

CONCEPTUAL STUDY OF VYAANA VAYU BALA VAISHAMYA REGARDING ESSENTIAL HYPERTENSION

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ABSTRACT

Hypertension or arterial hypertension is one of the most challenging diseases in current era. The prevalence rate in whole world is increasing day by day. The standard drug therapy used in modern science has its own adverse effects on long term usage, which makes other treatment systems an important alternative to the conventional treatment. *Ayurvedic* treatment holds its undoubted place in management of hypertension, but to provide an effective cure we have to understand hypertension with the concepts of Ayurveda. In Ayurvedic samhitas *vyaana vayu* has been mentioned responsible for *rasa vikshepana* (fluid circulation in the body)¹, this plays a key role in understanding pathology of hypertension. This work is just based on finding facts on the basis of fundamental studies to provide a basis for the *Ayurvedic* management strategy.

Keywords: Hypertension, *vyaana vayu*, *vyaanabala vaishamyas*, blood circulation, *hridaya*

INTRODUCTION

In this current era of technology, industrialization and urbanization, human beings have become more inclined towards unhealthy diet, sedentary lifestyle and stress which has given rise to various lifestyle related disorders of which HYPERTENSION is of utmost significance. Though the modern medical science has succeeded in treating various diseases (mainly infectious) like small pox, plague, poliomyelitis, etc. but it provides no effective cure for lifestyle related disorders, while on the other hand Ayurvedic science provide management for lifestyle related disorders through practicing proper diet and dictums.

Hypertension or high blood pressure, sometimes called arterial hypertension, is a chronic medical condition in which the

blood pressure in the arteries is elevated. Blood pressure above 140/90 mmHg is mainly considered as hypertension. Various grading methods are available for assessing hypertension. It is common, asymptomatic, readily detectable, usually easily treatable, and often leads to common complications.

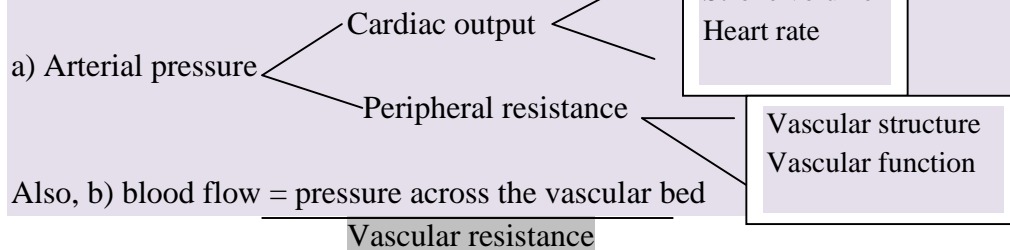
Hypertension is a prevalent disorder affecting 33.5% of population globally and accounting for 6% of deaths worldwide². Overall prevalence in India have been found 29.8% [27.6% in rural parts and 33.8% in urban parts]³.

On the basis of etiology, hypertension is classified into 2 types⁴:- Individuals in whom a specific structural organ or gene defect is responsible for HTN are defined as having a secondary form of hypertension. In

contrast, individuals in whom generalized or functional abnormalities are discrete are defined as having essential hypertension.

1) Primary hypertension- it is also called as essential hypertension. There is no specific underlying cause of this type. It is present in more than 95% of cases...various systems attributable in these type of patients are peripheral and/central adrenergic, renal, hormonal and vascular. Genetic predisposition, environmental factors, diet and lifestyle factors play an important role in this type

Physiological factors: Cardiac output and peripheral resistance are known to be the two determinants of arterial pressure.



The initial elevation in blood pressure is related to increased cardiac output, however over time peripheral resistance increases and cardiac output reverses to normal⁵. Arterial hypertension occurs due to alteration in the relationship between blood volume and total peripheral resistance. The factors are very well understood for secondary hypertension. For Essential hypertension it is now thought that the genetic and environmental factors (like stress, obesity, physical inactivity, heavy consumption of salt) affect cardiac output, peripheral resistance or both.

Two mechanisms which are considered in essential hypertension are⁶:

- Renal retention of excess sodium (resetting of pressure natriuresis)
- Vasoconstriction and vascular hypertrophy (due to increased release of vasoconstrictor agents e.g., renin, catecholamines, endothelin; or

2) Secondary hypertension – it is mainly due to consequence of a specific disease or any sort of abnormality such as renal disease, endocrine diseases, due to intake of certain drugs etc.

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increased sensitivity of vascular smooth muscle to constricting agents)

Generally hypertension is an asymptomatic disease, but may produce some common symptoms like :- headache, vertigo, palpitation, polyuria, irritability, tingling sensation, nausea, tremor, insomnia, dyspnoea, oedema, epistaxis, fatigue, impaired vision (hypertensive retinopathy), loss of memory⁷.

Risk factors for adverse prognosis in hypertension include⁸:-

- Youth
- Male sex
- Persistent diastolic pressure >115 mmHg
- Smoking
- Diabetes mellitus
- Hypercholesterolemia
- Obesity
- Excess alcohol intake
- Evidence of end organ damage

1. Cardiac
 - a) Cardiac enlargement
 - b) ECG signs of ischemia or left ventricular strain
 - c) Myocardial infarction
 - d) Congestive heart failure
2. Eyes
 - a) Retinal exudates and haemorrhages
 - b) Papilledema
3. Renal : impaired renal function
4. Nervous system : cerebrovascular accident

Ayurvedic view: Since hypertension is an instrument based diagnosis its direct description in ancient times is not possible but its certain symptoms can be seen in various disorders for example – *mutraghat* (Oligouria) (su.U.58th chapter) *pakshaghat* (hemiplegia) (su.ni1/60-63), *hridayaroga* (Heart disorders) (ch.chi.26th chapter) are mentioned in Ayurvedic literatures which are a common complication of hypertension.. Various other scattered references are present in Ayurvedic literatures depicting spectrum pathophysiology of hypertension as – *rasavikshepana* (A.H.Sa.3/68), *rasaanudhavana* (fluidcirculation), *rasagati* (*urdhva, adho, tiryak*)⁹.function of *Dhamani* has been said as “*धमनात् धमन्यः*”(च.सू.३०/१२) which further depicts blood circulation.going deeper into pathophysiology of essential hypertension with context to vata shows the importance of *vyaana vayu*. *Acharya charak* mentioned *vyaana vayu* important for *gati*(movement)in the body¹⁰,*acharya Sushruta* mentioned more clearly its function as *rasa samvahan*(circulation of fluid)in whole body¹¹,in *ashtang hridaya acharya vagbhata* mentioned that *vyaana vayu* resides in *hridayam*(heart)and circulates in whole body¹².

DISCUSSION

All these facts prove out clearly the role of *vyaana vayu* in fluid circulation of the blood which is directly proportional to the blood pressure (refer formula (b) above). The determinants of the blood pressure as cardiac output and peripheral resistance are controlled by *vyaan vayu* as it is situated in *hridaya* and circulates in whole body (through blood vessels).its *vaishmya* (pathological disturbance)may lead hypertensive problems. The pathology of vascular structure like hypertrophy and increased sensitivity can be understood by *avarana* (Blending of two pathologies together) concept in *Ayurveda* (ch.chi.28th chapter)

Acharya sushruta mentioned function of *samaana vayu* to digest *anna*(food) and to separate its metabolic products (like stool, urine, *doshas*)¹³ Keeping this in mind function of kidneys can be correlated to function of *samaana vaayu*, because kidney is the main organ for formation of urine it contains two types of nephrons which function as follows- excretion of waste products in dissolved form in the urine (cortical nephrons)and concentration of urine (by juxta – medullary nephrons) in that case the *samaanavrita vyaana vayu* given by *acharya charaka* can be correlated to the pathological renal mechanisms affecting blood pressure,(renal sodium retention,renin angiotensin system, Renomedullary mechanism). Therefore, while treating essential hypertension concept of *avarit vaat* should also be kept in mind.

CONCLUSION

In order to treat any disease, the proper study of its *samprapti* (pathogenesis) is must.considering essential hypertension as a

vaat pradhan vyadhi (mainly vyaan vayu) and rasa and rakta as its dushyas can provide a rationalized principle for its proper management in Ayurveda.

REFERENCES

1. Vagbhatt, vyakyakar-kaviraj atrideva gupt, Ashtang Hridaya, Varanasi, Chaukhamba Prakashan 2011 shaarir sthana^(3/68)259p.
2. Rajashekhar V.Sanapeti, Sreelakshmi chaganti, Etiopathogenesis of hypertension in Ayurveda, www.ijrap.net,ISSN 2229 – 3566,Nov – Dec 2012,787-788p.
3. Rajashekhar V.Sanapeti, Sreelakshmi chaganti, Etiopathogenesis of hypertension in Ayurveda, www.ijrap.net,ISSN 2229 – 3566,Nov – Dec 2012,787-788p.
4. Fauci,Braunwald,Kasper,Et al,Harrison's principles of Internal Medicine.17ed.United States of America,Mc Graw Hill 2004 1553 - 1554p
5. Rajashekhar V.Sanapeti, Sreelakshmi chaganti, Etiopathogenesis of hypertension in Ayurveda, www.ijrap.net,ISSN 2229 – 3566,Nov – Dec 2012,787-788p.
6. Raghupathy Anchala, Nanda K Kannuri,Hira pant,et al - Hypertension in India: a systematic review and meta analysis of prevalence, awareness and control of hypertension, journal of hypertension 32(6):june 2014 1170 – 1171p
7. Fauci,Braunwald,Kasper,Et al,Harrison's principles of Internal Medicine.17ed.United States of America,Mc Graw Hill 2004 1550p
8. Fauci,Braunwald,Kasper,Et al,Harrison's principles of Internal Medicine.16ed.United States of America,Mc Graw Hill 2001 1466p
9. Cotran Kumar& Collins Robbins pathologic basis of disease 6ed.Pennsylvania,Elsevier 512-514p.
10. Dr.Neeru Naithani, healthy lifestyle for prevention of hypertension – Ayurcon Allahabad-2010,Sept 2010,30 – 36p
11. Sushruta, vyakyakar,kaviraja dr.Ambikadutt shastri,Sushruta samhita, Varanasi Chaukhamba Prakashan 2010, sutra sthana^(14/16),59p.
12. Charaka,vyakyakar Pt.Kashinath Shastri,Dr.Gorakhnath Chaturvedi,Charak samhita Varanasi, chaukhamba bharti publications,2009,chikitsa sthana^(28/9),777p.
13. Sushruta, vyakyakar,kaviraja dr.Ambikadutt shastri,Sushruta samhita, Varanasi Chaukhamba Prakashan 2010,nidaana sthana^(1/17),217p.

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