Essential Hypertension - An Ayurvedic Review

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ABSTRACT

Essential hypertension is high blood pressure for which there is no clearly defined aetiology. According to oxford textbook of medicine 5th edition, in 2000 it was estimated that 25% of the world adult population were hypertensive and predicted that this would rise to 29% by 2025. By the age of 60, more than one half of adults in most regions of the world will be hypertensive. There is continuous relationship between blood pressure and cardiovascular risk from blood pressure values as low as 115/75mm of Hg. In Ayurveda there is no specific terminology mentioned or explanation has been found regarding essential hypertension. But most of the Ayurveda experts believe that the main pathogenesis occurs in blood vessels and involves all the Doshas, including Manavahasrotas involvement. Presently the disease is treated empirically in Ayurveda clinics, so there is the need to understand it rationally in terms of Ayurveda so it can be treated accordingly with better results and prognosis. The Nidana can be explained under three factors including bijadoshas, environmental, and Manasika Doshas. It can be described as the disease with Aavyakta Purvarupa and Rupa as Shirashooha, Nidranasha, Bhrama, Klama etc. The disease can be concluded as Vatapradhana Tridoshaja Vyadhi with involvement of Mahamarmas.

Key words: Essential Hypertension, Vatapradhana Tridoshaja, Vatavyadhi.

INTRODUCTION

Hypertension is one of the major cause of disability and death all over the world. Hypertension causes heart attacks, strokes, kidney failures and other disorder if it is neglected and remains untreated. In many cases, hypertension does not cause any symptoms until it causes complications such as heart attack and stroke and plays a role of silent killer in the body.

People with Pitta and Vata predominant constitution and Pitta and Vata imbalance, are more prone to hypertension than any other. Unprocessed anger, frustration, irritability, anxiety and fear leads to mal-adaptation of the endocrine system, which then leads to conditions like hypertension. Treatment is based on bringing these imbalances back to normal. In the treatment of hypertension; nutrition, exercise, breathing exercises (Pranayama), Yoga, meditation, behavioral modification along with various herbs and minerals are prescribed.

So far as Ayurvedic description is concerned, no specific term is found for essential hypertension. In all the opinions different view have been adopted, but no one has denied the fact that in essential hypertension, the main pathogenesis occurs in blood vessels and involves all the Doshas (Genetic Factors).

Nidana (Etiology)

The exact aetiology of the rise in blood pressure is not yet clear. Although, strongly suggested predisposing factors can be classified in group as follows,

1. Bijas Doshaja (Genetic Factors)
2. Environmental
3. Manasika (Psychological Factors)

Bija Doshaja (Genetic Factors)

The importance of genetic factors in the pathogenesis of essential hypertension is indicated by the similarity of blood pressure values between close (first degree) relatives, such as between siblings and between parents and children.

Acharya Charaka has also described the genetic influences in production of disease. At the time of conception, if the Bijā (sperm and ovum), Bijā Bhaga (chromosomes) or Bijabhaga Avayava (genes) get vitiated; it is likely to travel in subsequent generations. Dalhana has also commented that Bijādusti does not means whole Dusti, but there may be a Dusti of a part of Bijā that is the organ developing from that particular part are also defective or abnormal. While classifying the diseases Acharya Sushruta has mentioned Adibala Pravrita Vyadhi and is said to be originated due to deformity of Shukra-Shonita of the parents at the time of conception.

From the above discussion, it can be concluded that Shukradusti because of vitiated Vyana and Apanavayu, may be considered to give rise to the inherited disease and essential hypertension may be one of them.

Environmental Factors

A number of environmental factors have been implicated in the development of essential hypertension, including age, race, sex, salt intake, obesity, occupation, alcohol intake etc.

Age

Old age is Vata Dosha Pradhana age, physiological aggravation of Vata with its Ruksha, Khara, Daruna, Shīta Gunas etc. may causes Sankocha and Kathinya of the vessels. In the senile people, perfusion of nutrition to the Dhatus also hampers. This results in cessation of normal functioning of Dhatus, Indriyas, etc., leads to provocation of Vata Dosha aiding in the process of reduction in the lumen of the arteries - raising the blood pressure. Chalaguna of Vyanavayu, increases in old age and may make forcible Rasa-Rakta Samvahana (forcible cardiac output) resulting in essential hypertension.

Race

Clues into the etiology of Hypertension may also be obtained from comparison of different racial groups. Most studies of blood pressure in black and white people have reported a higher average blood pressure in blacks, and consequently, higher prevalence of Hypertension. By contrast, however, blacks living in rural area have low blood pressure and no rise with advancing age.

Gender

Below the age of about 45 women tend to have slightly lower blood pressure than men. They also have less coronary heart diseases and strokes. These differences in early life may be due to endocrinological events associated with the childbearing years. After the age of about fifty years, blood pressure rise in women to become similar to those seen in men. At the same time the relative absence of Hypertension in cardiovascular disease in women before the menopause raised the possibility that endogenous estrogens are in some way protective.

Obesity

In etiopathogenesis of Sthāulya, excessive use of Madhura, Snigdha, Guru Ahara causes Jatharagni Vaigunya and Medodhatvagnimandya leads to production of Ama and Apakva Medovriddhi. This Apakva Ama when deposits in Rasavaha Srotasa may leads to Dhamani Pratichaya (Atherosclerosis), which may be a responsible factor of essential hypertension. Moreover, Snigdha, Pralepi, Pichhila, Gunā of Ama, cause Srotorodha, results as Prakopa of Vyanavayu. The Apakva Medodhatu itself also obstructs the pathway of Vata. This vitiated Vata (mainly Vyana) may raise the blood pressure.

Salt

In Charaka Samhita, excessive use of Lavana is described as the cause of Shonitaja Roga and it
causes increase in the blood.[12] Same in essential hypertension, *Rakta* is also vitiated. Moreover, Acharya Charaka has also mentioned that *Lavana* should not be consumed in excess and for longer duration. When excessively used, it produces fatigue, lassitude and weakness of the body,[13] which are the symptoms, usually found in the patients of essential hypertension.

**Alcohol**

The *Gunas* of alcohol like *Ushna*, *Tikshna*, *Sukshma*, *Vyavayi* etc. are exactly opposite to the *Gunas* of *Oja*,[14],[15] which also provoke *Vata-Pitta Dosha*. Being the seat of *Oja*, *Hridaya* also gets involved. Destruction of *Oja* would disrupt the normalcy of *Prana* and *Vyanavayu*, *Sadhaka Pitta* and *Avalambakakapha*, which are the *Ashrita* (situated in) of *Hridaya*.

Acharya Charaka has also described *Pradusta, Bahu* (excessive) *Ushna*, *Tikshna* (hot and sharp) *Madyapana* and *Surapana* as a causative factor of *Shonita Dusti*. In brief, *Raktadusti* along with *Vata* and *Pitta Prakopa* takes place due to *Madyapana*, a conductive factor for essential hypertension.

**Vegetarian Diet**

*Mamsa* has been mentioned among the causes of “*Shonitaja Roga*”. Some of the symptoms of *Shonitaja Roga* are similar to those of Essential Hypertension. So it can be said that intake of *Mamsa* *Sevana* (non-veg. diet) might have some role in the pathogenesis of essential hypertension.

**Smoking**

Tobacco is derived from the leaves of its plants (*Nicotiana tabacum*), which having *Madaka* and *Pitta Vardhaka* effects. It also creates *Mada* and *Bhrama* (*YR-Kundashakudi Varga*). It effects both the central and peripheral nervous systems, which may contribute as a risk factor of essential hypertension. Moreover, it contains nicotine which is potent vasoconstrictor causing elevated blood pressure.

**Manasika Bhavas (psychological factors)**

As per Ayurveda, by these *Manasika Bhavas*, Vitiation of *Mana* via *Raja* and *Tama* takes place, which is located in *Hridaya*. Moreover, *Dalhana* has clearly mentioned that *Mana* and *Hridaya* correlates with function of *Sadhakapitta*.[16] So, hampered function of *Rasa-Rakta Vikshepana* of *Hridaya*, being the cause for rise in blood pressure.

**Purvarupa (Pre-Symptoms)**

Though, essential hypertension is said to be *Vatapradhana Tridoshaja Vyadhi*, it can be considered under the broad heading of *Vata Vyadhi* and *Purvarupa* of the *Vatavyadhi* is said to be *Avyakta*. In this way the *Purvarupa* of essential hypertension are also *Avyakta* (obscure).

**Rupa (Symptoms)**

Elevated blood pressure is usually asymptomatic until the organ damage occurs. However, higher level of blood pressure may be associated with symptoms even in the absence of the obvious target organ damage. Usually the patient goes with one other complaint to the hospital and unexpectedly gets diagnosed as hypertensive patients.

The circulation throughout the body of nourishing elements like *Rosa*, *Rakta* etc. depends on normal function of *Vata*, particularly *Vyanavayu*.[17] By virtue of its *Ruksha*, *Khara*, *Shita Gunas* vitiated *Vyanavayu* causes *Sankocha* of *Vahinis* and by its *Ruksha* and *Daruna Gunas* it dries up of the inner layer and makes *Upalepana* of *Malarupa Kapha*; enhances the process of *Kathinya*, resulting in reduction of vascular lumen, which further obstructs the normal path way of *Vyanavayu*. Obstructed *Vyana* may leads to forcible blood flow in the vessels leading to essential hypertension.

**Shirahshoola (Headache)**

In hypertension usually throbbing type of headache in occipital region and radiating to vertical or in frontal region occurs mainly in morning hours and remains for whole day.

Acharya Sushruta has stated that any type of *Shoola* cannot occur without the vitiation of *Vata*.[18] Charaka has included *Shirahshoola* in 80 types of *Nanatmaja Vatavyadhi*. Further, Charaka while explaining *Samanya Samprapti* of *Shiro Roga*, mentioned that
Prakupita Vatadi Dosha cause Dusti of Rakta, localizing in Shira, produce Shiroroga, which includes Shirah Shool also. In this way due to Vatadusti, Shirah Shool may occur.

Nidranasha (Insomnia)

Vitiated Vata and Pitta and Manasa Santapa are responsible for Nidranasha. Charaka has mentioned it under Nanatmaja Vikara of Vata, hence Laghu Guna of Vayu generally causes Nidranasha. Under the symptoms of Vata-Pitta Vridi, Acharya Sushruta has mentioned both Nidralpata and Nidranasha. Insomnia is due to disturbed psychological factors like stress, strain, anxiety etc. They affect the body and mind by several psychosomatic mechanisms, which are closely related with regulation of sleep and directly affect the sleep center. So, insomnia or disturbed sleep is usually found in the patient of essential hypertension.

Bhrama (Giddiness)

Giddiness in hypertensive patients might be due to ischemia of labyrinth, malfunctioning of vasomotor system or transient ischemia of the cerebrum. Bhrama has been mentioned as Nanatmaja Vikara of Vata. Acharya Sushruta has mentioned Bhrama as a result of vitiated Raja, Pitta and Vata. According to Dhalana, Chalaguna of Vayu becomes dominant due to inflated Rajadosha, makes patient to feel him like revolving.

Tamodarshana (Flashes before eyes)

Acharya Charaka has described Tamodarshana in Rakta Pradoshaja Vyadh, hence it appears due to Srotorodha in Rakavathinis of Shira. Visual disturbances may be due to transient cerebral ischemia or strokes.

Ati Daurbalya (Weakness)

Atidaurbalya has also described in Shonitajayadhi. Impairment of Dhatu formation due to Rasa-Rakta Dusti by vitiated Vata Dosha also affects the formation of Oja (Prakritta Bala), which produces Ati Daurbalya. It may results in a reduced capillary pressure to cell tissues, as a result they are not well nourished.

Klama (Easy Fatigabiliy)

Without any physical or mental work, tiredness of the body and mind is called Klama. Charaka has mentioned Klama under Raktaja Roga hence due to Dusti of Rakta it is manifested.

Hridadravata (Palpitation)

According to Acharya Gangadhara, Hridadrava means increased Gati of Hridaya. Moreover, while describing the symptoms of Rasakshaya, Acharya Charaka has mentioned ‘HridayamTamyati’. In case of Dhatukshaya, Vata is always vitiating. Here, Vyanavayu is aggravated with its Chalaguna resulting in Hridadravata. A history of recurrent episodes of tachycardia may be due to intrinsic cardiac disease, anxiety or fear.

Svaskrichhata (Breathlessness)

Svaskrichhata is pathological state of Pranavaha Srotas. Kapha when obstructs the Srotasa, Pranavayu gets vitiated, resulting in Svaskrichhata. Here in this context, Sama Rasa produced by Agnivaishamya, which gives rise to Malarupakapha and its Sanga in Pranavaha Srotasa may be the reason of Svaskrichhata. Breathlessness on exertion more likely to be a complicating factor with coexistent coronary heart disease. Paroxysmal nocturnal dyspnoea may occasionally be due to severe Hypertension alone.

Akshiraga (Redness of eyes)

Akshiraga is described among Shonitajaroga in Vidhishoniteeya Adhyaya. Sushruta has also mentioned that redness of eyes is due to Raktaviddhi.

Prabhuta Mutrata and Ratri Mutrata (Polyuria and Nocturia)

Polyuria can occur with intrinsic renal disease, which may itself cause hypertension or may follow renal damage secondary to raised blood pressure. Nocturia is one of the most frequent consequences of blood
pressure elevation resulting from reduction in urine concentrating capacity.

**Samprapti - (Pathogenesis of essential hypertension)**

Essential hypertension is a psychosomatic disorder, which is originated by involving different factors like Dosha, Dushya, Agni, Srotasa etc., which are being explained here in detail.

1. **Dosha**

In the etiopathogenesis of essential hypertension, due to Nidana Sevana i.e. Aharaja, Vihara, Manasika etc., Sharirika and Manasika DOSHAS are provoked.

Manobhavas like Bhaya, Chinta, Shoka, Kama etc. causes prakopa of Vata,[31] particularly lead to vitiation of Pranavayu. Being imbied in Murdha (Brain), from where it executes its function; it has a direct relationship with the Manasa Bhava like Krodha, Bhaya, Chinta etc. Pranavayu is controller of all other form of Vata physiologically. So Prakopa of this Pranavayu leads to derangement of Vyana and Apana also.

As in normal state, Vyanavayu perform its Rasa-Rakta Vikshepana Karma normally. But when it vitiates, Dhamani Sankocha occurs due to its Ruksha, Shita and Khara Gunas, resulting in the reduction of Srotaviyara (lumen of the channels). Due to this narrowed pathway, Avarodha (obstruction) occurs in Rasa-Rakta-Vikshepana Karma, causing forcefully function of Vyanavayu with increase its Chalaguna, which makes the pressure to rise at the wall of Dhamanis.

Apanavayu, by its Pratilomagati causes Sanga of Mala after getting vitiated by intensified Pranavayu. Retention of sodium is the main cause among the causes of essential hypertension.

Vata, Pitta (Sadhaka) is also provoked by such Manasika Bhavas like Krodha, Shoka, Bhaya etc.[31][33][34] According to Dalhana, Mana and Hridaya correlates with the functions of Sadhakapitta.[35] As Hridaya is location of Sadhaka Pitta, it is also affected on the basis of Ashraya-Ashrayi Bhava, causing impaired function of Rasa-Rakta Vikshepana. Moreover, Avalambaka Kapha situated in Hridaya, may also affect the function of Rasa-Rakta Vikshepana causing excessive Upalepana Karma in Vahinies. Thus, obstructed Rasa-Rakta Vikshepana Karma leads to rise in the blood pressure.

Raja and Tama are two Manasika DOSHAS as per Ayurveda. Due to Manasika Nidana Sevana (Chinta, Bhaya, Shoka, Krodha etc.), Raja and Tama are provoked with their Chala and Guru properties respectively (Sankhya Karika 13), which may hamper the functions of Manasa and produce Manasika manifestations of the disease. The vitiation of Raja and Tama also results in vitiation of Sharirika Dosha. Thus, both Sharirika and Manasika Dosha in conjunction produce psychosomatic disorders viz. essential hypertension.

2. **Dushya**

Rasa, Rakta, Mana, Hridaya and Oja are main Dushya, affected in the etiopathogenesis of essential hypertension. The Manasika Bhavas affect Chinta, Kama, Bhaya, Krodha, Shoka, Udvega etc. make direct effect on Mana.[36] These obnoxious states of Mana affects Hridaya also.[37] Moreover, Hridaya is also affected by Dusti of Mana on the basis of Ashraya Ashrayi Bhava.[38] ill feeling of Mana (Manasika Bhava) like Shoka, Krodha etc. affect the Oja.[39]

Rasa and Rakta are circulated throughout the body by the Rasa-Rakta Vikshepana Karma of Hridaya. So, vitiation of all the Dushyas including Rasa and Rakta, hamper this Vikshepana Karma, leads to essential hypertension and its related manifestation (Hridadrava - Palpitation, Tachycardia etc.).

3. **Agni**

It has been clearly mentioned by Acharya Charaka that, in such psychic conditions like - Kama, Krodha, Lobha, Moha etc., in spite of taking Mithya Ahara, Agnivaishamya occurs due to Udvegata of Manasa.[40] So, in essential hypertension, due to Agni Vaishamya, its related manifestations occur.

4. **Srotasa**

Including Manovaha Srotasa, Rasavaha and Raktavaha Srotasa are main affected Srotasa in the
etopathogenesis of essential hypertension. In Ayurvedic scriptures, Manovaha Srotasa is mentioned in the description of Manasa Roga. Chinta, Kama, Bhaya, Krodha, Shoka, Udvega etc. make direct effect on Mana.\textsuperscript{[43]} These obnoxious states of Mana produce Manovikara with affecting Manovaha Srotasa, on the basis of Ashraya-ashravyi Bhava.

Manasa Bhava affect Rasavaha and Raktavaha Srotasa also as excessive worry is a cause of Rasavaha Srotodushti and Krodha is a cause of Raktadusti leads to Raktavaha Srotodushti on basis of Ashraya-ashravyi Bhava.\textsuperscript{[44]} Due to Srotodushti, Rasa-Rakta Parivahana may get obstructed (Avarodhita), which may towards to essential hypertension.

5. **Udbhava Sthana**

Hridaya is the origin of essential hypertension, because it is seat of Mana, Oja, affected Doshas - Vata (Prana, Vyana), Pitta (Sadhaka), Kapha (Avalambaka), part of Manovaha Srotas, root of Rasavaha Srotasa and main organ of Rasa-Rakta Vikshepana Karma. So, considering these points, Hridaya can be taken as its Udbhava Sthana of essential hypertension.

6. **Vyakti Sthana**

Essential hypertension is considered under the group of psychosomatic disorders, by which Psyche-Manasa and Soma - Sharira both are affected. That’s why Vyaktistolthana of essential hypertension may be considered Sarva Sharira with Mana.

So it can be concluded that Essential Hypertension can be correlated with Dushti of Vata (Vyana and Pranavayu), Pitta (Sadhaka) and Manovaha Srotas involving Hridaya, Rasayani, Oja and process of Rasa Vikshepana. It is due to disturbed psychological factors like Chinta (worry), Udvega (Stress), Krodha (Anger) etc., producing Hypertensive state.

**Sadhyaa-Asadhyata (Prognosis)**

To classify the disease essential hypertension, in terms of Sadhyaa-Asadhyaa category, Samprapti of the disease is considered. Essential Hypertension is a vatapradhanya Tridoshaja Vyadhi with vitiated Doshas being held up in the Madhyama Rogamarga. Along with this, involvement of all the 3 Mahamarmas (Shira, Hridaya, Basti) is evident from the etiopathogenesis of the disease. The disease is known to run a chronic course.

**CONCLUSION**

Essential Hypertension is Vatapradhanya Tridoshaja Vyadhi. All Vatavyadhi after certain period of time become Durupkrama or Kricchasadhya and Tridoshaja Vata Vyadhi is Pratyakhyeya according to Agnivesha. It is Yapya as per the involvement of three Mahamarma and Madhyama Rogamarga. Essential hypertension when it is benign and present without complications and is treated at an early state is Yapya. After the disease gets associated with complications or it is malignant and present for longer duration, it is Pratyakhyeya. This is supported by the clinical findings that patients are free from symptoms as long as medicines are administered. The extent of end organ damage is related principally to the duration of essential hypertension and its severity. Thus by detecting essential hypertension at an early stage and treating it effectively, prognosis can be improved.

**REFERENCES**


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