Hypertension Vis-à-Vis Vatavyadhi - A Critical Analysis

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ABSTRACT

Hypertension (HTN or HT), also known as high blood pressure or arterial hypertension, is a chronic medical condition in which the blood pressure in the arteries is persistently elevated. Ranked as the third important risk factor for attributable burden of diseases in South Asia (2010). There are two basic components involved in the physiology of arterial blood pressure-cardiac output and peripheral resistance. Here hypertension has been understood on the grounds of Vatavyadhi and the management of hypertension on the same grounds has been elaborated. This paper throws an insight to the understanding and management of hypertension under the broad spectrum of Vatavyadhi. Also highlights the mode of action of anti-hypertensives on Ayurvedic grounds.

Key words: Hypertension, Vatavyadhi, Chikitsa.

INTRODUCTION

Hypertension (HTN or HT), also known as high blood pressure or arterial hypertension, is a chronic medical condition in which the blood pressure in the arteries is persistently elevated.[1]

WHO rates HTN as one of the most important causes of premature deaths and also as the third important risk factor for attributable burden of diseases in South Asia (2010).[2] HTN is directly responsible for 57% of all stroke deaths and 24% of all Coronary Heart Disease (CHD) deaths in India. The prevalence of hypertension ranges from 20-40% in urban adults and 12-17% among rural adults.[3]

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Types of HTN

There are different basis of classifying Hypertension.[4]

a. Basic types: Primary, Secondary
b. Classification of Blood Pressure for adults aged 18 years or older.
   ▪ Normal: Systolic less than 120 mm Hg, diastolic less 80 mm Hg
   ▪ Pre-hypertension: Systolic 120-139 mm Hg, diastolic 80-89 mm Hg
   ▪ Stage 1: Systolic 140-159 mm Hg, diastolic 90-99 mm Hg
   ▪ Stage 2: Systolic 160 mm Hg or more, diastolic 100 mm Hg or more
   c. Hypertensive crisis: Hypertensive urgency, Hypertensive emergency

Physiology of Arterial Blood Pressure

Arterial Pressure depends on two factors: Cardiac Output and Peripheral Resistance. Cardiac output further depends on the stroke volume and heart rate. Peripheral Resistance depends on Vascular Structure and the Vascular Functions.[5]

Management of Hypertension[6]

1. Management without medicines which includes,
   a. Weight reduction
b. DASH diet - Dietary Approaches to Stop Hypertension

c. Dietary sodium reduction

d. Moderation of physical activities

2. Management with medications like ACE inhibitors, CCB, ARB, beta blockers, etc.

Ayurvedic understanding of Hypertension

Ayurvedic concept of circulation

The Ahararasa that is formed is carried to the Hridaya by Samana Vata\[7] (can be understood as Aharana Karma) which gives nourishment to the Hridaya, (specifically Srotas and Dhamani). From Hridaya this Ahara Rasa along with Rakta is transported throughout the body by Vyana Vata.

The word Hridaya is formed of three parts, Hri: Aharana (receives); Da: Dana (gives); Ya: Ayana (movement). So, we can understand that the Karma of Hridaya are carried out by Vata.

Dosha-Dushya Vivechana in Hypertension

Depending on the symptoms that are present in hypertension, we can understand the involvement of Dosha-Dushya in the manifestation of the same.

Table 1: Showing the Dosha-Dushya Vivechana in hypertension

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Shareerika dosha</th>
<th>Manasika dosha</th>
<th>Dushya</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>V    P    K    R    T    R    RA    M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td>✓     ✓     ✓     ✓     ✓     ✓     ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertigo</td>
<td>✓     ✓     ✓     ✓     ✓     ✓     ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palpitation</td>
<td>✓     ✓     ✓     ✓     ✓     ✓     ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatigue</td>
<td>✓     ✓     ✓     ✓     ✓     ✓     ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chest pain</td>
<td>✓     ✓     ✓     ✓     ✓     ✓     ✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The symptoms which manifests in hypertension are analyzed using the basic parameters like Dosha-Dushya. Most of the symptoms explained here are due to the Vata Dushti: Kevala Vatika or Avarana Janya. Considering these factors the line of treatment for Vatavyadhi can be adopted in this condition.

Analysis of Samprapti of Hypertension

Heart rate refers to the Gati or Karma of Vyana Vata, which can be considered as Kevala Vatika Avastha. Stroke Volume on the other hand depends on Vyana Vata (Gati), Avalambaka Kapha and Kleda Guna of Kapha and Pitta. Vascular functions depends on Tridoshas (Vyana Vata Karma, Kledamsha of Kapha and Pitta), Rasa and Rakta. Vascular Structure depends on the Kledamsha of Kapha and Pitta along with the inevitable role of VataDosha.\[8] Taking these into consideration, the last three factors can be taken as Avarana Avastha of Vata.

On analyzing the Kriyakala, it can be understood that in the Caya, Prakopa and Prasara Avastha patient may present with raised blood pressure. In Sthana Samsraya Avastha no specific Purvaroopas are observed as in Vata Vyadhi. In Vyakta Avastha Lakshanas generalized Lakshanas like Dourbalya, Bhrama, Chardi etc. are manifested. In Bhedavastha, it can be understood that there will be the involvement of Trimarmas when Murcha, Pakshaghata etc. manifests (similar to the involvement of the brain, heart and kidneys in hypertensive emergency).
Chikitsa of Hypertension

From the above explained Samprapti, it is clear that Hypertension can be treated on the basis of Vatavyadhi Chikitsa considering the two Avasthas as Kevala Vatika and Avarana Janya Vatavyadhi.[8]

Kevala Vatika Chikitsa

In cases of increased Heart Rate, where the Vyana Vata Karma is affected, Kevala Vatika Chikitsa is to be adopted. One has to adopt Snehana, Swedana followed by Mrdu Shodana. The same treatment has been explained by Acharya Charaka for Vyana Vata Dushti.[9]

Avarana Vata Chikitsa

In conditions where Stroke volume, Peripheral Resistance is affected, Avarana Vata Chikitsa can be adopted.

The commonest form of Avarana present here is Doshavarana (Kapha-Pitta Avarana). When Samsarga Avarana is present, treat Pitta Avarana first, followed by Kapha and then Vata. In case of Pittavarana, go for Pittaguna Chikitsa followed by Vatanuloman. In case of Kaphavarana, go for Kaphaguna Chikitsa followed by Vatanuloman. In case of Raktavarana, Vatarakta Chikitsa – Snehana (oleation), Snigdha or Roorksha Mrdu Virechana (mild purgation), Basti karma (enema), external therapies like Seka (pouring of oil or kashaya over the body), Abhyanga (oil massage), Pradeha (external application), Avidahi Anna (foods which does not cause burning sensation or gastric irritation) and Raktamokshana (blood-letting) can be applied. In Medavarana, Pramehaghna (treatment for Prameha or diabetes), Medoroga Chikitsa, Anagni Sweda[10] and Vatahara Chikitsa is to be adopted.[11]

Some other treatments commonly adopted includes Shirodhara and Takradhara.

Complications of Hypertension - Ayurvedic understanding

Acharyas have explained the concept of Trimarmas-Hridaya, Shira and Basti. These are considered as Prana Sthanas. It has also been explained that any injury or impairment to the Trimarmas causes various pathologies.[12]

While considering the complications of Hypertension, it has been explained that there will be the involvement of Brain (Hypertensive encephalopathy), Heart (Hypertensive cardiomyopathy) and Kidsneys (Hypertensive Nephropathy).[13]

So, we can understand that Hypertensive complications manifests at the levels of Trimarmas and the Chikitsa for Marmabhighata can be adopted here. Acharya Charaka has explained individual treatments for the management of Trimarmas. Acharya has also explained that Basti is the main line of treatment for Trimarmas.[11] It has been explained that there are no other treatments similar to Basti for the protection of Trimarmas.

DISCUSSION

The basic Avasthas and the Lakshana[14] observed along with the Chikitsa has been discussed here (Table2).

Table 2: Avasthas of hypertension and its Chikitsa.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Lakshana</th>
<th>Features</th>
<th>Chikitsa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pittavarta vata</td>
<td>Brama, Daha, Murcha</td>
<td>Giddiness, Vertigo, Fatigue, Insomnia, Anger, Fainting</td>
<td>Seetoshna vyatayas chikitsa virechana Kshirapana Yapana basti</td>
</tr>
<tr>
<td>Kapha Avruta vata</td>
<td>Klama Dourbolya Guruta</td>
<td>Fatigue, Heavyness</td>
<td>Swedana Teekshna niruha basti Teekshna virechana</td>
</tr>
<tr>
<td>Raktavarta vata</td>
<td>Daha Shoola</td>
<td>Pain Delirium</td>
<td>Virechana Basti, Seka Raktamokshana</td>
</tr>
<tr>
<td>Meda</td>
<td>Gourava</td>
<td>Fatigue,</td>
<td>Pramehaghna</td>
</tr>
</tbody>
</table>
Mode of action of each treatment modality in hypertension

1. **Snehana** (oleation therapies - *Bahya* and *Abyantara Snehana*) and **Swedana** (Sudation): helps in removing the *Margavarana*, and also acts as *Vatahara* and *Medohara*.\[10\]

2. **Mrdu Virechana** (mild purgation): helps in reducing hypertension by removing the excess *Kledamsha* from the body and thereby pacifying *Kapha* and *Pitta Doshas*.

3. **Basti Chikitsa** (enema): aimed at pacifying the *Dushita Vata*.

4. **Medoroga Chikitsa**: mainly aimed at removing the *Kleda* and *Meda*.

5. **Shirodhara**: Stimulates *Marmas*, causes vasodilatation improving circulation which in turn improves the blood circulation of brain- improving the function of Autonomic Nervous System as its stimulation during stress causes many physiological disturbances. By action on the vasomotor centre it leads to generalized vasodilatation, with the lowering of blood pressure and by depressant action on the cerebral centres, it soothens the general nervous system.

6. **Takradhara**: Acts through the psycho-neuro-immuno-endocrinal axis enhancing the release of serotonin and chemical substance like acetylcholine. Small amounts of acetylcholine causes fall of blood pressure. It helps in relaxing the nervous system and balancing the *Prana Vata* and *Vyana Vata*.\[15\]

Analysis of Anti-Hypertensive Drugs

The main pathology involved in the manifestation of Hypertension from the following explanations is the hampering of *Vyana Vata Karma* and the increase in *Kledamsha* caused by *Kapha* and *Pitta*. So the treatment for these based on the pathology has already been explained. Considering the modern management, we have taken into consideration CCB’s, ARB’s and ACE inhibitors to have vasodialator action at various levels. For achieving vasodialation, *Swedana, Udwartana* as external therapies and also *Hrudya Oushadhi, Madhura-Amla Rasa Dravya* for removing the increased *Kledamsha* which corrects the *Vyana Vata Gati* can be used. Beta blockers reduces the Heart Rate and Cardiac Output, so *Hrudya Oushadi* along with *Vyana Vata Chikitsa* has to be adopted. Diuretics causes excess filtration and reduced reabsorption, so *Mutrala* drugs, *Mutra-Mala Virechana* along with *Tikta-Kashaya-Madhura Dravya* may be useful.

Table 3: Showing the analysis of anti-hypertensive medicines.

<table>
<thead>
<tr>
<th>Modern drug</th>
<th>Mode of action</th>
<th>Ayurvedic treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium channel blockers</td>
<td>Vasodilators</td>
<td><em>Swedana, Udwartana</em></td>
</tr>
<tr>
<td>Angiotensin Receptor Blockers</td>
<td></td>
<td><em>Hrudya, madhura, amla rasa</em></td>
</tr>
<tr>
<td>Angiotensin Converting Enzyme inhibitors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beta blockers</td>
<td>↓ Heart rate and Cardiac Output</td>
<td><em>Hrudya oushadi, Vyana Vata Chikitsa</em></td>
</tr>
<tr>
<td>Diuretics</td>
<td>Excess filtration, reduced reabsorption</td>
<td><em>Mutrala, Virechana, Tikta, Kashaya, Madhura</em></td>
</tr>
</tbody>
</table>

**CONCLUSION**

Concept of Hypertension can be understood as a pathology occurring at the levels of *Tridosha (Vata Pradhana), Manasika Dosha (Rajo Guna Pradhana)*
and Dooshyas (Rasa, Rakta, Medas). The same pathology can be appreciated as that of Vatavyadhi with Dhatukshaya (Kevala Vata) and Aavarana symptomatically. Hence the Samprati Vighatana in Hypertension can be achieved by adopting Kevala Vata and Avarana Vata Chikitsa accordingly. Hridya also being the seat of Sadhaka Pitta, the involvement of the psychological factors and its role in management should not be ignored.

REFERENCES


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