at a time or concurrently at the bodily and psychological levels. Excessive salt consumption, alcohol use, snigdha bhojana (oily food), Divaswapna (daytime slumber), and manovighata (mental accident) cause vitiation of Shonita (blood) and Agnidushti. Ama is formed as a result of Agnidushti, and Dhatudushti follows (Rasa and Rakta). KhaVaigunya (obstructive pathology in channels) arises as a result of this. Ama generation causes Strotorodha (obstruction), which partially inhibits the regular Rasa-Rakta circulation and vitiates Vyana Vayu further. This clogged Vyana Vayu causes forced blood flow in the blood vessels, resulting in greater resistance and, as a result, elevated blood pressure.^[25,26]

Nidana parivarjana, Shodhana in the form of Virechana (gut purification via enema),

Shirovirechana (purification via nasal root), Raktamokshana (Bloodletting), Murdhni Taila (special technique to keep oil and massage), Shamana medications (different oral medications), and Rasayana Chikitsa are the treatments for Shonitadushti.

Conclusion

Hypertension is one of the most common health conditions in the globe. In both developed and developing nations, this has been identified as one of the leading causes of mortality. Furthermore, the number of individuals with hypertension is on the rise, and conventional treatment has failed to effectively treat the ailment. Given the dangers of chronic hypertension on essential organs such as the brain, heart, and kidney, it is now necessary to protect the arteries by living a healthy and active lifestyle within the Ayurvedic principles outlined by Dinacharya and Ritucharya. Ayurveda medicinal plants have been shown to be useful in decreasing blood pressure and improving heart function in recent decades. Although some medications have been tested in the lab, many more are still unknown. Nowadays, yoga and Vyayam have become a part of daily life. Ayurveda also has a number of medications that can help to lower blood pressure and regulate the body by flushing out oxidants and regulating the immune system. These drugs can preserve and regenerate cells of important organs against continual arterial pressure, in addition to addressing excessive blood pressure.

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