

A REVIEW OF ETIOLOGICAL FACTORS, PREVENTION AND AYURVEDIC MANAGEMENT OF ESSENTIAL HYPERTENSION

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ABSTRACT

Hypertension has now become a gravious problem in this era or we call it as “silent killer”. In modern medicine lots of drugs are available for controlling blood pressure but they have few side effect. Hence people are looking towards *Ayurveda*. *Ayurvedic* text don't provide any direct reference regarding essential hypertension, but the disease can be explained on the base of *Ayurvedic* principles viz. *Dosha*, *Dushya*, *Srotas*, etc. An ayurvedic physician should attempt to construct the samprapti (pathogenesis) of given clinical condition on the basis of sign, symptoms, acuteness, chronicity in each case and should plan the management accordingly. In Ayurveda hypertension can be correlated with raktgatvat and is considered as tridoshaj vyadhi. Treatment of hypertension which include proper *Nidan parivarjan*, *shodhan*,

shaman, *Pathya apathya*, *yogasana*.

KEYWORDS: Essential hypertension, etiological factors, ayurvedic management.

INTRODUCTION

Hypertension is chronic and often asymptomatic medical condition in which systematic arterial blood pressure is elevated beyond normal limits'. Blood pressure more than 140/90 mm of hg.^[1] It is major risk factor for the development of cardio vascular disorder, stroke, congestive heart failure and renal disorders. It is estimated that 600 million people are affected worldwide with hypertension. By the year 2025, approximately 1 in 3 adults aged over 20 years, totally 1.56 bilion people will have hypertension.^[2] According to charak,

sometimes neither it is possible nor its necessary to identify a disease by name. In *sutrasthan acharya* explained that if it is not possible to make the diagnosis of any disease then physician should try to understand the nature of disease and make the diagnosis and treatment according to disease.^[3]

Hridaya is a form of cream layer of *shonita*(blood) and *kapha*.^[4] It is mulasthan of rasavaha and pranvaha srotas.^[5] It is the seat of vyan vayu, sadhak pitta and avalambak kapha. Acharya charak stated clearly about circulation in grahani chikitsa adhyay, heart contracts with the help of vyan vayu and do the rasa rakta vikshepan karya, hence nourishment of all dhatus takes place continuously.^[6] In Ayurveda hypertension is abnormality of rakta dhatu, (blood) and popularly known as shonit dushti(vitiated blood). The unique category of clinical presentation comprising rakta-pitta. (abnormal bleeding from different roots of body), rakta meha(hematuria). etc and vat rakta (group of vascular disorder), akshiraga are regarded maladies of shonita dushti(vitiation of blood). Shiroruk(headache), bhrama(imbalance of body), kampa(trmors), etc also these all symptoms are akin to manifestation of hypertension. more to add, mada (delerium)moorcha (stupor), sanyas(coma) the different disease caused by shonit dushti described also as progressive manifestation of increasing shonit dushti. All these deliberation corroborates parlance of the shonitadushti and its different clinical manifestation of mada moorcha and sanyassa to essential hypertension as well as malignant hypertension.^[7] In modern era, many *ayurvedic* scholars have considered hypertension under the heading of various diseases such as *Dhamani-pratichaya, raktagatavata, siragatvat, raktpradoshaj-vyadhi and raktachapa-adhikya* etc.^[8]

The essential hypertension when thought adapting the principal of dosha, dhatu and mala theory pathology seems to be cantered on shonita dhatu and tridosha. There is need to understand the cause, pathogenic, acuteness, chronicity, complication and symptomatology of diseases & its management.

AIMS AND OBJECTIVES

Aim: To study etiological factors of Essential hypertension. To study preventive measures of essential hypertension.

Objectives: Reviewing various literature related to EHT and it's etiology and *Ayurvedic* management.

MATERIAL AND METHODS

Hypertension

Hypertension is a hemodynamic derangement. Hypertension in adults age 18 years and older is defined as systolic blood pressure of 140 mmhg or greater of any level of blood pressure 90 mmhg or greater of any level of blood pressure in patients not taking antihypertensive treatment.(by JNC-VI AND WHO/ISH).

Classification and Grade of hypertension^[9]

Table 1: Classification.

Category	Systolic BP	Diastolic BP
Optimal	<120	<80
Normal	<130	<85
High normal	130-139	<85-89

Table 2: Hypertension Grade^[10]

Category	Systolic BP	Diastolic BP
Grade (MILD)	140-159	90-99
Grade(Moderate)	160-179	100-109
Grade(severe)	>180	>110

Hypertension Types^[11]

There are 2 types of hypertension-

1. Primary hypertension –It is called as Essential hypertension or idiopathic hypertension, There has no known cause, however many of the lifestyle factors contribute to this condition. About 90-95% of cases of hypertension are categorized as primary hypertension with no obvious underlying cause.
2. Secondary hypertension –when hypertension caused by another condition or disease process, it is secondary hypertension. This is also called as malignant hypertension. Incidence of secondary hypertension is 10%, which is very low in comparison of primary hypertension.

Aetiological factors of Hypertension^[12]

(1) Primary hypertension

- 1) Role of genetics: Epidemiological studies suggest that 20% to 60% of primary htn is inherited and the remainder is acquired or environmental.^[7]
- 2) Age and sex: Blood pressure increase with age in both men and women.
- 3) Weight: There is 1mmhg rise of systolic blood pressure for every 1.25kg of weight gain.

- 4) Salt intake: who's intake of sodium chloride is 3gm or less per day have low average blood pressure. Salt intake more than 3gm per day leads to increase in blood pressure.
- 5) Alcohol intake: There is strong and independent and increase in blood pressure.
- 6) Physical activity: Sedentary individuals have a 20 to 50% increase risk of developing hypertension.
- 7) Smoking: Tobacco smoking.

(2). Secondary hypertension

- 1) Due to administration of certain drugs like contraceptive pills, steroids.
- 2) Renal causes – Acute nephritic syndrome, chronic nephritis, polycystic kidney.
- 3) Metabolic causes- Diabetes mellitus, atherosclerosis, chronic gout.
- 4) Endocrinal causes- Thyrotoxicosis, Myxoedema, Acromegaly.

Aetiology according to Ayurveda

1) **Aharaj (diet) hetu:** *lavana, Pippali, kshar* should not be used in excess use causes *raktadushti*. It is *abhishyandi, ushna and vyavayi gunas* which is responsible for *raktadushti srotodushti*.^[13]

Acharya charka says all the dysfunction in the body are due to *gramya aahar* consumptions along with *Diwaswap*, *madya* (alcohol) is factor responsible for *medovaha srotodushti*.^[14]

2) Viharaj (lifestyle regimen) hetu

Diwaswap (sleeping during day time) after meal is *snigadha, tridosha prakopak*, but mainly *kapha dushti kara*, It leads to *agnimandya* which again leads in *ama* formation. which results in obesity and it is directly related to hypertension.^[15]

Vegdharna is important *nidana* found now a days *vegdharna* of *Mala, Mutra* Leda's to *pratiloma gati* of *apanvayu*, this Leda's to increase pressure on heart. *Ashru Vega dharna* and *nishwas Vega dharna* leads to *hridroga*.^[16] *Avyayama hetu* is found commonly in present era. There is lack of physical exercise, sedentary lifestyle is also responsible for *medovaha srotodushti*.^[17]

3) Mansik hetu (exceeds worrying)

Ati Chintan (exceeds worrying) is the *hetu* of *rasavaha srotodushti*. *Hridayasthit sadhak pitta* gets vitiated leading to increase in blood pressure. Emotional factors like *shok, bhays, krodha, moha* are seat for many disease in the body.^[18]

Samprapti (pathogenesis)

Pathogenesis of hypertension takes place at both physical and psychic level one at a time or simultaneously depending upon the *dosh-dushya sammurchhana*.

Ati lavan sevana (excessive salt), *madyapan* (Alcohol consumption), *sigdha bhojan* (oily diet), *diwaswap* (day time sleep) & *manovighat* (mental accident) leads to vitiation of *shonita* being *dhatu* (tissue) is not capable of vitiating *doshas* (primordial factors of body) independently. The *doshas* present in the *shonita* which involved indirectly in the manifestation of high blood pressure. The overall use of salt, alcohol vitiates the *sadhak pitta* and *shonita* (blood). Sedentary habits vitiate the *avalambak kapha* and psychological stress induces vitiation of *prana vayu*. Initially *pran vayu* gets *prakopa*. since *pran vayu* has influence on *hridaya* vitiates *hridaya* and its residing components like *vyan vayu*, *sadhak pitta*, *avalambak kapha*, *shonita* is also involved as it is located in *hridaya*. *prakupita avalambak kapha* induces exaggerated contractility of the heart, while *aggrerated vyan vayu* leads increased *gati* (speed), the force of ejection of blood from *hridaya*. These events result in to forceful expulsion of blood through *dhamanis* (blood vessels), ultimately leading into increased resistance in vessels ensuring high blood pressure.^[19]

Management

1. *Nidanparivarjan*-In *nidan parivarjan* by avoiding the aetiological & risk factors which causes vitiation of *tridosha* especially *vata* and *pitta* dosha. *Nidan parivarjan* stops the further progression of the disease, by restring vitiation of *doshas*. Excessive intake of salt, fatty substance should be avoided. Certain medicines such as NSAID, steroids.
2. *Shodhan-Shodhana* therapy *doshas* should be eliminated naturally through nearest root of the body.

Shonit vyadhi – According to *acharya charak*^[20], *chikitsa of raktaj rogas* are

i) *Langhan-kapha pradhan vat kapha rogas*- obesity, cardiovascular disorder, atherosclerosis

ii) *Virechana*-According to *charak*, *virechana* is indicated in *raktapradoshaj rogas*. As *virechan* is best treatment for *pitta dosha* and *pitta dosha* has *rakta* like similarity, so *virechana* is highly beneficial for *raktaja rogas*.

pitta pradhan vata pitta-alcoholic, smoker, hyperthyroidism, hepatic disorder

a) *Mal(Pitta)*- Kutaki, Erand, Haritaki,

b) *Mutra*-Punarnava(Diuretic), Gokshur (Diuretic)

iii) *Raktavisravana-raktamokshan*-It reduces blood pressure by 10-20 mmof hg.

iv) *Shirodhara-shirodhara* is a purifying and rejuvenating therapy designed to eliminate toxins and mental exhaustion as well as relive stress and any ill effects on the central nervous system and pacifies the aggravated *vata dosha in shira* which helps in relaxing the nervous system and balancing the pran vayu and vyan vayu around the head and vyan vayu itself responsible for circulation of blood in the body. *Shirodhara* With medicated milk, takra, oil can be get good improvement in high blood pressure.

v) *Basti*-all acharya have appreciated *basti* as a unique form of treatment modality for *vata* and other *doshas* too because it expels the vitiated doshas rapidly as well as it nourishes the body. The possible role of *kapha* and *meda as avarana* over *vyan vayu* in hypertension justifies the application of *lekhan basti* etc. to pacify them. similarly if *basti* is given the drugs which alleviates the vitiation of *rakta* and *pitta* than it not only normalise *pitta* and *rakta*, rather helps to control *vata* by its virtues.^[21]

3. *Shaman*-The principle of shaman therapy is to normalise and maintain the equilibrium of all *doshas*. As per ayurvedic text

Shaman chikitsa

Hrudya gana^[22]

Name of drugs	Latin name	Action	<i>Doshghnata</i>
<i>Amra</i>	<i>Mangifera indica</i>	Antitoxic, diuretic, cardiac, stimulant, cardiogenic	<i>Pakwa fruits-vatapittashamak. apakwa fruits-tridoshakarak</i>
<i>Amrataka</i>	<i>Spondias pinnata</i>	Antioxidant astringent	<i>Vatanashak</i>
<i>Lakuca</i>	<i>Artocarpus lakoocha</i>	Laxative	<i>Vatpittashamak</i>
<i>Karmarda</i>	<i>Carissacarandus</i>	Hypotensive, histamine releasing activity, cardiogenic, cardiacde pressant	<i>Vatshamak</i>
<i>Vrikshamla</i>	<i>Garcinia indica</i>	Cardiogenic	<i>Kaphvatshamak</i>
<i>Amlavetas</i>	<i>Garcinia pedunculata</i>	Cardiogenic, carminative	<i>Kaphvatshamak</i>
<i>Kuwal</i>	<i>Zizphyus jujube</i>	Cardiogenic	<i>Vatshamak</i>
<i>Badar</i>	<i>Zizyphus sativa</i>	Cardiogenic, antiinflammatory, sedative	<i>Kaphvatghna</i>
<i>Dadima</i>	<i>Punica granatum</i>	Antioxidant, hypotensive	<i>Tridoshaghna</i>
<i>Matulunga: 2 types 1.madhur 2.amla</i>	<i>Citrus medica</i>	Cardiogenic	1.madhur type:vatpittashamak 2.amla type:kaphavatshamak

In *ayurveda* text some drugs, which acts on heart and can be used to manage the blood pressure levels are as mentioned below

Other drug list^[23]

Name of drugs	Latin name	Action
<i>Shunthi</i> (ginger)	<i>Zinziber officinale</i>	Antiinflammatory, antiplatelet, hypotensive
<i>Arjuna</i>	<i>Terminalia arjuna</i>	Cardiotonic, hypertensive, diuretic
<i>Ashwagandha</i>	<i>Withania somnifera</i>	Antidepressant, antioxidant, cardioprotective
<i>Amla</i>	<i>Embelica officinalis</i>	Antioxidant, caediotonic
<i>Rason</i>	<i>Allium sativum</i>	Antioxidant, hypotensive
<i>Bramhi</i>	<i>Bacopa monnieri</i>	Antioxidant, cardiotonic
<i>Sarpagandha</i>	<i>Raufelia serpentine</i>	Hypotensive, sedative, nervine, antispasmodic, vasodilator
<i>Gokshur</i>	<i>Tribulus terrestris</i>	Diuretic

Pathya-Apathya^[24]

Prevention –the aim of Ayurveda is to promote the health by preventive measures and further manage disease.

<i>Pathya</i> (DO'S)	<i>Apathya</i> (DON'T'S)
<i>Ahar</i> -diet should be light, low fat diet and preferably vegetarian foods. Include following diet-whole grains, fresh fruits and vegetables, fix, meal trimming. Mung, jay, madhu, anar, saindhav, takra, shunthi, adrak, rason, meethi, jeerak, atasi, dalchini, etc. fruits-Indian gooseberry, grape, watermelon, lemon, papaya.	<i>Ahar</i> -avoid manusahar (meat), egg, excessive protein oil, avoid excessive spicy food and salt (sould not be 2000mg) in daily diet and avoid overeating, avoid smoking and alcohol, weight control, <i>Adhyashan</i> , <i>viruddashan</i> , <i>pishtanna</i> . excessive intake of <i>lawan ras</i> , <i>amla ras</i> .
<i>Vihar</i> : daily exercise, <i>langhan</i>	<i>Vihar</i> : <i>vegdharna</i> , <i>alasya</i> , <i>divashyan</i> , <i>sukshayan</i>
Yoga ^[25] : <i>vajrasana</i> , <i>pawanmuktasana</i> -wind removing pose, <i>shavansa</i> . <i>Pranayama</i> : <i>Bhastrika</i> , <i>kapalbharti</i> , <i>anulom-vilom</i> and <i>nadishodhan</i> , <i>bhramari</i> , <i>shavasan</i> (<i>chandogya upnishad</i>)	<i>Pranayama</i> <i>Suryanamskar</i>

DISCUSSION AND CONCLUSION

Ayurveda because of its most powerful aspect of “*swasthasya swasthya rakshanam*” (Prevention from disease) has a big role to play in prevention of many diseases. In this article we have tried to cover the etiological factors of hypertension and explained the treatment of hypertension from *ayurvedic perspective*. Regarding this, it is essential to understand that cause of hypertension irregularities may be different for each person. It is mainly a *tridoshaj vyadhi* having the dominancy of *vata Dosha*. *Ras*, *Rakta* and *Manas* are the chief *Dushyas* of

disease of *raktavaha srotas*. The disease essential hypertension mostly correlates with the *Raktapitta vikara*. This review showed that there is major role of unhealthy dietary products, lack of exercise and stress full life in the aetiology of essential hypertension. Life style modification, dietary changes(*pathya-apathya*) plays major role in controlling the disease along with that *Ayurvedic* drugs like *Hrudya gana*, arjun bramhi, sarpagandha which are performing antihypertensive action are predominanty in tikta rasa (bitter taste), katu vipak (pungent metabolism), laghu ruksha guna (light and rough property) and *ushna* verya. Such kind of drugs are responsible *sroto shodhana*(purification of channel) *srotovivaran* (dilation of channel action) which is helpful for breaking down the *samprapti* of hypertension. Hence it can be useful for controlling hypertension and reducing its complication.

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