

## ***ROLE OF DOSHA, DUSHYA, STROTAS IN SAMPRAPTI OF HYPERTENSION WITH AN AYURVEDIC PERSPECTIVE***

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### **ABSTRACT**

21st century brings a gift of anxiety and more stress for modern society. This stress and strain affect once bodily organ through the different psychological mechanism. Lifestyle diseases refer to diseases that result because of choices people make in their life. They are most common in developed nations where people are inclined towards stress, eating unhealthy foods, having a sedentary lifestyle and unhealthy habits like smoking and excessive alcohol intake. This lifestyle results in higher level of risk factors, such as Hypertension. Hypertension is one of the leading causes of the global burden of disease. About 26.4% of the world adult population in 2000 had hypertension and 29.2% were projected to have this condition by 2025. As we all know, hypertension is called a silent killer because it rarely exhibits symptoms before it damages the heart, brain or kidney. Though a lot of potent antihypertensive drugs are available today in modern medicine, but none of them is free from untoward effects. The principal focus of Ayurveda is on maintaining good health and adopting a healthy way of life. In Ayurveda there is no description of such a single disease which can resemble with hypertension. As per Ayurvedic principles, in a case of unknown disease, the physician should try to understand the nature of the disease through *Dosha*, *Dushya* and *Samprapti*; then should initiate the treatment. After a thorough study of literature and fundamentals in Ayurveda it is concluded that Ayurvedic approach to treating a disease according to its *Samprapti* (pathogenesis) is very practical and should not be overlooked, and it surely helps in the management of Hypertension in Ayurvedic perspective.

**Keywords:** hypertension, *Dosha*, *Dushya*, *Samprapti*

### **INTRODUCTION**

21<sup>st</sup> century brings gift of anxiety and more stress for modern society. Moreover due to industrialization and urbanization, man put himself in lot of diseased condition. Though with the advancement, medical science has helped man to conquer disease like plague, small pox, polio etc but stress related disease are rapidly increasing. Hypertension is one of the leading causes of the global burden of disease. About 26.4% of the world adult population in 2000 had hypertension and 29.2% were projected to have this condition by 2025<sup>(1)</sup>. Approximately 7.6 million deaths (13 - 15% of the total) and 92 million disability-adjusted life years worldwide were attributable to high blood pressure in 2001. Hypertension is also called high blood pressure, which is a chronic medical condition in which the blood pressure in the arteries is elevated. This causes the heart to work harder to pump blood through the blood vessels which puts strain on the heart and arteries. Hypertension doubles the risk of Cardiovascular disease, including coronary heart disease (CHD), Congestive heart failure (CHF), ischemic and hemorrhagic stroke, renal failure, and peripheral arterial disease. Although antihypertensive therapy reduces the risks of cardiovascular and renal disease, large segments of hypertensive population are either untreated or inadequately treated<sup>(2)</sup>.

Though a lot of potent antihypertensive drugs are available today but none of them is free from untoward effects. Especially the elderly population poorly tolerates these drugs. Beta blockers often cause fatigue, cold extremities, bradycardia and heart-failure. Similarly, angiotensin converting enzyme inhibitors may

cause cough, rash etc<sup>(3)</sup>. Ideally, an antihypertensive drug should achieve optimum blood pressure control and improve patient's well being. Any treatment administered should be directed not only to control blood pressure, but also prevent target organ damage, thereby preserving cardiac and renal functions<sup>(4)</sup>.

World is looking towards Ayurveda with hope for remedies. In Ayurveda there is no description of such a single disease which can be resembled with hypertension. *Acharya Charaka* has given a guideline to understand new clinical entity, naming of disease is not important, physician should not be ashamed of this, new disease should be examined with the help of *Doshas*, the site of manifestation, *Hetu* (Etiological factor), and then physician should start the treatment<sup>(5)</sup>. Hence to understand Hypertension for treatment principle, understanding of *Dosha's*, *Dhatu dushti*, *Strotas* involvement, causes (*Hetu*) are important for its prevention and treatment in the view of Ayurveda.

#### **AIMS AND OBJECTIVES :-**

Understanding of Pathogenesis (*Samprapti*) of Hypertension in terms of Ayurveda, and find out the factors involved in hypertension, This research paper will help to understand hypertension in terms of *Ayurveda*, which will be beneficial for treatment as well as preventive purpose.

#### **MATERIAL AND METHODS:-**

To Study Pathophysiology of Hypertension with Ayurvedic perspective from classical books of Ayurveda, modern literature, re-

search updates, internet etc. Were searched and analyzed.

**LITERATURE REVIEW:-**

Blood pressure is the force of blood against artery walls as heart pumps blood through body. Hypertension occurs when the force of blood is stronger than it normally should be.<sup>(6)</sup> Blood pressure readings have two numbers, usually written this way: 120/80. The first number is systolic pressure. Systolic pressure measures the force of blood against artery walls as heart pumps blood to the rest of the body. The second number measures diastolic pressure. Diastolic pressure measures the force of blood against artery walls between heartbeats, as the heart muscle relaxes<sup>(7)</sup>. Arterial pressure = Cardiac Output (CO) x Total peripheral vascular resistance (TPVR) so blood pressure is also depends on the total blood volume. In adults hypertension

is a condition in which the blood pressure is higher than 140 mm Hg systolic or 90 mm Hg of diastolic on three separate readings recorded several weeks apart<sup>(8)</sup>.

**TYPES OF HYPERTENSION**

- **Primary or essential hypertension** - The hypertension is of unknown origin.
- **Secondary hypertension** - Hypertension with an identifiable cause secondary to another disease such as renal disease or tumor.
- **Isolated systolic hypertension** - Most common in elderly patients due to reduced vascular compliance, systolic B.P > 160 mm of Hg with diastolic pressure < 90 mm of Hg.
- **Neurogenic hypertension** - It can be caused by strong stimulation of sympathetic nervous system. (e.g. when a person becomes excited for any reason or state of anxiety). Classification of Hypertension is also based on blood pressure which is shown in Table no.1<sup>(8)</sup>

**Table 1:**

Category	Systolic (mm Hg)	Diastolic (mm Hg)
Optimal	< 120	< 80
Normal	120-129	80-84
High Normal	130-139	85-89
Grade 1 HTN (mild)	140-159	90-99
Grade 2 HTN (moderate)	160-179	100-109
Grade 3 HTN (severe)	>or = 180	>or = 110
Isolated Systolic HTN	>or = 140	< 80

**Factors affecting hypertension. :-**

These include 1.Vessel Elasticity 2.Blood Volume 3.Cardiac Output 4.Peripheral Resistance. Peripheral resistance depends upon blood viscosity, vessel diameter and vessel length, but several factors and conditions may play a role in its development, including :-

Smoking, Being overweight or obese, Lack of physical activity ,Too much salt in the diet, Too much alcohol consumption (more than 1 to 2 drinks per day),Stress, Older age, Family history of high blood pressure ,Chronic kidney disease, Adrenal and thyroid disorders, Sleep apnoea. There is a close connection between

our body and our mind. If there is a psychological factor affecting a medical condition, it is important to treat the psychological problem as well as the medical problem. If there is stress related hypertension treatment should be planned accordingly.

#### **AYURVEDIC PERSPECTIVE:-**

Exact nomenclature of the disease in Ayurveda upto some extent is controversial, academicians of Ayurveda suggested different names to demonstrate the phenomenon, they are like *Dhamani Prapurana* (Saraswati G.N. 1935), *Raktagata Vata* (Upadhaya Y.N. 1950), *Siragata Vata* (Chaturvedi G.N. 1962), *Avarita Roga* (Sharma R.K. 1966), *Rakta Sampida* (Panday S.P. 1972), *Vyan Bala* (Triguna B. 1974), *Dhamani Pratichya* (Athawale A.D. 1977), *Ras Bhara* (Athawale T.S. 1979), *Raktaveg Vrridhi* (Athawale V.B. 1979), *Raktasamverdhan* (Chaturvedi G.N. 1981), *Vyana Prakopa* (Shrivastava P.S. 1983), *Abhivridhha Raktachap* (Dave A.P. & Singh G.S 1988), *Rudhira Mada* (Dwivedi V.N. 1991), *Deha Dhrik* (Vasistha A.G. 1994), *AvrittaVata* (Acharya R.K. Sharma – 1966)<sup>(9)</sup>. This list goes on with different concept by different *Vaidyas* and it creates confusion for upcoming *Ayurvedic* generation regarding causative factors, pathophysiology, complications and exact treatment modalities of hypertension. Description of *Hridaya* and processes of *Rasa Vikshepana* (circulation) by *Vyana Vayu* is helpful to understand the disease. The signs and symptoms of the disease can be understood in terms of *Dosha*, *Dushya*, *Strotasa*, etc. Looking at hypertension from this perspective, we can assume that vitiated *Vata*

*Dosha* is the main cause of the disease, as the *Dhatu Gati* (*Rasa Gati*) or *Vikshepa* is achieved by *Vayu* itself<sup>(10)</sup>. *Pitta* and *Kapha* complement the effect of vitiated *Vata* and support the progress of the disease with *Rasa*, *Rakta* (whole blood) being the main mediator of vitiation. This suggests the involvement of *Tridosha* in hypertension<sup>(11)</sup>. To understand the Hypertension understanding of *Rasa Vikshepana* is also important.

#### **ROLE OF DOSHA, DHATU, MALA, IN RASA RAKTASAMAHAHAHANA :-**

In *Ayurveda*, three humours – *Vata*, *Pitta* and *Kapha*; seven *Dhatus* (*Rasa*, *Rakta* etc.), *Malas* (*Mutra*, *Purisha* etc.) are considered as the root cause of all the functions of the body. So, particularly to understand the blood pressure in terms of *Ayurveda*, the physician should try to understand the nature of the disease through *Dosha*, the site of manifestation, etiological factors and then should initiate the treatment. Hence it becomes necessary to study multiple factors viz. *Dosha Vriddhi*, *Dhatu Dushti*, *Strotas* involved and their role in causation of hypertension for proper understanding of disease, its prevention and treatment.

#### **DOSHA INVOLVED IN HYPERTENSION:-**

**Vaata:-** Amongst three basic pillar of the body i.e. *Vayu*, *Pitta*, *kapha*. In them *Vayu* is chief pillar which governs the other two *Dosha*. The meaning of 'Va' is *Gati* or to move. *Aacharya Vagbhata* mentioned that “*Cheshta veg pravartanaihi*” i.e. all the body movements are caused by *Vata*<sup>(30)</sup>. *Kapha*, *Pitta*, *Malas* and

*Dhatu*s are *Pangu* without *Vayu*. So *Vayu* is responsible for their proper movement to their respective place. In the five of them, *Pran Vayu*, *Saman Vayu*, *Vyan Vayu*, *Apan Vayu* are essential and get involved in *Samprapti* of HT. **PRAN VAYU:** The four major function viz *Buddhi dharanam (dhrika)*, *Indriya dharana*, *Chitta Dharnanam*, *Hridayadharanam*<sup>(14)</sup>. Regulates and governs the *Man*<sup>(15)</sup>. According to *Vagbhatta*, the seat of *Pranvaya* is *Murdha*. It also controls the other four *Vayus* along with its normal functions, so it implies that it's responsible for the Nerving functioning of the body. The function of *Pravayu* has been told as *Hridayadhrik* and responsible for *Rasa raktasamvahana*. *Hridayagati* is controlled by he nerves, which are originated from *Mastiska*, so we can visualise *Pranvayu* controlling the cardiovascular nervous system by comparison. So any pathology of *Pranvayu* can cause abnormality of abnormal blood circulation. **Samana Vayu:-** Gives strength to *Agni*<sup>(16)</sup>. Transport *rasa* to the heart<sup>(17)</sup>. It's *Aprakrit* state results in *Agnimandhya* and subsequent production of *Ama*. This vitiated *Shleshma* by its *Singdha*, *Picchila* etc. properties will produce *Srotorodha* or *Srotuplepa*. Thus *RasaRakta samvahan kriya* will disturb and it is vitiated *Vyanvata*, by increasing *Chala guna* of *Vayu* and it can cause elevated blood pressure. *Aacharya Vagbhatta* emphasized that *Saman vayu* helps in formation and separation of *Malas* and their transportation to their respective place. According to *Aacharya Sharngadhara samana vayu* helps taking *Rasa* towards *Hridaya*, which may be co-related with mechanism of venous return towards heart. Venous return is directly proportional to car-

diac output and as we know that, blood pressure depends upon cardiac output. We assume that *Saman vayu* helps in flow of venous blood (*Rasa*) towards *Hridaya*. Disturbed *Samana vayu* results in disturbance of this flow. Thus indirectly effect of *Saman vayu on Rakta chapa*. **Vyan Vayu:-** *Vyan Vayu* is very important and responsible for *Rasa rakta samvahana* and *Aacharya Sushruta* comprehended that *Vyan vayu* is responsible for *Asrik* and *Sweda samvahana*<sup>(18)</sup>. While, *Dalhan* comment that *Praspandana* is function of *Vyan vayu*. *Praspandankarma* may compare with vasodilatation and vasoconstriction of blood vessels. *Aacharya Charka* and *Vagbhatta* mentioned that *Vyanvayu* is responsible for *Yugpat Viksepan*. *Yugpat* means simultaneously. *Sarvatah* means to all every part of the body. *Vikshepan* means to throw. *Vyan vayu yugpata gati* is responsible for *Rasa rakta samvahan* in all over body<sup>(19)</sup>. It is also provides *Tarpana* to all *Dhatu*s, which explained as the exchange of metabolites at this level. This exchange can take place when particular pressure is maintained here by *Vyan vayu*. Thus *Vyan vata* circulates *Rasa* by its normal viscosity, *Gati* (velocity) and peripheral resistance, which governed by the pressure on the wall of *Dhamni*. Thus *Vyan Vayu* can be considered as an important factor in the normal physiology of blood pressure. **APANA VAYU:** *Mutra* and *Purisha* have been considered as an *Mala*<sup>(20)</sup>. which are able to produce diseases if not excreted at their regular intervals. It is clear that this is some effect of excretion of *Mutra* on regulation of body fluid. Vitiating of *Apanvayu* hampers the excretion of the *Mutra*. So the body fluid level becomes imbalance,

which may affect the maintenance of normal blood pressure, similarly in modern science. Na<sup>+</sup>, K<sup>+</sup> urea uric acid like waste substances are constituents of the urine, which have to be excreted at regular intervals. Retention of these substances causes toxic effect on the body and also alters the fluid balance. Thus *Apana vayu* can be considered as an important factor in the normal patho physiology of blood pressure.

**PITTA :-**In five of them here *Pachaka pitta* & *Sadhaka pitta* are responsible and get involvement in *Samprapti* of EHT. ***Pachaka Pitta :-****Prakrita Pachaka Pitta* aids to the normally of *Dhatwagni* & *Bhutagni*<sup>(21)</sup>. As per “*Rasasya kapha eti rase pachyamane kittam kapho bhavati, prasadasch raktam*” *Agni-mandhya of Pachakaagni sama rasa* produce *Mala rupa* vitiated *Kapha* and *Sara rupa* produces *Rakta dhatu*<sup>(31)</sup>. When these vitiated *Malarupa kapha* mixing with blood. It also give rise to the viscosity of blood, and due to these total peripheral resistance increase. Not only these but *Sama rasa* will produce *Srotouplep*, and create narrowing of the *Srotas* (Wall of *Dhamani*). Thus *Pachaka pitta* aids in the functioning of *Vyan vata* aided by *Samana vata*. Thus we can say that is responsible factor for physiology of HT. ***Sadhaka Pitta :-****Dalhan* comments that *Sadhaka pitta* enable one to achieve his goal i.e. *Manoratha* as a *Dharma, aartha kama and moksha*<sup>(22)</sup>. And he also said that “*Sadhyati Nipadayati Sadhankarti Nis-padakah*”. It means *Sadhaka pitta* makes *Mana vimal & Utakrista* by removing *Tama and Kapha*. By this *Mana* perceives thing clearly. When *Sadhaka Pitta* vitiated, *Mana* perceives thing not clearly cause *Mana* cov-

ered by *Raja & Tama Dosha*. Mental functions are also under the direct control of *Pranvayu*. Thus vitiating of *Sadhaka pitta* will produce impact on *Prana vayu*. It is difficult to explain *Sadhaka pitta* in terms of modern physiology however functions of adrenaline do possess some similarity with that of *Sadhakpitta*. In case of anger, fear and such other feelings, the adrenal gland is stimulated and increases the secretion of adrenaline, which are related fright, fear and such action. Function like *Shourya, bhaya, harsha* etc. of *Sadhaka pitta* mentioned by *Chakrapani* may be co-related with that adrenaline. *Bhaya, chinta* etc. affect the heart rate and cardiac output which in turn affects the blood pressure. Thus *Sadhaka pitta* considered as an important factor in the normal patho-physiology of HT.

***KAPHA :- Avlambaka Kapha :-*** Gives strength, lubrication, protection and nourishment to the heart and give support to the *Rasa Dhatu*<sup>(22)</sup>. *Avlamambak kapha* is also support *Trikshitan* i.e the region where neck and shoulder joint located (*Prusthasya adha*)<sup>(32)</sup>. The normal rhythmicity, conductivity excitability, contractility, tone and refractory period of cardiac muscle can be attributing to *Avlambak kapha*. Its functions are comparable to functions of coronary circulation. Normally *Avalambak kapha* keeps heart healthy state and performs continuous pumping action, from the heart threw all over body, and also regular the normal B.P along with coronary circulation.

***Dushya:*** In circulatory system *Aahar rasa, Rasa Dhatu* and *Rakta Dhatu* are the entities which circulate all over the body. In the context of blood pressure *Rasavaha* and *Rakta-*

vaha Srotasas are important as they are related to 'Rasa-Rakta Samvahana'. **Rasdhātu:-** Rasadhātu is being circulated throughout the body; its main seat is believed to be Hridaya. Thus Viksepana karma of the Heart also effects the circulation of Rasadhātu. The pathology arises in the Rasadhātu or Hridaya would directly effect to Rasaviksepana kriya at the level of entire body, resulting in change of Raktachapa. Being the seat of Rasadhātu, the factors, which hamper the functions of Hridaya, also making adverse effect on Rasadhātu. So when the Heart is affected by anxiety, anger, and sorrow etc. the function of Rasadhātu hampers. As a result, fluctuation in the Raktachapa takes place. When Rasa-Raktadhātu remain in their normalcy, the depending organs i.e. Sira, Dhamani, Hridaya etc. remain normal and perform their functions normally. Any abnormality of Rasa-Raktadhātu effects the normal circulation of Rasa-rakta, ultimately resulting in the abnormality of the Rasa –Rakta samvahana by making additional pressure or less pressure on the Vahinies. Therefore, it can be believed that Rasa-Raktadhātu also responsible for maintaining normal Rasa –Rakta samvahana. **Raktadhātu:** Rakta is said to be Panchabhautik. Its properties are Dravata, Raga, Spandana, and Laghuta<sup>(13)</sup>. Here the word spandana denotes movement of the blood. This Spandana of the Rakta, which takes place in Raktavahinies, connected with the Heart, produced by Vyanavayu. Samvahanana of Rasa and Rakta occurs simultaneously in the body. Therefore the effect of Raktadhātu on the Raktachapa is as the same as of Rasadhātu. For maintenance of normal blood pressure, nor-

malcy of Raktadhātu in quantity as well as in functions are necessary. **OJA:-**Oja located in all over body. In Oja vikriti Murchha, Man-sakshya, Glani, Moha etc. Pathological condition occurs<sup>(24)</sup>. These conditions are also seen in low and high blood pressure. This features also mentioned in Oja kshya<sup>(25)</sup>. Oja also maintain Rasa Rakta samvahana. Any type of Oja vikriti give impact on Rasa- rakta samvahana which leads to Raktachapa. Thus Oja is also important factor in regulating blood pressure. **Hridaya (Heart):** According to Sushruta, formation of heart of foetus is made by the Sara of Kapha and Ashruka<sup>(12)</sup>. Therefore, both Kapha and Ashruka should be remained in its normal state to maintain the function of heart. Muscles of the heart nourished by the Sara of Rakta, Kapha resembles properties like Oja, retains the Bala of Heart which is utilized for the Rasa – Rakta samvahana. The functional aspects of Hridaya have been described in the following manner in the Ayurvedic texts. The word Hridaya (Hr- da –ya ) itself indicates its functions; viz. (a) Hri – Harti- Capturing Rasa and Rakta throughout the body, (b) Da –Dadati- providing nourishment to various Dhatus (tissues through Rasa) (c) Ya–Yapayati–to perform Sankocha (contraction) and Vikas (dialation) to maintain continuous circulation. ( Satapatha Brahmana). The meaning of these words are respectively receiving, giving away, and moving or maintaining a continuous activity of the two earlier functions. Therefore the word Hridaya signifies only the functional aspect of an organ which continuously receives and gives away a substance acting as path or conduct for the movement for that substances.

**Dhamani:-** In which *Dhaman*, *spandan* occurs known as *Dhamani* <sup>(26)</sup>Charak mentioned that *Dhamani* is centrally hollow, harder than *Sira*. He also mentioned that *Hriday* as the root of *Dhamanies*. While *Vagbhata* consider *Nabhi* as the root of *Dhamani*. The function of *Dhamani* is to circulate *Rasarakta* and nourished all *Dhatus*. So has also its call as “*Ojavaha*”. *Rasa Rakta* while circulating through *Dhamani*, a pressure has been exerts on the wall of *Dhamani*, which depends on elasticity of the *Dhamani*. If any pathology occurs, as a result change in blood pressure can occur. **Sira:-** The vessels in which *Sarana* occurs known as *Sira*<sup>(27)</sup>. It forms as a *Upadhatu* of *rakta*. It's function is carries to impure blood from the body to the heart. If any pathology occurs in *Sira*, it may affect blood pressure. **Srotas:-** The structure in which *Sravana* takes place known as *Srotas*. *Dhatu* are transported from one place to other and they make to nourish each cell of the body with the help of *Srotas*. *Rasavahasrotomool* is *Hriday*. and *Rasarakta-samvahana* is related to *Rasaraktasrotas*. Thus in these context of blood pressure *Rasaraktavahasrotas* are important.

**MANA:-** In our classics *Mana* considered as a *Atinidriya*. It is defined as the entity, Mind is *Ubhayatamaka*<sup>(28)</sup>. It is contact with self, sense organs and sense objects. **Guna:** *Mana* is a controller of all *Indriyas* and also responsible for production of knowledge by its attending or non-attending respectively, subtleness and ownness are known as two quality of mind <sup>(29)</sup>. *Raja* is *Pravartaka* and *Tama* is *Apravartaka*. Its entity in the body can be recognised by observing a variety of emotional and mental states (Like anxiety, fear, grief rage, ability to

concentrate, cognition or otherwise etc. self consciousness and awareness of external world are due to the elements of *Mana*. The presence of *Mana* is characteristic of life. *Mana* is stated to be under the control of *Vata*. (*HathayogaPradipika*) It has been stated that *Mana* and *Vata* works in synergism. Because of *Astamentriyarthasanyoga* and *Pragnapradha*, *Raja* and *Tamadosh* vitiated and it produce *Chinta*, *Bhrama*, *Tandra*, *Tamodarshan* etc. These symptoms are found in HT. And modern science also describe stress, anxiety etc. are favourable factor for HT. As we know HT is psychosomatic disease. Main those of overall description explain about pathophysiology of HT. These description reveals that *Hriday* is the seat of *Vyanavata*, *sadhakapitta*, *avlambakkapha*, *mana*, *oja*, sense faculties, *satava*, *raja*, *tama*, *rasavaha strotas moola*. Circulation of *Rasa-rakta* in all over body by *Yugapata gati- Vikshepan karma* of *Vyanavata*. **Agni:** *Agni* is an important factor in the pathogenesis of all the diseases. *AgniDushti* occurs at two levels *Jatharagni Mandya* and *Dhatwagni Mandya*. *Atimatrashana* (excessive diet), *Viruddhashana* (intake of food having opposite properties), and *Adhyashana* (intake before the digestion of previous food) are the factors which cause *Jatharagni Mandya*. It will affect all other *Agni* viz. *Sapta Dhatvagni* and *Panchamahabhutagni*. *Jatharagni Mandya* will cause *Ama* formation which results in *Strotorodha* and vitiation of all *Doshas*. It will ultimately increase peripheral resistance and can lead to hypertension. Atherosclerotic changes in vessels can be an outcome of chronic *Agni-mandya* and *Ama*. *Acharya Charaka* has al-

ready described *Dhamani Praticaya* as one of *Nanatmyaja* disease of *Kaphadosha*.

**Samprapti (Pathogenesis of hypertension):**

Most of the mechanisms associated with secondary hypertension are crystal clear and

completely understood. The pathogenesis of hypertension takes place at both physical and psychic level one at a time or simultaneously depending upon the *Dosha-Dushya Sammurchhana* as described earlier.

**Table 2: SAMPRAPTI GHATAKA**

Doshas :	Vata pradhanata (Pran , Vyana, Apana ,Saman)Pi tta pradhanata (Sadhaka, Pachaka, Rajank ) Kapha (Avalambaka)
Dushyas:	Rasa, Rakta, Mutra.
Srotas :	Rasavah , Raktavaha, Manovaha,
Srotodushti prakara :	Atipravrutti (Prana, Vyana ) Sanga (Vyana , Apana )
Agni :	JatharAgnimandya and Dhatvaganimandya
Ama :	Rasagata
Udhabhava – sthana :	Pakvashaya – Amashya samudabhava
Avayava :	Hrudaya and Dhamani
Adhishthana :	Sharir and Manasa
Sancharsthana :	Sarva Sharira
Rogamarga :	Madhyama, Bahaya
Svabhava :	Chirkalina

**DISCUSSION**

Main theme of overall description explains about pathophysiology of HT. These description reveals that *Hriday* is the seat of *Vyanavata*, *sadhaka pitta*, *avlambak kapha*, *mana*, *oja*, sense faculties, *Satava*, *raja*, *tama*, *rasavaha strotas moola*. Circulation of *Rasarakta* in all over body by *Yugapata gati- Vikshepan karma* of *Vyanvata*. The process of *Rasa anudhavana* is due to *Gati* of heart which is due to rhythmical *Sankoch and vikasa*. It is clearly stated that *Vayu* is responsible for venous return, *Apana vayu* is responsible for maintaining body fluid level. *Pachakapitta* aids in the functioning of *Vyanvata*, aided by *samana vata*, *sadhaka pitta*, is responsible for *Bhaya*, *harsh* etc. in its normal-abnormal states. *Avlambak kapha* is re-

sponsible for continuous pumping action of heart and give strength, protection of cardiac muscles. This way process of *Rasa Anudhavana* with help of *Prakritavyan vata* takes place and *Hriday* is the centre of *Rasavikshepana karma* and maintains and nourish the body and root for the all psychological activity of body. This entire pathophysiological variable collectively helps to maintain the normal ranges of blood pressure.

**CONCLUSION**

In *Ayurveda* equilibrium of *Doshas*, *Dhatu*, *Malas* and *Agni* are considered as healthy state of an individual. In nutshell we can say that while observing hypertension through *Ayurvedic* spectacle one or more of the following three possibilities should be considered.1. Hy-

pertension is nothing but *Vata-Pitta Pradhan Tridosha vyadhi*. 2. Psychological changes i.e. disturbances at the level of *Mana (Manovaha StrotasVikara)*. 3. Structural changes as complications of long term hypertension on various organs like heart, blood vessels, kidney etc. After thorough study of literature and fundamentals in Ayurveda it is concluded that Ayurvedic approach to treat a disease according to its *Samprapti* (pathogenesis) is very practical and should not be overlooked. Proper medication as per *Ayurvedic* guidelines will definitely control blood pressure without any untoward effects.

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