Research Article YASHAYURVED JUL-SEP 2025; 4(3):18-29

YASHAYURVED – E-Journal of Holistic Health
Peer reviewed | Quarterly Journal | Open Access

Panchakarma and Lifestyle Interventions in the Ayurvedic Management of Essential Hypertension: An Integrative Perspective

Dr. Dimpal R. Bhadane [1], Dr. Ravikumar B. Patil[2] , Dr. Sukanya Patil[3]

[1]P.G. Scholar, Department of Panchakarma, Yashwant Ayurvedic College, Post Graduate Training & Research Center, Kodoli, Maharashtra.
[2]Professor, H.O.D of Panchakarma, Yashwant Ayurvedic College, Post Graduate Training & Research Center, Kodoli, Maharashtra
[3]Asso. Professor, Department of Panchakarma, Yashwant Ayurvedic College, Post Graduate Training & Research Center, Kodoli, Maharashtra

ABSTRACT

Hypertension, a leading global health challenge, significantly contributes to cardiovascular morbidity and mortality. Modern science defines it as persistently elevated blood pressure, while Ayurveda, though not explicitly naming the condition, interprets it through concepts such as Raktagata Vata, Dhamani Prapurana, and Vyana Prakopa. This integrative review explores essential hypertension from both modern and Ayurvedic perspectives, highlighting its pathogenesis, risk factors, and management. In Ayurveda, the imbalance of Doshas, particularly Vata along with Rakta and Dhamanis, plays a central role. Management emphasizes breaking the Samprapti (pathogenesis) through Shodhana (purification), Shamana (palliative therapy), and Rasayana (rejuvenation), supported by lifestyle modifications. Therapeutic measures such as Virechana, Basti, Raktamokshana, and Shirodhara, along with herbs like Sarpagandha, Punarnava, and Guduchi, are discussed. Integration of modern lifestyle guidelines with Ayurvedic regimens, including diet, exercise, stress management, and seasonal practices, offers a comprehensive, sustainable approach. Such holistic management ensures not only symptom control but also prevention of complications and promotion of overall well-being.

Keywords: *Essential Hypertension, Panchakarma, Ayurveda, Lifestyle modification.*

INTRODUCTION

Hypertension is often termed a “silent killer” because it usually shows no obvious symptoms until considerable damage has already occurred to vital organs such as the heart, kidneys, or brain[1]. It is recognized as a major public health challenge in both developing and developed nations. According to the guidelines of the American Heart Association (AHA) and the American College of Cardiology (ACC), hypertension is defined as a systolic blood pressure of ≥130 mmHg or a diastolic blood pressure of ≥80 mmHg[2]. In contrast, the World Health Organization (WHO) defines hypertension as a condition in which the blood vessels consistently experience raised pressure[3].

Hypertension is the leading cause of the global burden of cardiovascular disease. World health statistics 2012 state that the prevalence of hypertension was 29.2% in males and 24.8% in females[4]. Across the World, hypertension is responsible for 51% of cerebrovascular disease and 45% of ischemic heart disease deaths[5]. Recent reports suggested that nearly 1 billion adults had hypertension in 2000, and this number is predicted to increase to 1.56 billion by 2025[6].

A significant proportion of individuals with hypertension remain unaware of their condition, and among those who are diagnosed, treatment often remains inadequate or poorly managed. This highlights the need for community-based strategies aimed at prevention, awareness, effective treatment, and better control of hypertension. Although the term “Essential Hypertension” is not explicitly described in classical Ayurvedic texts such as the *Samhitas* or *Samgraha Granthas*, Ayurveda recognizes that not every disease is assigned a specific name[7].

AIM AND OBJECTIVE

Understanding hypertension from an Ayurvedic perspective involves identifying its causative factors, tracing its pathogenesis, and establishing correlations with Dosha, Dushya, and Srotas.

MATERIALS AND METHODS

The signs and symptoms associated with hypertension were examined from an Ayurvedic perspective through a review of classical Ayurvedic texts, modern medical literature, and relevant scientific studies. Supplementary data were collected and analyzed from credible online resources to facilitate a comprehensive and integrative understanding.

Conceptual Understanding of Essential Hypertension in Ayurveda

Ayurvedic scholars have described essential hypertension using various terminologies that reflect its underlying pathophysiology and clinical manifestations. These include *Raktagata Vata, Siragata Vata, Avrita Vata, Dhamani Prapurana, Rakta Vikshepa, Vyana Prakopa, Raktamada, Uchcha Raktachapa,* and *Vyana Atibala,* among others. Each of these terms represents a distinct Ayurvedic interpretation, emphasizing imbalances primarily in Vata dosha along with disturbances in the circulatory system, particularly Rakta (blood) and Dhamanis (blood vessels)[8].

Despite differences in terminology and perspective, all descriptions converge on a common understanding: the fundamental pathogenesis of hypertension involves derangement of *Rakta* and dysfunction of the *Dhamanis*. However, variations exist among scholars in explaining its precise Ayurvedic pathophysiology.

With modern science providing in-depth insights into the mechanisms of hypertension, integrating these advancements with Ayurvedic principles can enrich our understanding of the disease and foster more effective, holistic strategies for its prevention and management.

Understanding Blood Pressure in Ayurveda

To begin with, understanding the physiological aspects of blood pressure from an Ayurvedic perspective requires reference to the Tridosha theory, which emphasizes the dynamic equilibrium of *Vata, Pitta,* and *Kapha*. This fundamental concept forms the basis for interpreting circulatory functions and related imbalances such as hypertension within Ayurvedic science[9]. According to Ayurveda, blood ejected from the heart is distributed throughout the body and subsequently returns to the heart through vessels known as Sirah[10]. The regulation of this return flow of *Rasa* (blood) towards the heart is attributed to the functional role of Samana Vata[9,11].

Pumping Physiology of the Heart

Blood pressure refers to the lateral pressure exerted by circulating blood on the arterial walls[12]. It has two primary components: systolic blood pressure and diastolic blood pressure[13]. The heart contains an intrinsic pacemaker, the sinoatrial (SA) node, which autonomously generates electrical impulses that initiate systolic contraction. This inherent self-excitatory property of the heart can be correlated with the function of Vata Dosha, particularly Vyana Vata, which resides in the heart and is responsible for regulating and

maintaining the circulation of blood throughout the body[9,14]. Although the SA node generates impulses independently, the rate of impulse generation is modulated by the autonomic nervous system. In Ayurvedic terms, this regulatory control is attributed to Prana Vata, located in the *Murdha* (head), which governs the Hridaya (heart) and performs the function of *Dhamani Dharana*. Thus, the heart rate is primarily regulated by Prana Vata[15].

Peripheral Resistance

Diastole is the phase during which the heart muscles relax, allowing the chambers to fill with blood. In this stage, there is no active contraction of the heart; rather, blood continues to flow forward due to the pressure generated as it passes through the narrower chambers and arteries. Diastolic blood pressure mainly reflects the resistance posed by the structural components of the heart and the blood vessels, particularly the peripheral vascular resistance. From an Ayurvedic standpoint, this resistance and structural stability are attributed to Avalambaka Kapha, which provides support and maintains the integrity of thoracic structures, including the heart. Likewise, the diameter and elasticity of blood vessels—which play a crucial role in determining peripheral resistance—are governed by Kapha Dosha, as Kapha is responsible for structure, cohesion, and lubrication within the body[16].

Vascular Elasticity

Vascular tone is regulated by the autonomic nervous system, which adjusts arterial diameter as needed. The peripheral resistance created by the arteries—particularly through vasoconstriction mediated by sympathetic nervous activity—can be correlated in Ayurveda with the function of Prana Vata. Prana Vata governs the nervous system and plays a key role in regulating involuntary physiological processes, including the modulation of vascular tone.

The auto-rhythmicity of the heart arises from action potentials generated by the rapid influx of sodium (Na^+) and calcium (Ca^{2+}) ions, along with the efflux of potassium (K^+) ions across the membrane of the sinoatrial (SA) node, thereby initiating the electrical impulses that sustain the heartbeat[17]. This ionic activity may be interpreted within the Ayurvedic framework as a function of Pitta Dosha, owing to its *Tikshna* (sharp/rapid), *Drava* (fluid), and *Sara* (diffusive/dispersion) gunas (*Ashtanga Samgraha, Sutra Sthana, 1/26*).

Blood Volume and Circulatory Function

The volume and viscosity of blood are primarily governed by the quality and quantity of Rasa Dhatu and Rakta Dhatu, both of which play a crucial role in determining cardiac output. In Ayurvedic physiology, the Hridaya (heart) and Rasavaha Dhamanis (blood vessels) together form the Prana Vaha Srotas, whose Srotomula (roots) are considered vital structures responsible for maintaining and regulating blood circulation throughout the body[18].

Blood Pressure Control: An Ayurvedic Tridosha Perspective

Short-term regulation of blood pressure is primarily mediated through neural mechanisms, which can be correlated with Prana Vata. In this process, Prana Vata works in conjunction with Kapha at the baroreceptors and Pitta at the chemoreceptors.

Long-term regulation involves pressure diuresis and pressure natriuresis, functions attributed to Apana Vata (*Ashtanga Sangraha, Sutra Sthana 20/2*). Additionally, hormonal mechanisms that modulate blood pressure are associated with Pitta Dosha due to its regulatory and transformative properties.

Etiological Risk Factor

Essential Hypertension is considered idiopathic, as the exact etiology of elevated blood pressure remains unclear. Several predisposing factors contribute to the development of hypertension, including: excessive alcohol consumption (*Madhyapana*), high salt intake (*Atisnigdh, Lavana Abhisyanda*), sedentary lifestyle (*Divaswapna, Madhura Ahara*), mental stress (*Krodha, Bhaya, Shoka*), physical exertion (*Shrama*), seasonal variations (*Ritu Sandhi*), and hereditary factors (*Beeja Dusthi*). Additionally, associated predisposing diseases (*Nidanarthaka Roga*) such as Madhumeha, Sthoulya, Hridaya Roga, and Vrikka Roga further increase susceptibility to hypertension (*Charaka Samhita, Sutrasthana 24/7–10*).

Lakshana of Hypertension

Shiroruk, Shrama, Krodha Prachurata, Jwara, Bhrama, Klama, Akshigraha, Tamasa, Atidarshana, Kampa, Ardita, Raktameha, Mada, Murcha, Sanyasa etc[19].

Samprapti

Nidana Sevana
↓
Pradhana Tridosha Prakopa
↓
Since Prana Vata has influence on Hridaya
↓
Vitiates Hridaya and its residing components like
Vyana Vata, Sadhaka Pitta, Avalambaka Kapha and Shonita.
↓
Prakupita Avalambaka Kapha induces exaggerated
contractility of the Heart.
↓
Aggravated Vyana Vata leads increased Gati (the
force of ejection of blood from Heart)
↓
These events lead into forceful expulsion of blood
through Dhamanis
↓
Ultimately leading to increased resistance in vessels
↓
Hypertension

Samprapti Ghatak

- Dosha - Prana, Udana, Vyana Vata, Sadhaka pitta, Avalambaka Kapha
- Dhatu - Rasa, Rakta, Mamsa, Medha
- Upadhatu - Sira, Dhamani
- Agni - Jatharagni, Dhatwagni Mandya
- Srotas - Rasa, Rakta, Prana, Manovaha Strotas
- Srotodustiprakara - Sangha, Vimargagamana
- Udbhavasthana - Pakwashaya, Amashaya
- Sancharasthana - Sarva Sharira
- Rogamarga – Madhyam
- Sadhyasadhyata – Yapya

Chikitsa Sutra

Ayurvedic treatment focuses on restoring the balance of the Tridoshas—*Vata*, *Pitta*, and *Kapha*—while improving digestion and facilitating the elimination of Ama (toxins). The therapeutic approach generally begins with Shodhana (purification therapy), which aims to

detoxify the body by removing accumulated toxins. Following successful purification, Shamana therapy is implemented to alleviate symptoms and pacify the aggravated Doshas. Finally, Rasayana therapy is employed to rejuvenate the body, enhance immunity, and promote long-term health and overall well-being.

Chikitsa

Management of hypertension in Ayurveda should be individualized according to the predominant Dosha and the affected Dushya (body tissues). A holistic treatment strategy typically encompasses the following key components:

- Nidana Parivarjana: Avoidance or elimination of causative factors to prevent further aggravation of the condition.
- Lifestyle Modification: Adopting suitable dietary practices, engaging in regular physical activity, managing stress effectively, and following daily routines tailored to the individual's constitution.
- Shodhana Chikitsa: Detoxification therapies designed to eliminate accumulated Doshas and restore systemic balance.
- Shamana Chikitsa: Palliative interventions, including herbal formulations, dietary regulation, and supportive therapies, aimed at pacifying aggravated Doshas and alleviating symptoms.

Shodhan Chikitsa

In patients with Uttam Bala (good strength) who present with mild to moderate hypertension without complications, Shodhana procedures such as Virechana, Basti, or Raktamokshana may be recommended, depending on the predominance of the aggravated Dosha (*Dosha Pradhanyata*).

Virechana

Virechana (therapeutic purgation) facilitates the removal of Margavarodha (obstructions in channels) and effectively eliminates morbid Doshas, particularly from the Pitta and Rakta Dhatus, while also aiding in the regulation of Vata Dosha. During the Virechana process, mild inflammation of the intestinal mucosa occurs, leading to hyperaemia and exudation, which enhances the movement of fluids from the blood vessels into the intestinal lumen. This increased fluid secretion helps dilute and eliminate toxic substances. Consequently, the

evacuation of fluids from the Rasa and Rakta Dhatus reduces circulating blood volume, thereby contributing directly to the management of conditions such as hypertension.

Basti

Long-term regulation of blood pressure is largely mediated by the Renin-Angiotensin-Aldosterone (RAA) system, a key endocrine mechanism. The lower gastrointestinal tract (GIT) is extensively innervated by parasympathetic nerves. Administration of Basti therapy stimulates these nerves, which leads to a decrease in RAA system activity. This reduction subsequently activates the depressor area of the vasomotor center, causing vasodilation and contributing to a lowering of blood pressure.

Raktamokshana

Raktamokshana (bloodletting) is not limited to a local effect but produces systemic benefits. In the management of hypertension, it aids in reducing overall blood volume, thereby contributing to a lowering of blood pressure.

Shirodhara

Shirodhara is particularly effective in balancing Vata and Pitta Doshas. During the procedure, the continuous flow of liquid over the forehead generates gentle pressure and vibrations, which are amplified by the hollow frontal sinuses. These vibrations are transmitted inward through the cerebrospinal fluid, serving as a medium to influence neural activity. The combined effects of vibrational stimulation and mild warmth may modulate the thalamus and basal forebrain, key centers involved in the regulation of emotions and sleep. Consequently, neurochemical balance is restored by normalizing serotonin and catecholamine levels, promoting relaxation and facilitating restful sleep.

Shaman Chikitsa

Vibhitaki possesses Kashaya Rasa (astringent taste) and exhibits Laghu (light) and Ruksha (dry) qualities, along with Ushna Virya (hot potency). Chemically, it contains Mannitol, which acts as a diuretic. Vibhitaki also helps in lowering cholesterol levels and may exert its cardiovascular benefits through a calcium antagonist mechanism.

Maricha contains Piperine as its principal active compound. It helps reduce obesity and hyperlipidemia by inhibiting cholesteryl ester synthesis, thereby decreasing lipid absorption.

Piperine also counteracts vasoconstrictors such as phenylephrine and prevents potassium efflux, reducing cardiac muscle contraction and supporting cardiovascular health.

Guduchi contains active constituents such as diterpenoid lactones. It exhibits vasorelaxant properties, aiding in blood vessel relaxation, and is considered one of the foremost Medohara dravyas (anti-obesity agents) in Ayurveda, making it beneficial for managing metabolic and cardiovascular disorders.

Punarnava demonstrates significant therapeutic properties. Both its alcoholic and aqueous extracts possess diuretic activity, promoting the elimination of excess fluid. The alcoholic extract also shows cardiotonic effects, supporting heart function. Its Ushna Virya helps clear channel obstructions, making it effective in conditions associated with fluid retention and circulatory disturbances.

Gokshura acts as a diuretic, reducing intravascular fluid volume and preventing fluid accumulation, thus aiding in the management of hypertension and edema.

Sariva—the methanolic root extract exhibits antithrombotic activity by enhancing the release of lipoprotein lipase, which regulates lipid metabolism and prevents clot formation.

Manjistha demonstrates multiple pharmacological actions, including diuretic, calcium channel blocking, antistress, and vasodilatory effects, making it valuable in managing hypertension and related vascular disorders.

Brahmi is known for its cardiotonic properties, reducing anxiety, serum creatinine, and blood pressure, thereby supporting cardiovascular and renal health.

Sarpagandha contains Reserpine, which modulates nerve impulses affecting the heart and blood vessels. By depleting catecholamines and serotonin, it induces vasodilation and lowers peripheral resistance, making it effective in hypertension management.

Shankhapushpi helps regulate stress hormone production. Its ethanolic extract has been shown to reduce cholesterol, triglycerides, and phospholipids, supporting both mental health and lipid metabolism.

Integrated Lifestyle Management of Hypertension: Modern and Ayurvedic Perspective

Effective management of hypertension necessitates a holistic approach that integrates modern medical practices with Ayurvedic lifestyle principles. Modern strategies focus on maintaining a balanced low-sodium diet, engaging in regular physical activity, managing stress, maintaining a healthy weight, ensuring adequate sleep, and avoiding tobacco and excessive

alcohol. These interventions help reduce blood pressure, improve cardiovascular function, and prevent associated complications.

Ayurveda complements these measures with personalized lifestyle recommendations based on Dosha balance, including daily routines (Dinacharya), seasonal regimens (Ritucharya), moderate exercise (Vyayama), and a Sattvic diet. Additional practices such as Abhyanga (oil massage), Nasya, and meditation support the nervous system and promote emotional equilibrium. Ayurvedic therapies, including Shodhana (detoxification) and Rasayana (rejuvenation), further enhance cardiovascular strength and overall systemic balance.

Combined, these approaches provide a comprehensive and sustainable strategy for regulating blood pressure, promoting mental well-being, and supporting overall health.

CONCLUSION

After an in-depth review of classical Ayurvedic texts and modern medical literature, it is evident that the Ayurvedic approach to disease management—centered on breaking the Samprapti (pathogenesis), i.e., *Samprapti Vighatana*—is highly relevant in the treatment of hypertension. In Ayurveda, hypertension can be correlated with an abnormality of Rakta Dhatu, commonly referred to as Shonita Dushti.

In cases where Avarana (obstruction) is present, treatment should follow the fundamental principle of addressing the Avaraka (blocking Dosha) first, followed by management of the Avrita Dosha (obstructed Dosha). Accordingly, Virechana Karma is used to eliminate vitiated Pitta and Kapha Doshas, and Basti Karma is administered to manage Vata Dosha, particularly when it is obstructed or displaced.

These treatment modalities are aligned with Ayurvedic seasonal guidelines (Ritucharya) and, if implemented appropriately, can play a significant role not only in preventing the onset of hypertension but also in halting its progression.

Acharya Sushruta states, *"Shonita Kapha Prasadajam Hridayam"*, highlighting that the Hridaya (heart) originates from the pure essence of Rakta and Kapha during embryonic development. Hence, while managing hypertension, special attention should be given to these fundamental constituents. The therapies adopted in Ayurveda thus aim to act at the root cause, offering more reliable and long-term results.

To ensure sustained benefits, these interventions must be complemented with proper Pathya-Apathya (dietary and lifestyle regulations), helping maintain doshic balance and overall cardiovascular health.

REFERENCES

1. WHO report of Prevention and control or Cardio vascular diseases, 2001-2002, available from http://www.sld.cu/./pdf/./international cardiovascular disease statistics. Page 2.
2. 2017ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA(2018) Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines.; 71(19).
3. World Health Organisation, Health Topics, Hypertension.
4. Kumar J. (2013) Epidemiology of hypertension. *Clinical Queries: Nephrology*; 2(2), 56–61 doi.https://www.sciencedirect.com/science/article/pii/S2211947713000162
5. Kumar J. (2013) Epidemiology of hypertension. *Clinical Queries: Nephrology*; 2(2), 56–61 doi.https://www.sciencedirect.com/science/article/pii/S2211947713000162
6. Epidemiology of Hypertension, *Supplement To JAPI*; February 2013; VOL. 61.
7. Charaka Samhita, Yadavaji Trikamji, Reprint edition, Chaukhamba Sansrit Sansthana, Varanasi, 2009, Sutrasthana, 18/46: pg 108.
8. Dhamle Madhumati. Department of Basic Principles, Institute of Post Graduate Teaching and Research in Ayurveda; 2001. Post Graduate Thesis on – the study of Yojana-Chatushka of Charaka and Yojana for the management of RaktashritaVyadhi (hypertension).
9. Patwardhan K. The history of the discovery of blood circulation: unrecognized contributions of Ayurveda masters. Adv Physiol Educ. 2012; 36:77–82. doi: 10.1152/advan.00123.2011.
10. Joshi H., Singh G., Patwardhan K. Ayurveda education: evaluating the integrative approaches of teaching Kriya Sharira (Ayurveda physiology) J Ayurveda Integr Med. 2013;4(3):138–146. doi: 10.4103/0975-9476.118683.
11. Shristava S., editor. Sharngadhara Samhita of Sharngadhara. Chaukhambha Orientalia; Varanasi, India: 2013. p. 52. Purva Khanda, Chapter 6, Verse 8.
12. 12.Xu C., Xiong H., Gao Z., Liu X., Zhang H., Zhang Y. Beat-to-Beat blood pressure and two-dimensional (axial and radial) motion of the carotid Artery wall: physiological evaluation of arterial stiffness. Sci Rep. 2017;7:42254. doi: 10.1038/srep42254.
13. Franklin S.S., Lopez V.A., Wong N.D., Mitchell G.F., Larson M.G., Vasan R.S. Single versus combined blood pressure components and risk for cardiovascular disease: the

Framingham heart study. Circulation.2009;119 (2):243–250. doi:10.1161/CIRCULATIONAHA.108. 797936.

14. Paradkar H., editor. Ashtanga Hridaya of Vagbhata (with the commentaries “Sarvanga Sundara” of Arunadatta and “Ayurveda rasayana” of Hemadri) Chaukhmba Surbharati Prakashana; Varanasi, India: 2002. p. 193. Sutra Sthana; Doshabhediya Adhyaya, Chapter12, Verse 6.
15. Murthy Srikantha KR, editor. Asthanga Samgraha of Vagbhata. 9th ed. Varanasi: Chowkhamba orientalia; 2012. p.368. Sutra Sthana, Doshabhedeeya Adhyaya, Chap 20, Verse 2.
16. Gordan R., Gwathmey J.K., Xie L.-H. Autonomic and endocrine control of cardiovascular function. World J Cardiol. 2015;7(4):204–214. doi: 10.4330/wjc.v7.i4.204.
17. Sembulingam, Sembulingam Prema. 5th ed. Jaypee brothers medical publishers (P)Ltd.; New Delhi: 2010. Properties of caridiac muscle. Essentials of medical physiology; p. 509.
18. Trikamji J., Ram N., editors. Commentary Nibandha Sangraha of Dalhana on Sushruta Samhita of Sushruta, Sharira Sthana; Dhamaneevyakaranam Shareeram Adhyaya. 1st ed. Chaukhambha Sanskrit Sansthan; Varanasi: 2012. p. 386. Ch. 8, Verse12.
19. Tripathi B, Samhita C, Adhyaya S 24 (11-17) P-430. In: Chakrapani and Charaka Chandrika (Eds), Chaukhamba Surbharati Prakashan,Vranasi, India.