

AN ETIOPATHOLOGICAL STUDY OF HYPERTENSION IN CONTEXT TO AVARANA

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ABSTRACT

High BP or hypertension is reported as the third ranked factor for disability adjusted life years. Hypertension is one of the principal risk factors for heart diseases and stroke, the leading cause of death worldwide. There is no direct reference to Essential Hypertension in *Ayurvedic* classical texts. Relevant references regarding Essential Hypertension as indicated in those texts hence have been classified by eminent *Acharyas*. In *Ayurveda* various luminous have given their opinion to coin a name of disease and to understand it in better way. On objecting the symptomatology and etiopathogenesis of the disease to *Ayurvedic* fundamentals, it is evident that *Avaranajanya Vata Dosha*, is responsible for the disease. Present study is a humble attempt to study the disease from *Ayurvedic* point of view with special

reference to *Avarana*.

KEYWORDS: *Avarana*; hypertension; *rasa*; *rakta*

INTRODUCTION

As *Soma* (Moon), *Surya* (Sun) and *Anila* (Air)- maintain the integrity of the terrestrial world, in the same way the *Doshas* maintain the integrity of the organism by creating, assimilating and diffusing the strength. All these three functions are regulated by movement (*Gati*), which

is the main function of *Vata*. Whenever this function of *Vata* gets disturbed, it produces different types of diseases in the body, among which *Avaranajanya Vyadhis* (diseases) are there. Hypertension is one of them in which *Avaranajanya* pathology takes place. *Srotasa* (body channels) plays an important role in the *Avarana* process. Normally, the organization of fluid-balance of the body (water-balance system) is maintained by *Kapha*. The organization of Thermal balance is maintained by *Pitta*. The organization of vital balance is maintained by *Vata*. These three *Doshas* are considered as the intrinsic cause of the disease, as they get excited and imbalanced, either conferring a predisposition to or actually causing morbidities.

Avarana means to mask, to obstruct, to overlap or to cover. *Avarana* indicates the obstruction of *Vata*. It is a distinctive pathological condition where obstruction to the *Gati* of *Vata* occurs due to its etiological factors other than its own, leading to its *Prakopa*, resulting into various types of *Vata* disorders. The *Dosha*, *Dhatu*, *Anna*, *Mala*, and *Ama* can cause the *Avarana* of *Vata*. Even any of the subtypes of *Vata* may cause *Avarana* of each other which is termed as *Anyonya Avarana*. The substances which obstructs the pathway of *Vata* is termed as *Avaraka* while whose *Avarana* occurs is termed as *Avariya* or *Avarita*. According to *Chakrapani*, the excessively increased strong *Avaraka* suppresses the normal action of *Avariya* i.e *Vata*. On the other hand, excessively increased *Avaraka* manifests its action. *Avarana* of *Vata* in the form of obstruction to its functional channels leads to its *Prakopa*. Hence, at that stage, its *Prakopa* symptoms are also manifested depending upon its site of function involved. *Avarana* is also explained by the term *Vegapratibandha* i.e., obstruction to the *Vega*. It is also defined it as '*Gatihanana*'.

Avarana is the route along which the pathogenesis of many diseases proceeds. *Charaka* has recommended *Avarana* as the main process of pathogenesis for many diseases. Commentators especially *Chakrapani* have made efforts in trying to gain better understanding of different configurations of *Dosha* and *Dushya* in *Avarana*. If these are properly understood and practiced it could lead to a revolution in the treatment of diseases from *Ayurveda* point of view.

AIM AND OBJECTIVE

To study an etiopathogenesis of hypertension in context to *Avarana*.

MATERIALS AND METHODS

This article is based on a review of *Ayurvedic* texts. Materials related to *Avarana* in the pathogenesis of hypertension concept, and other relevant topics have been collected. The main *Ayurvedic* texts used in this study are *Charaka Samhita*, *Sushruta Samhita*, *Astanga Hridaya* and available commentaries on these. We have also referred to the modern texts and searched various websites & reports to collect information on the relevant topics.

Important properties of *Vata* regarding *Avarana*

- (1) Increased *Laghu Guna* – it leads to increased *Chalatva* which means excessive motion.^[1]
- (2) *Ruksha Guna* – it is responsible for the decrease of unctuousness (*Snehadi Guna Shunyata*) which increases *Riktata*.^[2] This results in aggravation of *Vata* which leads to increased *Chalatva* of *Vata*.
- (3) *Sukshma Guna* helps the *Dosha* to reach the micro channels of the body.

Vyana produces *Vega* in the heart by *Abhighata* (impact) and the *Sira* and *Dhamanis* impart the motion by *Nodana* (pressure). Obstruction to this force leads to different *Avaranas* and thus the different diseases. Vitiating of the *Vata* naturally leads to the derangements in the functions carried out by him.

Apart from above, hypertension can be found in a number of other conditions i.e., the secondary form of hypertension. Here, hypertension results of the other underlying disease pathology. The role of *Avarana* needs an additional consideration in understanding and treating the secondary hypertension, as in this type of hypertension the obvious structural organ defect or the obstructive pathology is evident. Mostly *KaphaAvruta* or *PittaAvruta* signs are come across. In Vascular involvement – *Kapha Lakshnas* (symptoms), In endocrinal and renal - involvement of *Pitta* or *Kapha Lakshanas* can be come across. Nearly all the secondary forms of hypertension are related to an alteration in hormone secretion and/or renal function. Both in regulation (maintenance) of blood pressure and also in its disturbances, kidneys (renal mechanisms) play a vital role.

Avarana is one of the common roots in the pathophysiology of hypertension. Hence one can trace the symptomatology of hypertension from the different *Avarana* stated below: *Rasa* and *Rakta* are circulating all over body continuously, thus blood pressure is the pressure applied by *Rasa-Rakta Dhatu* on the lateral walls of *Sira* (veins) and *Dhamani* (artery). But when any obstruction comes in the way of *Vayu* which is giving the kinetic energy for circulation of

Rasa and *Rakta Dhatu*, it will cause *Karma Kshaya* (decrease in efficiency of functions) of these two *Dhatus* by impairing the properties (*Chala Guna*) of *Vyana Vayu*, *Udana Vayu* and *Prana Vayu*. All these processes are chronic in nature therefore simultaneously it also causes *Vyana*, *Udana* and *Prana Prakopa* (vitiation) in the later phase to rise the blood pressure. In most of the patients of essential hypertension, symptoms of *Kapha*, *Pitta* and *Rakta Prakopa* with the symptoms of *Vata Prakopa* are present.

Kapha Avrita Vata: Generally particular *Gunas* in *Dravya* constitution of *Kapha*, *Pitta* are responsible for the *Avarana* process. If the *Avarana* is happening in *Rasavaha Srotasa* (*Hridaya* and *Dasha Dhamanis*) to manifest hypertension, the vitiation of *Kapha* and *Pitta* in *Pravahi* (effluent in channels) *Rasa –Rakta Dhatu*s is indispensable. Here *Avarita* may be *Vyana*, *Prana* and *Udana*.

Vyana Vayu performs the functions like *Gati* (movement), *Prasarana* (circulation), *Akshepa* (insinuation), and *Nimesha* (nictation). Consequently, in both *Charaka* and *Sushruta*, the symptoms of *Kaphavrita Vyana* are very much appertaining to *Gati* and *Cheshta* (gesticulation). In *Kapha Avarana* mainly *Guru* (heaviness), *Sheeta* (coldness), *Manda* (fluentless/slow) and *Sthira* (stability) properties are involved which are responsible for obstruction. The symptoms are: *Guruta Sarvagatanam* (heaviness in whole body), *GatiSanga*^[3] (retention due to obstruction), *Cheshtastambha* (effortlessness).^[4] In *Kaphavrita Prana*, the symptoms are predominantly related to *Pranavaha Srotasa* which may be involved in hypertension – *Nishvasah*, *Sangraha*.^[5] Some of the symptoms of *Kaphavrita Udana* may be present in hypertension, *Vaivarnya* (discoloration), *Vak-svaragraha* (hoarseness of voice), *Daurbalya* (debility), *Gurugatratva* and *Aruchi* (anorexia) etc.^[6] When *Kapha* impinges the force of *Vata* it manifests the symptoms- *Shaitya*, *Gaurava* and *Shoola* (pain) etc.^[7] which coincides with the symptoms of hypertension.

Pitta Avrita Vata: When kinetic force of *Vyana Vayu* is obstructed by *Pitta*, certain symptoms come into existence manifesting the disease hypertension. Here *Drava* and *Sara Gunas* are important in the obstruction of *Chala Guna* of *Vata*, after that *Ushna* (heat) and *Tikshna* (pungent) properties sited over *Pitta*, will manifest *Daha*, *Sarvanga Klama*, *Gatravikshepa*, *Sasantapa*, *Savedana*.^[8,9] *Pitta* hinders *Prana Vayu* to manifest most of the *Pratyatma Lakshana Sanchaya* (accumulation according to properties) of hypertension here also. Above listed *Gunas* perform obstruction and manifest *Murchha* (fainting), *Daha* (burning sensation), *Bhrama* (giddiness), *Shoola*, *Vidaha* etc.^[10] When *Pitta* obstructs (by

same *Gunas* listed above) the pathway of *Udana Vayu*, many symptoms come into existence which are very close to hypertension symptomatology i.e. *Murchha*, *Daha*, *Klama* (mental fatigue), *Ojobhransha* etc.^[11,12] In general *Avarana* of *Pitta*, there are certain symptoms which can almost be correlated with hypertension symptomatology i.e. *Daha*, *Trishna* (excessive thirst), *Shoola*, *Bhrama*, *Tama* (feeling of entering in darkness) and *Vidaha*.^[13, 14]

Rakta Avrita Vata: When *Rakta* obstructs *Vata*, it causes many symptoms which partially coincide with hypertension symptomatology i.e. *Daha*, *Arti* (restlessness), *Sarvanaga Svayathu* (anasarca) and *Mandala*^[15] (circular patches) *Suchibhiriva Nistoda* (pricking type of pain), *Sparshadvesha* (intolerance to be touch), *Prasuptata* (numbness), *Daha*, *Santapa*, *Murchha* etc.^[16]

Meda Avarana: *Meda Dhatu* is also to be considered here. Main *Karma* of *Meda* is to provide *Sneha* to each and every *Dhatu*. If one is taking fatty diet, it directly goes to *Meda* situated all over the body through *Rasa-Rakta Dhatu*. Therefore it is physiological function of *Meda* to accumulate *Sneha* and share it with all *Dhatus* according to their needs. *Mahabhuta* constituents of *Meda* are *Prithvi* and *Jala*. For physiological functions in the body these constituents should be in normal quantity. Vitiating of any of them or both will cause the imbalance of physiological functions of the body. By the dominancy of *Jala Mahabhuta* *Mrudu* (softness), *Snigdha* (unctuousness), *Hima* (coldness) and *Pichhila* (sticky/slimy) properties of *Meda* are maintained. By the involvement of *Prithvi Mahabhuta* *Guru*, *Manda*, *Sandra*, *Sthira* and *Sthula* (thick) properties of *Meda* are maintained. This is the physiological balance (*Prakrita Sanghata*) of the *Meda Dhatu*.

Meda: Prithvi + Jala (Excessive)

When imbalance of these two *Mahabhutas* takes place, it causes *Santarpanajanya Vyadhis* (diseases due to excessive nourishment) e.g. *Prameha*. In *Prameha Nidana*, *Charaka* has described *Bahu* and *Abaddha* (unbounded) *Meda* which is abnormal in nature and is caused because of excessive *Jala Mahabhuta* in the *Meda Dhatu* all over body.^[17] *Sthaulya* (obesity) and *Karshya* (emaciation) are *Rasanimitaja* and excessive ingestion of *Madhura Rasa* and other *Nidanas* leads to *Ama-Anna Rasa* and extra *Sneha* (oleaginous/glossy) in the body to form extra *Meda*.^[18] Thus if this *Meda* is increased by *Jala Dhatu* excessively, it has to take shelter in those *Dhatus* which are *Drava* in nature, because flowing is the common and important property of *Dravibhuta* (liquefaction) *Sneha* and *Rasa – Rakta Dhatu*. *Dravibhuta Sneha* is the part of *Meda Dhatu* which is having a comparatively thicker consistency than

Rasa and *Rakta Dhatu* which is in contrast to the *Sukshma Srotasanusari* (ability to going in microchannels) property of *Rasa Dhatu*. Thus by increasing the obstruction in *Dhamani* and *Sira* and enhancing the activity to lower the kinetic force of *Vyana Vayu*, *Udana Vayu* and *Prana Vayu*. By this response *Vyana Vayu Prakopa* occurs, thus increasing blood pressure.^[19] This pathogenesis may take place without *Prameha* but *Bahu* (excessive) and *Abaddha* (loose) *Meda* are the essential factors.

Meda: Prithvi (Dominant) + Jala

This condition leads to excessive *Baddha Meda*. *Teja Mahabhuta* and *Vayu Mahabhuta* dry the *Dravatva* and *Snehatva* and increases *Sthira*, *Sandra* and *Ruksha Guna* in *Meda* simultaneously increasing *Meda Dhatu*. *Siras* originate from *Mrudu Paka* (mild metabolic digestion) of *Meda Dhatu*^[20] is the main function of *Agni* (digestive fire). Here the constitution of *Meda* changes by the *Sanskara* (refinement) of *Agni*. By the *Ushna Guna* of *Agni* the drying of *Sneha* in *Meda* takes place then by *Paka Kriya* *Agni* changes its form into particular *Sira* form. *Vayu* also acts here to dry the *Sneha* and to trigger the *Agni* to perform its work.^[21] *Akasha* and *Vayu* function in the formation of the lumen part.^[22] The *Mahabhuta* configuration of *Meda* should be normal for proper function of *Sira*. In abnormal condition of *Meda*, *Siras* also change from normal to abnormal and in later phase this abnormal *Meda* can obstruct micro to gross channels and manifest many diseases like hypertension and coronary artery disease.

Anyonya Avarana

Symptoms of hypertension found in following types of *Anyonyavarana*

- *Vyanavrita-Prana*^[23]
- *Pranavrita Udana*^[24]
- *Samanavrita Vyana*^[25]
- *Samanavrita Apana*^[26]
- *Pranavrita Vyana*^[27]

Thus, majority of symptoms mentioned in different *Avaranas* are similar to that of hypertension. But not a single symptomatology of *Avarana* is complete in itself to cover all the symptoms. Thus the complete symptomatology can be found in different locations of *Avarana*. Symptoms of essential hypertension are much close to *Kapha*, *Pitta*, *Rakta* and *Meda Avarana* and *Rakta Pradosha* in unison. Whenever there is a complex of symptoms of different *Doshas* it should be called as *Mishra Avarana*.^[28] *Vagbhata* has elucidated the theory of *Mishra Avarana* somewhat in detail. He says that there are innumerable types of *Mishra-Avarana* in which *Pranadi* five types of *Vayus* and *Kapha*, *Pitta*, *Sapta Dhatu*,

Trimalas these twelve entities take part. *Taratamya* (compatibility/consequences) and *Vikalpa* (alternative) in their complex again give the infinite types of complex *Avaranas*. But these *Mishra Avaranas* can be diagnosed on the basis of symptomatology and aggravated or decreased functions of involved types of *Vata* as well as their *Sthanas* (states).

By taking all contexts of *Avaranas* and hypertension symptomatology into consideration, conclusion can be drawn that “*Rakta, Meda, Pitta, Kapha*’ and ‘*Vyana, Udana, Prana*’ are the most probable participating entities found in the complex *Avarana* of hypertension.

DISCUSSION

Acharya Sushruta has described the circulatory system in most flourish form. Mainly all the *Acharyas* have described the circulation of *Rasa Dhatu* only but we should consider *Rakta Dhatu* along with *Rasa Dhatu*. *Rasa-Rakta Samvahana* is multidirectional and its kinetics varies by the area of the body and according to the need of *Sapta –Dhatu*. *Acharya Sushruta* has tried to elaborate the theory of circulation on the basis of direction, thus *Rasa Dhatu*, the resultant of digestion and very micro in nature circulates all over the body in three directions.^[29] i.e. Upward (*Urdhvaga*), downward (*Adhoga*) and transverse (*Tiryaga*). To describe the direction of *Rasa Dhatu*, *Sushruta* has given examples of *Shabda, Archi* and *Jala*. Thus, circulation occurs in three directional ways as *Shabdasantana Vata - Tiryagagamitva*, *Archisantana Vata - Urdhvagamitvam*, *Jalasantana Vata - Adhogamitvam*. This three directional circulation of *Rasa* given by *Dalhana*, seems to be very logical. Here, *Acharya Dalhana* has commented about direction of *Rasa Dhatu* and it seems to be more logical. Many other learned people correlate *Shabdadi Gati* with the actual Kinetics of *Rasa Dhatu and Rakta Dhatu*. In fact these two opinions are very important in the contribution of the *Avarana* concept related to Essential hypertension.^[30]

- The direction
- The intensity of kinetic force

These two factors concerned to *Vata Dosha* are having great pathophysiological importance in the *Avarana* process. Blood pressure in different places is different this can be understood by *Rasa-Rakta Samvahana* (circulation) based on *Shabda, Archi* and *Jala Santanavata* and which is mainly related to the intensity of kinetic force (cardiac output). If any how there is any alteration in the direction and kinetic force of *Vata Dosha* then it may lead to high or low blood pressure. These conditions may be altered by the obstruction of their natural directions and kinetics leading to hypertension.

CONCLUSION

From the above discussion, it is concluded that, *Avarana* is one of the common roots in the pathophysiology of hypertension. In this way, *Avarana* can be used as the backbone to explain the *Samprapti* of a number of newer diseases, which have evolved, with the passage of time since the last Ayurvedic treatise was written. After understanding the pathogenesis of *Avaranajanya* disease the selection of appropriate drug should become easy.

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