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# An Ayurvedic management of Hypertension through Herbo-Mineral Formulations : A Case Study

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## ABSTRACT

Ayurveda is a Science of health and a holistic approach to prevent and treat illness by maintaining balance in the body and mind through diet, life style and herbal remedies. Ayurveda traces the root cause of the disease and tries to eradicate it. Hypertension is a common problem affecting approximately 1.28 billion adults worldwide and it is increasing day by day. In Ayurveda, Hypertension can be related to *Rakta Gata Vata* and can be understood by *Avarana* theory of Ayurveda. *Mandagni* also precipitate the elevation of blood pressure through *Ama* formation and obstruction of channels (*Srotas*) and Sedentary lifestyle & improper food habits increases the chances of Hypertension. In modern medicine, there is no permanent cure for Hypertension and treatment of Hypertension is still unsatisfactory in modern medicine as the use of medicine has many side effects and may lead to medicine dependency. Stress enhances the blood pressure through sympathetic nervous system and also increases the risk of heart disease, stroke and other serious health conditions. Hypertension is a life style disorder and more susceptible to obese person. Ayurveda is a boon to manage Hypertension patients by holistic approach through herbo mineral drugs and lifestyle modification along with yoga and meditation. This study is about the management of Hypertension through some herbo-mineral formulations along with lifestyle modification.

**Key words:** Hypertension, *Raktagata Vata*, *Akik Bhasma*

## INTRODUCTION

Hypertension is Iceberg disease and constitutes the tip of the Iceberg following “rule of halves” i.e., about half of the cases of Hypertension are aware of their conditions, about half of those who are aware are under treatment and about half of those who are under treatment are receiving adequate treatment.

### Hypertension

Hypertension is a commonest cardiovascular disease

and major risk factor for cardio vascular mortality.

Hypertension is of two types (1) Primary Hypertension (90-95%) which may develop due to environmental and genetic causes and (2) Secondary Hypertension (2-10%) which have multiple etiological factors like vascular, renal and endocrine causes.<sup>[1]</sup> The regulation of Blood Pressure depends on cardiac output (Systolic B.P) and total peripheral resistance (Diastolic B.P) i.e., If contraction of left ventricle is more than cardiac output will be more, then more blood will be pump in artery so systolic Bp will be more and if left ventricle relax, intraventricular pressure decrease aortic valve closes and elastic artery recoil and push the arteriole in both direction so blood goes in arteriolar vasculature then if arteriole constrict the resistance offered increases so more pressure exerted on wall of vessels then diastolic BP will be more. The risk factors associated with high BP depends on combination of multiple factors like age, gender, weight, stress, physical activity, smoking, Family History, serum cholesterol, diabetes mellitus and pre existing vascular

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disease.<sup>[2]</sup> According to British Hypertension society the Classification of Hypertension is<sup>[3]</sup>

Category	Systolic B.P (mmHg)	Diastolic B.P (mmHg)
<b>Blood Pressure</b>		
Optimal	<120	<80
Normal	<130	<85
High normal	130-139	85-89
<b>Hypertension</b>		
Grade 1 (mild)	140-159	90-99
Grade 2 (moderate)	160-179	100-109
Grade 3 (Severe)	≥180	>110
<b>Isolated systolic Hypertension</b>		
Grade 1	140-159	<90
Grade 2	≥160	<90

### Raktagata Vata

In Ayurvedic prospective Hypertension can be understand through concept of *Avarana* of *Dosas* and disturbance of *Kriyakal*. etiological risk factors and sedentary life style disturb the *Dosas (Tridosas)* in *Prasar Avastha* of *Kriyakal* vitiated *Dosas* spread in *Srotas* (channels) and due to *Avaran* (obstruction) of *Vata Dosa* by *Rasa, Rakta Dhatus* interfere the proper functioning of concerned *Srotasa*. There is *Ananya Avarana* of *Vata* (mutual occlusion between subtypes of *Vata*) such as *Prana, Vyana Vata* obstruct each other causes the disease.<sup>[4]</sup> The manifestation of *Raktagata Vata* (hypertension) is due to *Raktadusti* with Abnormal *Tridosas*, like *Pranavayu, Vyanavayu, Sadhak Pitta* and *Avalambak Kapha* are responsible for *Raktagata Vata* (Hypertension). Since the location of *Prana Vayu* is *Shira Pradesh* (head region) so disturbance in *Prana Vayu* due stress covers *Vyana Vayu* resulting in abnormal in autonomic functions of *Vyana Vayu* and also catecholamines released due to stress leads to elevation of blood pressure. *Hridaya* is the site of *Sadhaka Pitta, Avalambak Kapha* and *Oja*. Since *Hridaya* along with *Shira, Dhamani* are the

circulating organ of the body and responsible for maintaining normal blood Pressure so vitiation of these all *Dosas* and *Oja* can lead to elevation of normal blood Pressure through concept of *Ashraya- Ashrayi Bhava* of Ayurveda. *Samana* and *Apana Vayu* is responsible for excretion and separation of *Kleda* from fluid which can be co-related with  $\text{Na}^+$  excretion and  $\text{K}^+$  retention and thus leads to manifestation of *Raktagata Vata* (hypertension).<sup>[5]</sup>

### CASE STUDY

A 55 years old male patient with CR no 82424A36197 came to Government Ayurvedic College, Patna in *Kayachikitsa* Department OPD with chief complaints of headache, dizziness, palpitation, uneasiness, restlessness, lethargy, decreased sleep and anxiety etc. He was previously diagnosed case of Hypertension in modern medicine center and taking medicine.

### Examination

On taking history patient was smoking since 10 years having sedentary lifestyle including Spicy fast food, excess salt intake and patient's occupation involving stress predisposes leading to development of hypertension. On inspection patient was looking anxious, lethargy and restless. On examination the blood pressure was found to be 160/110 mmHg and pulse rate was 86 beat/minute. As per Ayurveda the patient was of *Vata Pittaj Prakrti* & *Satva* was *Madhyam*, examination of *Naadi* was found to be *Vegavan (Tivra)*, *Jihva* was blue-blackish discoloration & in *Sparsa* patient was slightly *Ushna*.

### Diagnosis

After examination the diagnosis was confirmed according to symptoms like retention of *Mutra, Purish*, and *Apana Vayu, Udarshula, Adhmana* etc. according to *Charak Samhita* as per Ayurvedic classics, and according to modern medicine palpitations, lethargy, sweating, dizziness and uneasiness accordingly relate to hypertension as it was earlier made by modern medicine center.

### Treatment Plan

The management of Hypertension according to *Ayurveda* is *Nidan Pariwarjanam* i.e., avoiding

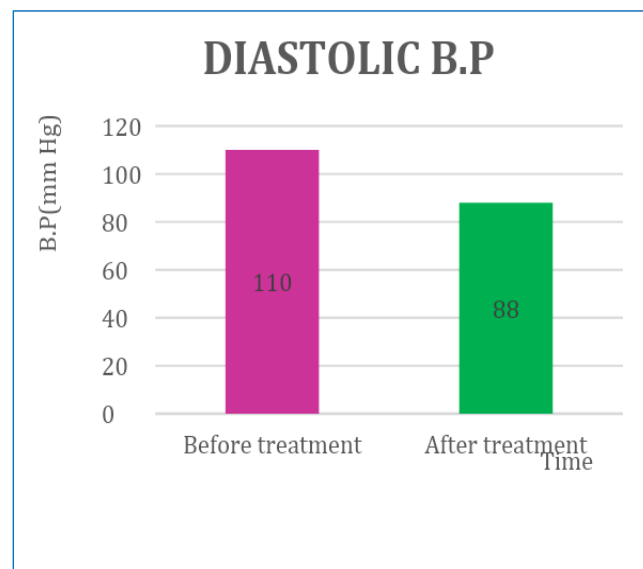
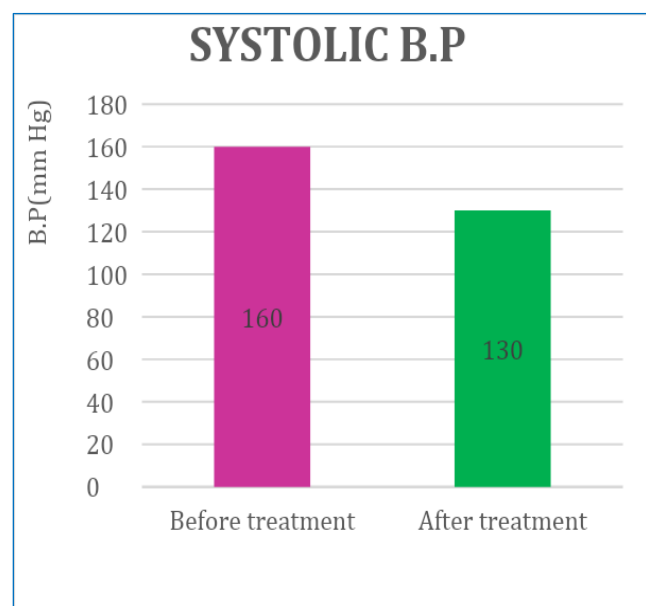
sedentary life style and improper food habits. The medicine prescribed according to path physiology of hypertension, disease & patients Conditions. The following herbo-mineral drugs are prescribed-

1.	<i>Prabhakar Vati</i> <sup>[6]</sup> 250mg BD <i>Tab Abana</i> <sup>[7]</sup> 250mg BD
2.	<i>Mukta Vati</i> 250mg BD <i>Akika Bhasma</i> 125mg BD
3.	<i>Tab.Lipistate</i> <sup>[8]</sup> 250mg BD

After taking this mineralo-herbal formulations Along with regular exercise and life style modification and *Pranayam* gave significant result in the management of Hypertension. After 20 days patients BP was 130/88 mm of Hg and Pulse rate was 76 per minute.

#### Assessment of symptoms

Parameter	Before Treatment	After Treatment
Anxiety	3	0
Lethargy	3	1
Headache	3	0
Sleep Disturbance	3	1
Sweating	3	0



#### DISCUSSION

In *Ayurveda Vata Dosa* is responsible for circulation of blood and due to vitiation of *Vata Dosa* along with influence of other *Dosas* responsible for fluctuation of normal blood Pressure. Exercise reduces vascular resistance and also favorably effect blood pressure involving Sympathetic nervous system and renin angiotensin system. *Prabhakar Vati* has significant effect on lowering elevated blood pressure. It contains *Swarna Makshik, Louhabhasma, Sudh Sheelajit, Abhrak Bhasma* and *Arjuna Bark Swaras*. *Swarnamakshik* (copper pyrite) has *Tridoshaghna* and *Kaphapitahar* property.<sup>[9]</sup> *Lauha Bhasma* Improves hemoglobin level. *Shudh Shilajit* have imunomodulator and *Medoghna* (lipid metabolism) and *Aam Pachak*.<sup>[10]</sup> *Arjun Bark* contains co-enzyme Q10 protects LDL cholesterol from damage through oxidation so co Q10 is responsible for decreasing blood pressure and also Improves heart functions.<sup>[11]</sup> *Tab Abana* having ingredients of *Ashwagandha, Arjun Guggulu, Guduchi, Dashmoola, Punarnava, Amalaki, Haritaki, Yastimadhu* etc. *Ashwagandha* active constituents withaferin-A which inhibit inflammatory substances IL6, TNF $\alpha$ , reactive oxygen species, nitric oxide and also effect by upregulating the mitochondrial anti apoptotic pathway due to increase in activated protein kinase (Ampk) phosphorylation and it regulates glucose, protein and fat level in nervous system and peripheral tissues. *Arjun* strength heart muscle tone, antioxidant and Anti-inflammatory property. *Punarnava* having

immunomodulator, diuretic property to manage Hypertension. *Mukta Vati* decrease MDA level (malond aldehyde) marker of lipid peroxidation in serum.<sup>[12]</sup> *Akika Bhasma* is compound of *Ratna Varga* having *Ruksha* and *Sheet Guna* in nature primarily used in the management of Hypertension.<sup>[13]</sup> *Tab Lipistate* having key ingredients *Arjun*, *Guggulu*, *Pushkar* resulting in reducing bad cholesterol. So prescribed medicine gave significant result in management of Hypertension.

## CONCLUSION

Ayurveda is alternative and ancient system of medicine to the management of Hypertension with some herbo-mineral formulations along with life style modification. These medical interventions were found to be safe and effective on the root cause of disease. Further research is needed to proof the facts.

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