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An Ayurvedic approach to understand Systemic Hypertension and the role of diet and lifestyle in its preventive and palliative care

BS Kasturirangan¹, Angadi Ravindra², BN Ashok Kumar³, RR Geethesh⁴, VS Sushmitha⁵

¹Post Graduate Scholar, Dept. of PG & PhD Studies in Rasashastra & Bhaishajya Kalpana, Sri Dharmasthala Manjunatheshwara College of Ayurveda, Udupi, Karnataka, India.

²Guide, Professor & HOD, ^{3,4}Co-guide, Associate Professor, ⁵Assistant Professor, Dept. of PG & PhD Studies in Rasashastra & Bhaishajya Kalpana, Sri Dharmasthala Manjunatheshwara College of Ayurveda, Udupi, Karnataka, India.

ABSTRACT

In the present era, lifestyle induced chronic disorders occupy a major proportion of human suffering across the developing and developed nations. Among them, systemic arterial hypertension is a very commonly seen pathological entity. This disorder not only makes the afflicted people dependent on drugs life-long, if poorly managed it also leads to serious life-threatening complications like aneurysm, cerebro vascular accident, coronary artery disease, cardiac failure, renal failure, etc. While mechanisms like renin-angiotensin system have been well established for secondary hypertension, the exact underlying cause for primary hypertension is not yet conclusive and currently limited to identifying predisposing factors. To provide an effective palliative and preventive care through diet and lifestyle modifications, an Ayurvedic understanding of the pathophysiology of hypertensive condition is required. In the present study, the two important aspects of blood pressure, i.e., hydrostatic pressure and vascular stability is attributed to components of *Vata-Dosha* and therefore Systemic Hypertension is comprehended under the purview of *Anyonya-Avarana*. Here in, an effort is made to analyze the *Doshic* components, and few *Nidanas* that lead hypertensive conditions; and few suitable lifestyle modifications and regimen like *Abhyanga* and *Nasya*, which are simple yet effective, and advisable for preventive and palliative care of Systemic Hypertension, are put forth based on Ayurveda principles and textual references.

Key words: *Vata-Dosha, Anyonya-avarana, Abhyanga, Nasya.*

INTRODUCTION

The etiology and pathogenesis of essential (primary) hypertension that comprises of more than 90% cases largely remains obscure whereas those of secondary hypertension have been extensively studied and understood. In general, normal blood pressure is

regulated by 2 haemodynamic forces – cardiac output and total peripheral vascular resistance.^[1] Therefore it can be said that factors which alter these two components result in hypertension.

Prana Vata is said to be responsible for *Hrudaya Dharana* and *Dhamani Dharana*.^[2] Whereas *Vyana-Vata* is responsible for *Uchita Vikshepa karma* of *Rasa Dhatu*.^[3] In other words *Prana-Vata* maintains and provides stability to the heart and circulatory vessels while *Vyana* is the component responsible for circulatory pressure. Therefore the 2 haemodynamic factors previously referred – cardiac output and peripheral vascular resistance can be placed under the functions of *Vyana* and *Prana* components of *Vata-Dosha* respectively.

MATERIALS AND METHODS

Different classical textbooks of Ayurveda like *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*,

Address for correspondence:

Dr. BS Kasturirangan

Post Graduate Scholar, Dept. of PG & PhD Studies in Rasashastra & Bhaishajya Kalpana, Sri Dharmasthala Manjunatheshwara College of Ayurveda, Udupi, Karnataka, India.

E-mail: kasturiranganbs@gmail.com

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Ashtanga Sangraha and, the various contemporary textbooks of pathology and medicine were referred for this study.

RESULTS

Nidana

Any *Nidana* leading to the vitiation of these two components of *Vata* singly or together, by themselves or with involvement of *Pitta* and *Kapha*, along with a *Kha-Vaigunya* in *Hrudaya* and/or *Rasavaha Raktavaha Srotas* would lead to conditions presently diagnosed as Hypertension.

Old age as a Predisposing factor^[1] - It is a well-known fact that old age is one of the main predisposing factors for Hypertension. As age advances there is a reduction in the elasticity of arteries causing them to become stiffer as a result the blood pressure tends to increase.

Ayurveda too speaks about the same mechanism in a different language. It is a basic concept that *Vata-Dosha* becomes predominant during *Vrudhnavastha*⁴ and therefore people during *Vrudhnavastha* suffer more from disorders of *Vata-Dosha*. *Vata* having attributes of *Ruksha*, *Khara*, *Laghu* etc makes the body tissues including the vascular structures rough, dry, light, inelastic, i.e., predisposing Hypertension.

Smoking^[1] - The Nicotine in cigarette smoke raises blood pressure, heart rate, narrows arteries and hardens their walls, and makes blood more likely to clot. Hence cigarette smoking forms one of the major risk factors for hypertension.

A similar reasoning can be obtained from the analysis of the features described in Ayurveda under improper and excessive *Dhumapana*, which describes the vitiation of *Vata-Pitta-Rakta*.^[5]

Alcohol - Epidemiological, preclinical and clinical studies have established the association between high alcohol consumption and hypertension and several possible mechanisms such as increased vasoconstriction due to inflammation, oxidative injury to endothelium, enhanced sympathetic activity, increased vascular activity etc have been proposed^[6]

In Ayurveda literature too adverse effects of excessive alcohol consumption has been methodically explained. *Madya* is said to have 10 qualities which are opposite to that of the 10 qualities *Ojas*, and each quality of *Madya* negates a quality of *Ojas*, progressively uprooting the stability of *Ojas* ultimately resulting in the *Vikruti* of *Hrudaya* which is the seat of *Pradhana Ojas* ^[7]

Lakshana

Vyana and *Prana Vata* are the prime Doshic factors responsible for normal blood pressure. When their *Functioning* is disturbed by other entities the resulting effect may be attributed to an impaired blood flow and its further consequences.

Similarities between the *Lakshanas* of *Avarana/Anyonya-Avarana*^[8] and clinical presentations of Hypertension are stated in the forthcoming discussion.

DISCUSSION

Even though a separate disease entity translating to Systemic Hypertension is not mentioned in classical literature of Ayurveda, the etiopathogenesis and clinical presentations are present in various contexts, few of which are mentioned in Table 1.

Table 1

<i>Avarana Bheda</i>	<i>Lakshana</i>	Signs and Symptoms of Hypertension
<i>Pranavruta Vyana</i>	<i>Sarva Indriya Shunyatva, Smriti Bala</i> ^[8] <i>Kshaya</i> ^[11]	Vision changes, buzzing in ear, confusion, fatigue
<i>Vyanavruta Prana</i>	<i>Swedo Atyartha, Supta Gatrata</i> ^[8]	Sweating, transient ischemic attacks
<i>Udanavruta Prana</i>	<i>Nishwasa Uchchwaso Samrodha, Shirograha</i> ^[9]	Breathlessness, headache
<i>Pittavruta Prana/Udana</i>	<i>Bhrama, Murcha, Antar Urja Bhramsha</i> ^[9]	Giddiness, loss of consciousness, loss of appetite

<i>Pittavruta Vyana</i>	<i>Klama, Anga Cheshta Sanga</i> ^[9]	Fatigue, transient ischemic attacks
<i>Kaphavruta Udana</i>	<i>Guru Gatravta</i> ^[9]	Obesity, dyslipidemia

From this, it is quite evident that hypertensions like conditions were prevalent in earlier times and *Acharyas* of Ayurveda were aware of such disease entities and managed such patients back then. Apart from administering medicaments, implementing dietary changes and adopting external therapies as lifestyle regimen can be quite beneficial as Hypertension being a chronic ailment needs all the support and care that can be given.

Diet - Regulating *Vatakara Ahara Dravyas* in the diet is very much needed for patients of Hypertension.

Avoiding Potatoes (*Aloo*) *Aluka* is mentioned as *Avara Kanda Shaka*^[10] i.e., the most inferior among roots and tubers and to be avoided whereas at present, potatoes are one of the most used vegetables on the planet. Among the wide variety of vegetables and grains available, healthier choices can be implemented in the diet.

Alcohol and cigarette smoking being predisposing factors for Hypertension and their Ayurvedic understanding has been reviewed earlier. Hence their usage and consumption must be regulated for optimum palliative/preventive care.

Use of Salt - as commonly advised increased salt intake increase blood pressure levels, but as directed by Ayurveda.^[11] *Saindhava Lavana* is best variety of salt and can be used daily, and this is also backed by contemporary research works^[12] which say that per equal volumes of table salt and rock salt, rock salt contains lesser Sodium and hence is a better option.

Lifestyle - Exercise/*Vyayama*

Contemporary research has found that aerobic exercises in moderation have a preventive as well as palliative effect on hypertension by strengthening the muscles of the heart.^[13] Ayurveda too advocates for regular and moderate *Vyayama* as it provides the

benefits of *Dosha Kshaya* and *Agni Vriddhi*,^[14] both of which aid in maintaining health.

Nasya - It is included under daily regimen for proper nourishment of sense organs. However, it is also indicated as a management protocol in *Dhoomapana Atiyoga*.^[15] Hence it can be advised in cases of chronic cigarette smoking which is also a prime predisposing factor for hypertension.

Abhyanga - Oil application and massage is widely discussed and appreciated for its benefits across Ayurvedic texts and is part of daily regimen as per guidelines of Ayurveda.^[16] Even though it is applicable for *Swastha* (healthy person), *Abhyanga* is indicated in conditions of *Vata-dosha* involvement as *Sneha* application mitigates *Vata-dosha*.

It is also mentioned specifically in the treatment of disorders afflicting *Hridaya*. Medicated oil prepared by using *Punarnava, Devadaru, Panchamula, Rasna, Yava, Bilva, Kulattha, Kola* is indicated for external as well as internal use in *Vataja* disorders of *Hridaya*.^[17] Medicated oil prepared using *Mutra, Jala, Lavana* etc. is also beneficial in disorders of *Hridaya*.^[17]

CONCLUSION

Prana Vata and *Vyana Vata* are responsible for maintaining the regular blood pressure. *Nidanans* similar to predisposing factors of Hypertension can be identified within Ayurveda classical texts. *Avarana* and *Anyonya-Avarana* pathologies present *Lakshanas* similar to clinical presentation of Hypertension. Dietary changes like regulating *Vatakara Dravyas* and using *Saindhava* instead of *Samudra Lavana*; Lifestyle changes like *Vyayama, Nasya, Abhyanga* are beneficial in preventative and palliative care of Hypertension.

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