



ROLE OF AGNI IN THE MANAGEMENT OF HYPERTENSION- A REVIEW STUDY

¹Paras Jain, ²Salil Jain, ³Trupti Jain, ⁴Shuchi Dubey, ⁵Tejalrani Jaiswal, ⁶Trusha lunagariya

¹M.D. Scholar and author, Department of Samhita and Siddhant, Pt. Khushilal sharma Government Ayurveda college and Hospital, Bhopal (M.P)

²Lecturer, M.D. Ph.D. and co-author, Department of Samhita and Siddhant, Pt. Khushilal sharma Government Ayurveda college and Hospital, Bhopal (M.P)

³Lecturer, M.D. and co-author, Department of Swasthvritta, Pt. Khushilal sharma Government Ayurveda college and Hospital, Bhopal (M.P)

⁴Reader, M.D. and co-author, Department of kriya sharir, Pt. Khushilal sharma Government Ayurveda college and Hospital, Bhopal (M.P)

⁵M.D. scholar and co-author, Department of Kriya sharir, Pt. Khushilal sharma Government Ayurveda college and Hospital, Bhopal (M.P)

⁶M.D Scholar and co-author, Department of samhita and Siddhant, Pt. Khushilal sharma Government Ayurveda college and Hospital, Bhopal (M.P)

Corresponding Author: parasrajprem13@gmail.com

<https://doi.org/10.46607/iamj3011042023>

(Published Online: April 2023)

Open Access

© International Ayurvedic Medical Journal, India 2023

Article Received: 21/03/2023 - Peer Reviewed: 28/03/2023 - Accepted for Publication: 09/04/2023.



ABSTRACT

Agni is an important aspect of *Ayurveda* as all the state disease or health revolves around the state of *Agni*. There are mainly 3 types of *Agni* which are *Jatharagni*, *Dhatavagni* and *Bhutagni* rely on *Jatharagni*. *Jatharagni* digests the food, and after digestion, food will result in the formation of '*Prasad Bhaga*' and '*Mala Bhaga*'. When there is a state of *Agnimandya* the digestion will end in the formation of *Ama*. This *Ama* will cause *Srotoavrodha* and vitiation of all *Dosha*. It will increase peripheral resistance and can lead to Hypertension. When the state of *Agnimandhya* and *Ama* formation becomes chronic it will result in atherosclerotic changes. In the management of hypertension, the focus is given to treating *Agnimandhya*.

Keywords: Agnimandhya, Srotoavrodha, Hypertension.

INTRODUCTION

In *Ayurveda*, an important factor of digestion and metabolism is described as *Agni*. Ingested food is to be digested, absorbed, and assimilated, which is unavoidable for the maintenance of life, and it's performed by *Agni*. The term *Agni* is used in the sense of digestion of food as well as metabolic activities. Based on its primary functions, there are 13 types of *Agni*'s present which are *JATHARAGNI*, five *BHUTAGNI*, and 7 *DHATVAGNI*. *Jatharagni* is the most significant of all the *Agni* types. *Bhutagni* is the *Agni* present for the digestion of all five essential elements of *Aahar*, next is *Dhatavagni* which is responsible for the digestion of all seven *Dhatu*.^[1] Therefore, *Ayurveda* considers that *Dehagni* is the cause of life, complexion, strength, health, nourishment, lustier, *Oja*, *Teja*, and *Prana*.^[2] About, the importance of *Agni*, *Acharya Charaka* has mentioned that when *Agni* is extinguished, then the person dies and when the *Agni* of a person is *Sama*, then that person would be absolutely healthy and leads to long life. But if the *Agni* of a person is vitiated, the whole metabolism in his body would be disturbed, resulting in illness or diseases. So, *Agni* is said to be the base (mool) of life.^[3]

Concept of Hypertension: According to WHO, Blood pressure is the force exerted by circulating blood against the walls of the body's arteries.^[4] Hypertension or elevated blood pressure is diagnosed if, when it is measured on two different days, the systolic Blood pressure (when the heart contracts or beats) reading on both days is ≥ 140 mmHg and the diastolic blood pressure (when the heart rests b/w two beats) readings on both days is ≥ 90 mmHg.^[5]

BLOOD PRESSURE \propto BLOOD VOLUME

BLOOD PRESSURE $\propto 1/$ RADIUS OF LUMANS OF ARTERIES.

- In *Ayurvedic* texts, there is nothing such disease found with the name "Hypertension". Many Researches have tried to correlate the Hypertension phenomenon with *Raktagata vata*, *Siragata vata*, *Dhamani Paripurnata*, and *Vyana vayu vaishamy*.^[6] So, the regulation of blood pressure can be understand

by considering Doshas involved (*Prana vayu*, *Vyana vayu*, *Avalambaka kapha*, *Sadhaka pitta*), *Dhatu*s involved (*Rasa*, *Rakta*, *Meda*), and *Strotasa* involved (*Rasavaha*, *Raktavaha*, and *Manovaha*) and importantly *Agni* also.^[7] *Tridosha*, *Dhatu*'s, and *Mala*'s are the root cause of all the functioning of the body.^[8] So, to understand blood pressure and hypertension in reference to *Ayurveda*, *Tridosha*, *Dhatu*, *Strotasa*, *Hridaya*, *Oja*, and *Agni* is necessary.

ETIOLOGICAL FACTORS OF HYPERTENSION:

Hypertension is mainly classified into two categories i.e., Essential and secondary Hypertension. The cause of essential hypertension is idiopathic and some other causes are excessive salt intake, excessive fatty diet, alcohol consumption, irregular pattern of exercise, sedentary life style, and stress are elicited as main causative factors of Hypertension.^[9] This is similar to *ati-lavana sevan*, *ati-snidha sevana*, *madya sevana*, *chinta*, *bhaya*, and *shoka* are *nidan*s of *Rasa dusti*.^[10] and can be viewed concerning Hypertension.

ROLE OF DOSHA'S AND DHATU'S IN HYPERTENSION:

1. *Prana vayu*- It is situated in *Murdha*(*shira*) and its functions are *Hridaya dharan*, *Buddhi*, *Indriya dharan*, etc.^[11] The Centre of the cardiovascular system is situated in the Medulla, it controls the functions of the heart by regulating heart rate, contractility of ventricles, and blood vessel diameter which regulates blood pressure.^[12] *Hridaya dharana* specifies the impact of *Prana vayu* on the function of the heart via *Vyana vayu* that regulates myocardial activities. This mechanism can be considered as neural regulation of blood pressure.^[13]
2. *Vyana vayu*- It is situated in *Hridya* and functions is the movement of the body.^[14] *Rasadi samvahana*, *prasarana*, *Aakunchana*, *gati*, *Rakta samvahana*^[15] contraction and relaxation of the heart can be correlated with *Aakunchana* and *Prasarana* respectively.
3. *Samana vayu*- “*समानो वह्नीसंगतः*” It stimulates the *Agni* and has great importance in the processes of

digestion and circulation of *Rasa* into the heart and whole body.^[16] Abnormality of this *vayu* causes improper management of *Rasa dhatu* which results in *Apakva/mala roop dhatu* formation.

4. *Avalambaka kapha*- Situated in the Heart and function is the transport of *Rasa-Rakta* through blood vessels.^[17] It strengthens the cardiac muscle tissue.
5. *Sadhaka pitta*- Situated in *Hridaya* and responsible for *Buddhi, medha, and Utsaha*^[18] This *pitta* demolished *Tama* and vitiated *Kapha dosha of Hridaya*, as *hridaya* is the seat of *mana*, so, it also enhances and excellence *Mana* too. *Bhaya, Krodha, harsha, moha*, etc. are the functions of vitiated *Sadhaka pitta*.^[19] This *pitta* may be correlated with the Adrenaline hormone, this hormone secret in the condition of fear, fighting, anger, etc., and partially effects CNS, which ultimately leads to retardation of the digestion system for a while, and increase heartbeat.^[20] so, contractility of the heart can be effected by *Sadhaka pitta*. As, in all conditions like *utsaha, krodha, moha, and bhaya*, heart beats and blood pressure are affected.
6. *Rasa dhatu*- It is formed as a result of the process of digestion^[21] The assimilated food is digested properly and transformed into *Rasa* and there by further digested *Rasa* is converted into further *dhatu*s. Improper digestion of *Rasa dhatu* can cause *Apakva dhatu* formation. This will cause vitiation of *dhatu*s related to hypertension also.
7. *Rakta dhatu*- It resembles blood. So, any changes in its physiological properties may leads to different blood circulation-related problems, like blood volume affect arterial pressure by changing cardiac output.^[22]

MECHANISM OF HYPERTENSION AS PER AYURVEDA: The nourishment (*poshana*) of *dhatu*'s and excretion of waste products carried out by *Rasa-Rakta samvahana*. *Hridaya* is the basic part of this system^[23], The circulation of *Rasa* and *Rakta* through *Sira*(veins) and *Dhamani* (arteries) needs some amount of pressure. This pressure changes with internal and external environments/processes. This change of pressure is regulated by a complex interaction of *Tridosha* as well as *dhatu*'s. All the functions of the

body are regulated by *Tridoshas*.^[24] So, disturbance in these factors can cause malfunctioning of the heart and *Rasa-rakta samvahana kriya* also. This is the probable mechanism of hypertension as per the *Ayurveda* context.

DISCUSSION

ROLE OF AGNI IN HYPERTENSION MANAGEMENT:

Due to various etiological factors, vitiation of all *dosha*'s, especially *Vata dosha* occurs, and as we know *Vata* is the leader of all *doshas*. So, it controls the movement and functions of *Pitta* and *Kapha dosha* also. *Vata* helps in digestion and circulation too (*Samana and Vyana vayu*). Vitiated *Vata dosha* leads to the formation of *Ama* (products of indigestion), vitiating *Agni*, so we can say all etiological factors either physical or mental which cause vitiation of *Samana* and *Vyana vayu* results in *Agni dushti* and forming *Ama*. *Agnidushti* and *Ama* both results in *KHA-VAIGUNYATA* and *Srotoavrodha*, all these components conclusively result in *Vyana-bala vaiṣamya* (hypertension). According to modern medical science, the cause of essential hypertension is idiopathic. Still, various etiological factors (physical and mental stressors) stimulate the sympathetic nervous system, and any type of sympathetic stimulation due to any reason causes raise in Blood pressure.^[25] and sympathetic stimulation results in inhibition of the enteric nervous system leading to hypo secretions of various GIT glands and decreasing the motility of GIT. These secretions and motility both are the basic requirements for the proper functioning of GIT (digestion, absorption, assimilation, and propulsion). So, by keeping GIT in the peaceful mode we can, not only, balance our *Agni* and digestion but also, look forward to better functioning of other systems w.s.r the cardiovascular system (CVS).

CONCLUSION

- In the *Ayurveda* equilibrium of *Doshas, Dhatus, Malas*, and *Agni* are considered as a healthy state of an individual. After a thorough study of literature and fundamentals in both *Ayurveda* and

Modern medicine, it is concluded that the Ayurvedic approach to treating a disease according to its *Samprapti* (pathogenesis) should not be overlooked.

- This review study showed that various factors are responsible for raising blood pressure (hypertension). As per *Ayurveda*, all these factors get vitiated due to various reasons. The root cause of all the *dushti*/diseases is *Agnimandya*.^[26] So, by balancing *Agni* one can keep blood pressure within normal limits through proper management.

REFERENCES

1. Charaka samhita, Vidhyotini tika by Kashinath sastrri and acharya Priyavrata Sarma 7th edition, chaukhambha Sanskrit sansthan, Varanasi, chikitsa sthana 15/38, p. 385
2. Charaka samhita, Vidhyotini tika by Kashinath sastrri and acharya Priyavrata Sarma 7th edition, chaukhambha Sanskrit sansthan, Varanasi, chikitsa sthana 15/1-2, p. 376
3. Charaka samhita, Vidhyotini tika by Kashinath sastrri and acharya Priyavrata Sarma 7th edition, chaukhambha Sanskrit sansthan, Varanasi, chikitsa sthana 15/4, p.377
4. WWW.WHO.int/newsroom.factsheets/hypertension
5. WWW.WHO.int/newsroom.factsheets/hypertension
6. Gulati upasana,2018, An approach to understanding the etio-pathogenesis of essential hypertension as per *Ayurveda*. IAMJ, Vol.6, ISSM-23205091
7. Gulati upasana,2018, An approach to understanding the etio-pathogenesis of essential hypertension as per *Ayurveda*. IAMJ, Vol.6, ISSM-23205091
8. Ashtang hridaya, kusum prabha tika by Dr. Harishchandra kushwaha, 1stedition2018, chaukhambha orientalia, Varanasi, sutra sthana 11/1, p.507
9. WWW.WHO.int/newsroom.factsheets/hypertension
10. Charaka samhita, Vaidyamanorama tika by Vidyadhar shukla and Ravi Dutt tripathi 2015 edition, chaukhambha Sanskrit Prakasan, Varanasi, viman sthana 5/12, p. 589.
11. Ashtang hridaya, kusum prabha tika by Dr. Harishchandra kushwaha, 1stedition2018, chaukhambha orientalia, Varanasi, sutra sthana 12/4, p.538
12. Gulati upasana,2018, An approach to understand the etio-pathogenesis of essential hypertension as per *Ayurveda*. IAMJ, Vol.6, ISSM-23205091
13. Gulati upasana,2018, An approach to understanding the etio-pathogenesis of essential hypertension as per *Ayurveda*. IAMJ, Vol.6, ISSM-23205091
14. Ashtang hridaya, kusum prabha tika by Dr. Harishchandra kushwaha, 1stedition2018, chaukhambha orientalia, Varanasi, sutra sthana 12/6, p.538
15. Ashtang hridaya, kusum prabha tika by Dr. Harishchandra kushwaha, 1stedition2018, chaukhambha orientalia, Varanasi, sutra sthana 12/7, p. 539
16. Ashtang hridaya, kusum prabha tika by Dr. Harishchandra kushwaha, 1stedition2018, chaukhambha orientalia, Varanasi, sutra sthana 12/8, p.539
17. Ashtang hridaya, kusum prabha tika by Dr. Harishchandra kushwaha, 1stedition2018, chaukhambha orientalia, Varanasi, sutra sthana 12/15, p. 543
18. Ashtang hridaya, kusum prabha tika by Dr. Harishchandra kushwaha, 1stedition2018, chaukhambha orientalia, Varanasi, sutra sthana 12/13, p.541
19. Ayurvediya kriya-sharir by vaidya Ranajit rai Desai, shri Vaidyanath *Ayurveda* bhavan limited Allahabad, chapter 34, p. 715
20. Ayurvediya kriya-sharir by vaidya Ranajit rai Desai, shri Vaidyanath *Ayurveda* bhavan limited Allahabad, chapter 34, p. 715
21. Charaka samhita, Vaidyamanorama tika by Vidyadhar shukla and Ravi Dutt tripathi 2015 edition, chaukhambha Sanskrit Prakasan, Varanasi, sutra sthana 28/4, p. 427
22. www.cvphysiology.com
23. Charaka samhita, Vaidyamanorama tika by Vidyadhar shukla and Ravi Dutt tripathi 2015 edition, chaukhambha Sanskrit Prakasan, Varanasi, viman sthana 5/4, p. 588
24. Susruta. Sushruta samhita (Nibandha Sangraha Commentary of Dalhana and the Nyaya Chandrika Panjika of Gayadasa) Yadavji Trikamji, Narayana Ram. Editors. 1st ed Varanasi: Chaukhamba Surbharati Prakashana; 2003. Sutrasthana, 21/8. P. 100.
25. Www.quizelet.com
26. Ashtang hridaya, Vidhyotini tika by Atridev Gupt edit. Vaidya Yadunandana upadhyaya edition 2007, chaukhambha prakashan, Varanasi, nidana sthan 12/1, p.263

Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Paras Jain et al: Role of Agni in the Management of Hypertension- A Review Study. International Ayurvedic Medical Journal [online] 2023 {cited April 2023} Available from: http://www.iamj.in/posts/images/upload/943_946.pdf