

CRITICAL UNDERSTANDING OF HYPERTENSION IN AYURVEDA

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ABSTRACT

The main objective of this review is to understand the pathophysiology of Hypertension in view of *Ayurveda*. *Vyana Vayu*, *Apana Vayu*, *Sadhaka Pitta* and *Rasa Dhatu* play an important role in pathogenesis of *Hypertension*. Raised BP remains the leading cause of death globally. In this article an attempt is made to explain the pathophysiology of Hypertension in the view of *Ayurveda* and its relevance in various *Ayurvedic* pathological conditions. It is not advisable to co-relate Hypertension to only *Raktagata Vyadhis*. Wide Literature Review is done to find the relation of Hypertension in pathologies other than *Raktagata Vyadhis*.

Keywords: Hypertension, *Vyana Vayu*, *Apana Vayu*, *Sadhaka Pitta*, *Rasa Dhatu*, *Raktagata Vyadhis*, Pathophysiology.

INTRODUCTION

High Blood pressure is the leading modifiable risk factor for Cardio-Vascular Diseases contributing to the greatest global burden of disease.^[1] Raised BP remains the leading cause of death globally accounting for 10.4 million deaths per year.^[2] Despite several initiatives the

prevalence of raised BP and adverse impact on cardiovascular morbidity and mortality are increasing globally, irrespective of income. The Eighth Joint National Committee (JNC8) recently released evidence-based recommendations on treatment

thresholds, goals, and medications in the management of Hypertension in adults. The Eighth Joint National Committee (JNC8) are updated guidelines on HTN Which addresses blood pressure threshold at which drug therapy should be initiated.^[3] Unlike the JNC7 which recommend a treatment threshold of 140/90 mm hg regardless of age, JNC8 raises the systolic threshold at age 60.^[4] Also, JNC7 recommended a lower treatment threshold (130/80 mm hg) for patients with diabetes or chronic kidney disease. For persons 18 years or older with chronic kidney disease (CKD) or diabetes mellitus, the treatment threshold and target blood pressures are same as those for the general population younger than 60 years (i.e., threshold systolic pressure of 140 mm Hg or threshold diastolic pressure of 90 mm Hg; target systolic pressure of less than 140 mm Hg; target diastolic pressure of less than 90 mm Hg). There is no evidence that treating patients with CKD to a lower blood pressure goal slows the progression of the disease. Similarly, there is no evidence from randomized controlled trials showing that treatment to a systolic pressure of less than 140 mm Hg improves health outcomes in adults with diabetes and Hypertension. The available anti-hypertensive regimen stands effective in most cases but fails to keep a check on Blood Pressure of many subjects, the cause of which is still unexplained. In *Ayurveda* most of the authors tried to explain the disease but many a times the efforts have been restricted to mere translation of the disease name.

Objective:

This study is aimed to explain Hypertension in the light of *Ayurveda* with the objective of understanding Hypertension in terms of *Vishista Samprapti*, *Vishishta Lakshana* and also according to the *Chikitsa* adopted by various practitioners to treat/manage Hypertension.

Material and Methods:

Blood pressure is defined as the lateral pressure exerted by the blood on the walls of the blood vessels.^[5] Many authors in *Ayurveda* try to co-relate this function with the function of *Rakta Dhatu* as the blood is directly translated as *Rakta* but to co-relate the blood pressure following points should be considered.

1) Foetal Circulation -

Acharya Charak in *Shareera Sthana* explains the concept of nourishment of foetus. He explains that *Nabhi* of foetus is attached with *Apara* and this *Apara* is connected with *Matru Hrudaya*. *Matru Hrudaya* nourishes the foetus through *Syandamana Siras* word *Syandamaan* is defined as *Sanspandamaan* which means Flowing or Quickly Moving^[6]. In the above context the anatomical parts are same as it is found in a gravida. But placenta and umbilical cord supply blood to the foetus, which on a lighter aspect is compared with *Rakta*. But *Acharya Charaka* use the term *Rasa* and says *Tasya Raso Balavarnakarah Sampadyate*.^[7] This shows the blood which is circulated in the foetus is *Rasa* and not the *Rakta*. *Acharya Sushruta* also coins the term *Rasavaha Naadi* for *Garbha Nabhi Nadi* ^[8]. *Acharya Sushruta* considers *Rakta* as *Chaturtha Dosha* still he doesn't use the word *Rakta* for *Garbha Nabhinadi*.

2. Rasa Utpatti:

Acharya Sushruta explains *Rasotpatti* in *Shonitvarneeeya Adhyaya* the *Param Sukshma Saara* of the *Ahara* is called *Rasa* and it's *Sthan* is *Hridaya*.^[9] This *Rasa* is circulated through the 24 *Dhamanis* and does the *Tarpana Vardhana Dharana* and *Yapan Karmas*. *Acharya Dalahan* in commentary says this *Rasa* is *Anusaransheela* (continuously moving). Again, to assess the *Gati* of *Rasa* *Acharya Sushruta* says to use *Anumana Pramana* and observe *Kshaya*, *Vridhhi* and *Vikruti*. *Dalhana* comments, *Rasa Kshaya* causes *Hrutpeeda Hrutkamp* and *Rasa Vrudhhi* causes *Hridayotkleda*.^[10] Such statements are not found in the context of *Rakta* though. *Acharya Chakrapani* quoted this phenomenon by commenting on terms "*Parivruttistu Chakravat*" and explain it as continuous production /*Nirantar Utpatti*.^[11] By other contexts it is considered as wheel like movement or continuous circulation. This again shows that *Rasa* is continuously formed and circulated.

3.Functions of Vyana Vayu: In *Grahani Chikitsa Adhyaya* the Process of circulation of *Rasa Dhatu* is told to be done by *Vyana Vayu*. *Vyana Vayu* does the circulation of *Rasa* all over the body at once (*Yugpadityeka Kalam*) without stopping (*Ajasramiti*

Avishrantam Vikshipyate).^[12] Acharya Sushruta in *Nidana Sthana* quotes the function of *Vyana Vayu* as *Rasa Samvahana* and *Sveda-Asruka Shrava*.^[13]

4. Functions of *Sadhak Pitta*

Sadhaka Pitta Sthana is *Hrudaya* and its functions are told *Dhairya, Shaurya, Bhaya, Krodha, Harsha* etc. These functions can be co-related with the functions of adrenaline.^[14] Adrenaline is not produced in heart but its action on heart and transport to other organs by heart or circulation can establish its seat on heart. Here *Sthana* can be considered as a point/station where *Chakravat Paribhrama* takes place. Also, *Sadhaka Pitta* removes The *Kapha Aavarana* from *Hrudaya* so it can also be co-related with the pacifying action of adrenaline on acetyl choline.^[15]

5. *Prana-Apana Sambandha*

Vayu is the main factor for the movements in the body. *Shreedharacharya* while commenting on *Bhagvadgeeta* tells *Prana - Apana Vayu* is *Nasantara Sanchari*.^[16] According to *Chhandagyopanishada 1-3-3*, *Apana Vayu* does the function of Inspiration by taking the environmental air in as it is *Adhogami Vayu* whereas *Prana Vayu* does the function of expiration as it is *Urdhwagami Vayu*. Due to rarity of this book the reference is given below

Yadve Purushah Praaniti Mukhanasikabhyam Vayum Bahirnissarayati Sa Pranakhyo Vayovrutti Visheshah, Yada Apaniti Apashwasiti Tabyamevantarakarshati Vayum So Apano Apanakhyo Vruttihi

Acharya Sushruta says, *Naabhi Sthita Pranasanjak Dushita Vayu* first goes to heart and for getting oxygenated exists out through 2 *Apasthambha Nadis*. *Acharya Sushruta* quotes that body's *Abhyantaravprana* with the qualities of *Bahya Prana* does the *Dharan* of *Panchabhoutika Shareera*.^[17]

6) *Rasa - Rakta Chakravat Bhramana*

Shuddha Rasavaha (Here *Rasa* can be co-related with *Rasa* and *Rakta* both) *Siras* originate from the heart and circulates this *Poshaka Rasa* to all over the body^[18]. *Acharya Sharangadhara* says *Shuddha Vayu* assists the *Siras* and *Dhamanis* to provide nourishment to all *Dhatus*.^[19] By above mentioned references it can be said that Hypertension should not be considered as only *Raktagata Vyadhi* just because in alternative science it

is related with blood. With the above-mentioned references, we can assess that *Ayurvedic Classics* consider the fluid flowing through the *Siras* and *Dhamanis* as *Rasa*. Many commentators consider this *Rasa* as both *Rasa* and *Rakta* and some others say that it is *Drava Bhaga* of all the *Dhatus*.^[20] In *Atankadarpana Teeka of Madhavanidhana Pramehanidhan Prakarana*, he uses the term *Raktarasa* for *Tejobhuta Param Sukshma Sara*.^[21] On this note we can consider that in Hypertension this *Raktarasa* is affected & also the blood corpuscles perform the functions of transport of oxygen, coagulation and immune response thus the corpuscles do not take direct part in the manifestation of disease Hypertension. Even in modern science the explanation of pathogenesis of HTN is not clear as the widely occurring essential HTN doesn't have any specific cause. Thus, it is not ideal to explain a disease in terms of an entity which itself is unexplained.

DISCUSSION

Through this paper the most relatable comparison of Hypertension will be a *Vatapradhana Pittanubandhi Rasa Dhatugata Vyadhi*. Through above explanation *Pranavayu, Vyanavayu* And *Apanavayu* are involved in the pathogenesis of HTN. There will be *Gati Aadhikya* or *Vimarga Gati* of these *Vayu's*. *Sadhaka Pitta* will be the main *Pitta* involved in this disease as it is told as *Hrudayagata Kapha Avaranahara*. Also, HTN is a metabolic disorder so it is more logical to compare it with *Rasa Dhatu Dushtijanya Vyadhi*. Main symptoms found in Hypertension are *Shirashoola, Hrudshoola, Hrudrava, Padashotha, Krodhaprachurarta, Shirobhrama, Moha, Murcha, Atisweda, Pippasa* etc. These *Lakshanas* cannot be seen in any particular disease. But some of the signs of this *Vyadhisankara* are found in various conditions which are enumerated here.^[22] The *Lakshanas Chhardyadin (Acharya Dalhana* comments that with *Aadi Shabda, Ruja* of *Parshwa & Udara, Hrudstambha, Hrudaytoda Or Urdhava Raktapitta) Moha, Murcha, Pipasa, Hrudgraha* And *Parshwavedana* are found in *Amashayagata Vata*. In *Charaka Samhita* also *Hrudaya-Nabhi-Parshwa-Udara Ruja, Trushna,*

Udgar, Visuchika, Kasa, KanthaShosha, Shwasa are mentioned as *Lakshanas* of *Amashayagata Vata*. The *Lakshanas Hrudroga, Gulma Parshwa Shoola* are found in *Kosthagata Vata*. The *Lakshanas Murchchha Pipasa Bhrama Tama Shoola* are found in *Pittavrut Vayu*. The *lakshana Asvatha Hrudaya* is found in *Malavruta Vayu*. The *Lakshana Smrutikshaya* is found in *Pranavrut Vyana*. *Atisweda, Romanch* are found in *Vyanavruta Prana*. The *Lakshanas Grahani, Parshwa Hrudaya Aamashaya Shoola, Hrudgada* are found in *Samanavruta Apana*. The *Lakshanas Shirograha, Hrudroga, Nischwas, Uchchwas Sangraha, Mukhshotha* are found in *Pranavruta Udana*. The *Lakshanas Ojo-Varna-Bala Nasha/ Mrutyu* are found in *Udanavrut Prana*. The *Lakshanas Chhardi Shwasa* are found in *Udanavrut Apana*. *Moha* is found in *Apanavrut Udan*. The *Lakshanas Chhardi, Adhman, Udavarta & Gulma* are found in *Vyanavrut Apana*. Other than *Gata Vata and Avaranas*; in *Nanatmaja Rogas* to the signs and symptoms of Hypertension can be found.^[23] *Vataja Nanatmaja Roga* includes *Udavarta, Hrunmoh, Vakshuddharsha, Prushtha Graha, Hrudrava, Vakshatoda, Vaksha Uparodha, Shankhabheda Lalatabheda, Shiroruk, Bhrama, Tama, Vepathu, Hikka, Jrumbha, Glani*. On the other hand, very few but important *Lakshanas* of Hypertension are mentioned in *Pittaja and Kaphaja Nanatmaja Rogas* like *Atisweda & Tamapravesha* in *Pittaja Nanatmaja Rogas*. *Hrudypalepa* and *Dhamanipraticaya* are found in *Kaphaja Nanatmaja Roga*. By all these above references it shows that symptoms of Hypertension are extensively present in *Vataja Nanatmaja Roga* and various *Avaranas* of *Vata*. It shows the significant involvement of *Vata* than *Pitta* and *Kapha*.

CONCLUSION

Hypertension is always compared with *Raktagata Vata* or translated as *Uchcha Raktachapa* or *Raktabhara*. In this article the effort to establish the relation of Hypertension and *Rasa Dhatu* has been made. The *Doshas* involved in Hypertension can be *Prana Vayu, Vyana Vayu* And *Apana Vayu* along with *Sadhak Pitta* vitiating the *Rasadhatu*. As Hypertension is a Metabolic disorder it clearly indicates the involvement

of *Rasa*. Hence while managing a patient of Hypertension prime focus to be given to *rasa* and treatment like *Amapachana, Langhana* and *Shodhana* should be taken into consideration. When a patient approaches an ayurvedic physician with signs and symptoms of *Amashayagata Vata* etc. then one should also evaluate the symptoms of Hypertension in the patient to prevent further complications.

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