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AYURVEDA PERSPECTIVE ON HYPERTENSION AND ITS TREATMENT

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Abstract

Hypertension is currently the most common illness, affecting one in every five individuals. According to the World Health Organization, in India, hypertension affects 23.10 percent of men and 22.6 percent of women over the age of 25. Sedentary lifestyles and unhealthy eating habits are the primary causes of hypertension in our society. Factors such as excessive salt consumption, alcohol use, and smoking contribute to its development. Ayurveda recognizes three components responsible for hypertension: Aharaja nidan, Viharaja nidan, and Manasik nidanas, which disturb Vata, Pitta, and Kapha. Ayurvedic treatment approaches based on Samprapti (pathogenesis) effectively address all three components simultaneously, including Ahara (diet), Vihara (lifestyle), and Ausadha (medications). Pathya-Apathya (healthy-unhealthy food and lifestyle patterns), Ahara and Vihara modifications, Shamana (pacifying) and Shodhana (cleansing) therapies can aid in managing hypertension. Ayurvedic literature mentions the use of Sarpagandha churna, Ashwagandha churna, and other remedies. Shodhana chikitsa employs bio-cleansing techniques like Basti, Virechana Karma, and Shirodhara with medicinal solutions to eliminate impurities from the body.

Key-words – Hypertension, Shamana chikitsa, Shodhana chikitsa, Basti, Virechana, Yoga.

Introduction

In today's specialized medical world, Ayurveda stands out with its holistic approach, considering the body as a unified entity. Understanding the body as a whole is challenging when its components exist interdependently with reciprocal interactions. Ayurveda recognized the multidimensional nature of the body, mind, and soul long before it gained recognition in modern medicine. Technological advancements have made life easier, but in the pursuit of money and development, people have neglected their primary goals of Dharma, Artha, Kama, and Moksha, leading to the development of various diseases, including hypertension.¹

Hypertension, due to its prevalence, impact, and consequences, has gained global attention. It is called the silent killer because it often does not exhibit symptoms until it has already caused damage to the heart, brain, or kidneys. Estimates suggest that 600 million individuals worldwide have hypertension, and by 2025, nearly one-third of people over the age of 20, approximately 1.56 billion individuals globally, will be affected. Hypertension poses a significant public health concern in both developing and developed countries and is responsible for 6% of global fatalities. Recent studies in India have shown a hypertension prevalence of 25% in urban areas and 10% in rural populations. Lifestyle factors such as dietary salt intake, alcohol consumption, psychological stress, and lack of physical exercise are linked to hypertension. Prolonged hypertension may cause symptoms such as headaches, dizziness, palpitations, and fatigue.²⁻⁶

While there is no direct mention of hypertension in Ayurvedic texts, they emphasize the need for physicians to identify the nature of an unknown ailment by examining the dosha (bioenergies), site of manifestation, and etiological factors before initiating treatment. Various terms have been coined in Ayurveda to describe hypertension, highlighting different perspectives, but the consensus is that the major pathophysiology involves Rakta (blood) and the blood vessels. 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.⁷

Concept of Blood pressure in Ayurveda

Raktadhatu, also known as the liquid component of the body, possesses the inherent quality of flow. However, to ensure that circulation reaches the end tissues, additional powers (Nodana, Abhighata, Dhamana, Sarana) are required. These powers are provided by the contractions and relaxations of the heart and the pulsations in the arteries. Blood pressure is the force exerted by the circulation.^{8,9} In Ayurveda, the three humors (Vata dosha, Pitta dosha, and Kapha dosha), the seven Dhatus (including Rasa dhatu and Rakta dhatu), and the Malas (such as Mutra and Purisha) are considered the underlying factors influencing all bodily functions. To understand blood pressure in terms of Ayurveda, one must examine the Srotasa (channels) through which it flows, as well as the functions of Hridaya (heart), Oja (vital energy), and Mana (mind). The circulatory system in Sanskrit is referred to as Rasa Rakta Samvahana, which is multidirectional and varies in its kinetics based on the body's location and the demands of the seven Dhatus.^{10,11} According to Acharya Sushruta's theory of circulation, Rasadhatu, the product of digestion and consisting of very small particles, circulates throughout the body in three directions. Hridaya circulates in three directions: Shabda, Archi, and Jala santanavat, which are all related to the level of kinetic force (cardiac output). Vyana Vata, a component of Vata Dosha, continuously propels blood out of the heart and distributes it, thus regulating the systolic blood pressure during cardiac contraction. Prana Vata, located in the brain, governs the Hridaya (heart) and maintains arterial perpetuation, thus controlling heart rhythm. Diastolic blood pressure, on the other hand, is influenced by Kapha Dosha, particularly Avalambaka Kapha, which helps maintain the structural integrity of organs and contributes to the resistance within the heart and blood vessels. Therefore, diastolic blood pressure is determined by peripheral resistance. The auto-rhythmicity of the heart, characterized by its rapidity, fluidity, and diffusion, is attributed to Pitta Dosha and the participation of Na⁺ and Ca²⁺ ions. Vata Dosha is responsible for the directional paths of these processes. Any alteration in the direction and kinetic force of Vata Dosha can result in high or low blood pressure. Hypertension can be caused by obstruction or disruption of their natural directions and kinetics.¹¹

There are a number of predisposing variables that contribute to hypertension: [12,13] as mentioned in table 1. Some precipitating illnesses for secondary hypertension include Roga – Madhumeha (diabetes), Sthoulya (obesity), Hridroga (heart disease), and Vrika roga (renal disease)

Nidana of Hypertension
<ul style="list-style-type: none"> • Consumption of alcoholic beverages (Madyapana) • Salt ingestion (Lavana) • A sedentary lifestyle (Ati Snigdha, Madhur, and Divaswapna) • 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) - Sthoulya and Prameha in family history • Mental stress • Physical strain (Krodha, Bhaya, Shoka)

Table 1 - Nidana of Hypertension

- ❖ Doshas - Vata (All five types; mainly Vyana Vayu), Pitta (Sadhaka and Pachaka), Kapha (Avalambaka)

Sampraprti Ghatakas
<ul style="list-style-type: none"> ❖ Dushya - Rasa, Rakta, Meda ❖ Agni - Jatharagni, Dhatvagni ❖ Ama - Jatharagni, Dhatwagni-Mandya Janya ❖ Srotasa - Rasavaha, Raktavaha, Manovaha, Medovaha ❖ Adhithana - Manodaihika (Psychosomatic) Hridaya, Sira, Dhamani, Srotas ❖ Rogamarga – Bahya, Madhyama ❖ Srotodushti - Ati-pravritti, Sanga Type, Siragranthi ❖ Udbhava Sthana - Ama-pakwashaya ❖ Sanchara Sthana - Rasayani (dhamanis)

Table 2 – Sampraprti Ghatakas

Samprapti

The pathogenesis of hypertension occurs at both the physical and psychological levels simultaneously, depending on the balance between Doshas (biological energies) and Dushyas (tissues). Hypertension is mainly caused by the impairment of Vata, particularly Vyana Vata, which is responsible for blood circulation. It can be aggravated by various factors related to Vata or influenced by other imbalanced Doshas and Dhatus.^{11,12}

In the development of hypertension, the obstruction of normal Vata functioning plays a crucial role. Excessive consumption of salt and alcohol leads to the vitiation of Sadhak Pitta (a subtype of Pitta) and Shonita (blood). Sedentary lifestyle affects Avalambak Kapha (a subtype of Kapha), while psychological tension affects Prana Vayu (a subtype of Vata) and Raja Tama Bhava (psychological factors). Prana Vayu, when imbalanced, negatively affects Hridaya (heart) and its constituents such as Sadhak Pitta, Avalambak Kapha, and Oja (vital essence).¹³

Agni Dushti (impaired digestive fire) results in the formation of Ama (toxins), which subsequently leads to Dhatu Dushti (tissue abnormalities) in Rasa (plasma) and Rakta (blood). The production of Ama causes Strotorodha (obstruction) and partially blocks the normal circulation of Rasa and Rakta, further aggravating Vyana Vayu. Prakupita Avalambakakapha (aggravated Avalambak Kapha) causes increased contractility of the heart, while exacerbated Vyana Vayu leads to enhanced blood ejection force (Gati) from Hridaya. These factors result in the forceful ejection of blood from the arteries, leading to increased resistance and high blood pressure.

Simultaneously, due to Aharaja (diet-related factors), Viharaja (lifestyle-related factors), and Manasa Hetu (psychological factors), Jathargnimandya (weak digestion) occurs, producing Ama. As a consequence of the vitiated Rasa and Rakta, blood viscosity and fluidity increase. These hemodynamic changes cause the heart to pump blood at a higher pressure. Obesity is also considered a contributing factor to the development of hypertension. The Sira (blood vessels) associated with hypertension arise from the

Medodhatu (adipose tissue). The vitiated Medo Dhatu causes Strotasavarodha (blockage of channels), leading to increased vascular stiffness and decreased elasticity, resulting in reduced blood vessel diameter (Sira and Dhamani).^{14,15}

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

Preventive Methods

To prevent illnesses, it is important to prioritize Nidana Parivarjana, which involves addressing the root causes of the disease. Hypertension can be controlled by avoiding conditions that lead to imbalances in the blood (Rakta Dhatu Dushti). Adopting healthy daily routines (Dinacharya), following seasonal regimens (Ritucharya), and practicing good behavior and rejuvenation (Achar Rasayana) can contribute to a healthier life. Adhering to these guidelines effectively reduces stress and plays a crucial role in preventing and managing hypertension.

Recommended Practices: 16,17

1. Increase consumption of fruits and green vegetables.
2. Decrease intake of oily, salty, sour, and spicy foods.
3. Include foods like barley, sorghum (jowar), wheat, green gram (moong dal), bitter gourd (karela), bottle gourd, etc., in your diet.
4. Regularly monitor your blood pressure.
5. Make lifestyle modifications such as maintaining a balanced diet, engaging in regular physical exercise, and incorporating daily brisk walks for at least half an hour.
6. Strive for weight reduction.

7. Maintain a consistent sleep schedule.
8. Regularly practice yoga, meditation, and other relaxation techniques.

Practices to Avoid:

Fatigue (Aalsya), Daytime sleep (Divashyan), Staying awake at night (Ratrijagran), Smoking, Alcohol consumption, Overeating, Unhealthy diets, Consuming excessive spicy food and salt, Lavana and Amla Ras, etc.

Curative Methods [18,19,20,21]

- ❖ Shodhana Chikitsa, also known as purification therapy, is used to treat hypertension, which is primarily caused by imbalances in Vata and Pitta doshas in the blood. This therapy involves the use of Virechana Karma (medicated purgation), Basti Karma (medicated enema), and Shirodhara.
- ❖ Virechana Karma is a treatment specifically used to address disorders caused by imbalances in Pitta dosha, which is relevant to hypertension. This therapy helps eliminate the vitiated doshas from the body by promoting the expulsion of fluids, including excess sodium and potassium ions. It also helps maintain the acid-base balance by reducing bicarbonate levels in the stools.
- ❖ Basti Karma, on the other hand, stimulates the parasympathetic nerves in the lower gastrointestinal tract. This stimulation can lead to a decrease in the renin-angiotensin-aldosterone complex, vasodilation, and a reduction in blood pressure. It activates the vasomotor center, which contributes to lowering blood pressure.
- ❖ Shirodhara involves the continuous pouring of warm liquid onto the forehead in a relaxed position. This therapy has a calming effect on the brain, promoting sleep and relaxation. The heated liquid used in Shirodhara induces vasodilation, improving circulation throughout the body, including the brain. This enhances cognitive functioning and helps alleviate psychological symptoms.
- ❖ Shamana Chikitsa, known as palliative therapy, aims to balance and maintain the doshas to prevent and treat hypertension. Ayurvedic medications, both single and compound formulations, are commonly used under medical supervision. Some

examples of single drugs include Amalaki, Rudraksha, Haridra, Japapushpam, Jatamamsi, Bhringraj, Sadabahar, Sarpagandha, Shankhapushpi, and Vacha. Compound drugs like Arjun Ksheerpaka, Brahma Rasayan, Guduchi Rasayanam, Madhuparnyadi Yogam, Medhya Rasayanam, Medhya Vati, Sarpagandha Ghan Vati, Shodashang Kashaya, and Vacha-Mansyadi Yoga are also used. Certain herbs and formulations have specific properties, such as Sariva and Manjishta for purifying the blood, and Gokshura and Punarnava as diuretics.

- ❖ Yoga and meditation are recommended as stress reduction strategies to lower blood pressure. Specific yoga asanas like Shavasana, Sukhasana, Dhanurasana, Makarasana, and Vajrasana, along with regular practice of Pranayama (breathing exercises), have been found to be effective in reducing blood pressure in both normal and hypertensive individuals. The Upanishads state that the ultimate goal of Pranayama and Yogic practices is to control Prana (life force energy), which can be utilized as a therapeutic technique due to the mental serenity and relaxation it brings.^{22,23}

Conclusion

Hypertension, a prevalent health condition worldwide, is a major contributor to mortality in both developed and developing countries. The number of individuals affected by hypertension is increasing, and traditional treatments have not been effective in addressing this ailment. Chronic hypertension poses significant risks to vital organs such as the brain, heart, and kidney. Therefore, it has become imperative to safeguard the arteries by adopting a healthy and active lifestyle based on the principles of Ayurveda, specifically Dinacharya and Ritucharya. Over the past few decades, Ayurvedic medicinal plants have demonstrated their effectiveness in reducing blood pressure and enhancing heart function. While some medications have undergone laboratory testing, many others remain undiscovered. Presently, practices like yoga and Vyayam have become integrated into daily routines. Ayurveda also offers various medications that can effectively lower blood pressure, eliminate harmful oxidants, and regulate the immune system. These drugs not

only help in managing high blood pressure but also play a role in preserving and rejuvenating cells in vital organs against the ongoing arterial pressure.

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