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A successful management of *Raktagatavata* (Essential hypertension) through Ayurveda medications *Rasayana Vati* and *Kakubhadi Churna*: A Case Series

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ABSTRACT

Hypertension is a primary risk factor for cardiovascular disease, including heart attack, heart failure, stroke and aneurysm. Keeping blood pressure under control is vital for preserving health and reducing the risk of these dangerous conditions. Hypertension can be considered as a *Raktaj Roga*, where the *Vata* is the related (*Anubandha*) *Dosha*. Consequently, the term *Raktagatavata* is more suitable to the condition rather than other term. In hypertension we can see signs and indications of unsettling influence of *Vata Dosha* that for the most part of *Vyana Vayu*. The treatment is additionally on the premise to remedy of the equilibrium of *Rakta* and *Vata Dosha*. Essential Hypertension is the most frequent kind of hypertension and also known as primary or idiopathic hypertension, affecting 95% of hypertension patients. Many works have been carried out on hypertension to evaluate the perfect diagnosis and mode of treatment on the basis of Ayurvedic principles but a widely acceptable theory is still not available. Different opinions of various disease as parallel to hypertension e.g., *Raktagatavata*, *Raktaavritvata*, *Pranavritvata*, *Vyanbalavishamaya*, *Siragatavata* etc. Ayurveda treatment for hypertension aims at balancing these *Dosha*, *Dushya* and *Lakshanas* along with proper dietary habits, regular exercises, yoga, medications that can prove beneficial to balance the state of mind and stress and maintain the blood pressure. This study was conducted to see the effect of *Rasayana Vati* and *Kakubhadi Churna* in different cases on the symptoms of *Raktagatavata*, blood pressure, S. Cholesterol, S. Triglycerdies.

Key words: *Raktagatavata*, *Rasayana Vati*, *Kakubhadi Churna*, *Essential Hypertension*, *Blood Pressure*, *Cholesterol*, *Case Series*.

INTRODUCTION

In Ayurveda there is no description of such a single disease which can be similar to Hypertension. However, as *Acharya Charaka* has mentioned, it is not necessary that every manifestation be named but, the problem can be measured according to their specific

features itself,^[1] but it can be understood on the basis of some Ayurvedic concepts like *Raktagatavata*, *Pachaka Pitta*, *Prana Vayu*, *Apana Vayu*, *Sadhaka Pitta* and with respect to pathological state of *Avalambaka Kapha Bhava*. The involvement of *Mansika Doshas* like *Raja* and *Tama Doshas* also contributes towards the conditions.

Raktagatavata means involvement of *Rakta* by vitiated *Vayu*. According to Ayurveda, the main function of *Rakta* is *Jivanam* (life). hence, it is has been mentioned as *Jiva*. When *Rasa-Rakta Dhatu* remains in their normalcy, mainly *Sira*, *Dhamani* and *Hridaya* stay put standard and perform their functions as a rule. Any abnormality of *Rasa Rakta Dhatu* affects the normal circulation of *Rasa Rakta* and ultimately results in the abnormality of the blood pressure or by increasing the blood pressure. *Rasa Rakta Samvahana* occurs simultaneously in the body.^[2] *Manas Bhavas* is crucial

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factors in the development of various diseases. *Manas Bhavas* such as *Krodha, Shoka, Bhaya, Lobha, Chinta* etc. described in Ayurveda are responsible for the development of different *Vikara*.

Hypertension or high blood pressure is a circulatory state, arise from any cause in which the pressure of the blood in the arteries becomes elevated beyond normal limits. Hypertension in adults age 18 years and older is defined as systolic blood pressure of 140 mm Hg or more and/ or diastolic blood pressure of 90 mm Hg or more or any level of blood pressure taking antihypertensive medication.^[3]

Classification of BP in adults as per JNC VII criteria^[4]

BP classification	SBP mmHg	DBP mmHg
Normal	<120	and <80
Pre hypertension	120-139	or 80-89
Stage 1 hypertension	140-159	or 90-99
Stage 2 hypertension	>160	or >100

Patients with arterial hypertension and no definable cause are said to have primary, essential, or idiopathic hypertension. Primary hypertension tends to be familiar and is likely to be the consequences of an interaction between environmental and genetic factors. The prevalence of primary hypertension increases with age, and individual with relatively high blood pressure at younger ages are at increased risk for the subsequent development of hypertension. It is likely that primary hypertension represents a spectrum of disorders with different underlying pathophysiology's. In the maximum no. of patients with established hypertension, peripheral resistance is increased and cardiac output is normal or decreased however in younger patients with mild or labile hypertension, cardiac output may be increased and peripheral resistance may be normal. In contrast, individuals in whom generalized or functional abnormalities may be the cause of hypertension, even if the abnormalities are discrete, are defined as having essential hypertension.^[5]

AIMS AND OBJECTIVES

1. To evaluate the efficacy of *Rasayana Vati* in the management of Essential Hypertension.
2. To evaluate the efficacy of *Kakubhadi Churna* in the management of Essential Hypertension.
3. To compare the efficacy of *Rasayana Vati & Kakubhadi Churna* in the management of Essential Hypertension.

MATERIALS AND METHODS

Literary Review

Detailed literary review of *Raktagatavata*, Essential hypertension and Drugs under trial was done by using appropriate and authentic sources.

Clinical Study

3 patients of *Raktagatavata* indicating each group of Ayurvedic medicine was taken. Clinical trial was initiated after getting approval from Ethical Committee and patients were also registered in Dhanwantari Hospital and informed written consent was taken from all subjects to include in clinical trial.

All the selected patients after the registration and attending *Kayachikitsa* OPD and giving history related to the *Raktagatavata* which cannot be resolved with the other medications. All the selected patients were properly informed regarding the nature of disease process, potential complications and alternative treatments. Written informed consent was signed by patients. Diagnostic medical history was taken according to both Ayurveda and Modern clinical methods. CBC, Lipid profile, ECG and blood sugar, X-ray of chest (As per need) before and after treatment were done. Detailed proforma was prepared which used to record the progress and status of the patients under trial.

Methodology / Treatment given

Medicine has been prepared at Pharmacy of Govt. (Auto) Dhanwantari Ayurveda College, Ujjain. All cases have been treated at O.P.D. of *Kayachikitsa* of Dhanwantari Ayurveda hospital, Ujjain and also taken consent of the patients before the clinical research

trial. During the treatment follow up have been done in every 7th day for 2 months.

Type of study - Case Study

Drug administration

Medicine given	Rasayana Vati	Kakubhadi Churna	Both (Rasayana Vati and Kakubhadi Churna)
Dose	2-tab (each 250 mg) BD	3gm BD	Rasayana Vati – 2 tab (each 250 mg) BD Kakubhadi Churna - 3gm BD
Route of administration	Oral	Oral	Oral
Anupana	Lukewarm water	Lukewarm water	Lukewarm water
Follow up	Every 7 th & 15 th day	Every 7 th & 15 th day	Every 7 th & 15 th day
Duration	2 months	2 months	2 months
Case name	Case 01	Case 02	Case 03

Rasayana Vati – composition of Vati

Drug	Latin name	Family	Part Used	Mode of action	Quantity
Brahmi	Centella Asiatica	Umbelliferae	Panchang (Whole Plant)	Unmada, Apasmara, Yosapasmara, Balaroga, Smritivikara, Dourbalya, Pandu, Kamala, Kandu, Pliharoga Vridhhi, Sotha, Prameha	1 Part
Jatamansi	Nordostachya jatamansi	Valerianaceae	Mool (Root)	Bhutaghna, Balya, Sangyaasthapanana, Deepan,	1 Part

				Pachana, Anuloma, Varnya	
Tagar	Valeriana ceae	Valerianaceae	Mool (Root)	Vedanasthapa, Vrana Ropaka, Balya, Medhya, Vishaghna	1 Part
Bhringraj	Eclipta alpa	Compositae	Panchang (Whole Plant)	Kesharanjana, Deepana, Pachana, Keshvardhana, Amapachana, Rasayana, Balya	1 Part
Amalaki	Cucurma longa	Zingiberaceae	Phala (Fruit)	Daha-Prashamana, Shonita Sthapana, Rasayana, Medhya	1 Part
Haridra	Tribulus terrestris	Zygophyllaceae	Kand (Stem)	Shothahara, Vedanasthapanana, Varnya, Vranashodhana, Vranaropana, Lekhana	1 Part
Gokshura	Emblica officinalis	Euphorbiaceae	Phala (Fruit)	Vedanasthapa, Shothahara, Rakta-Pitta Shamaka, Mutrala	1 Part
Guduchi	Tinospora cordifolia	Menispermaceae	Kand (Stem)	Kushthaghna, Vedanasthapanana, Raktashodhaka	1 Part

Mode of action of Rasayana Vati

It is combination of 8 drugs that is given above, these all drugs have Rasayana Guna property. Brahmi works in hearts disease, inflammation and also increase memory power. Jatamansi is used as Samjyasthapanana and also maintain blood pressure. Tagar is used as Vednasthapanana and having Akshephara property.

Brahmi, Tagar, Jatamansi all are *Medhya* drugs. *Bhringraj* and *Haridra* both are blood purifier and reduce inflammation. *Gokshura* is *Rakta-Pitta Shamaka* and is diuretic.

Kakubhadi Churna - Composition of Churna

Drug	Latin name	Family	Part Used	Mode of action	Quantity
Arjuna	<i>Terminalia Arjuna</i>	Combretaceae	Twak (Bark)	Hridya-Raktaprasadana, Stambhaka, Sothahara, Kaphaghna, Vranaropana	1 Part
Vacha	<i>Acorus Calamus</i>	Araceae	Mool (Root)	Swedjanana, Traptighna, Chintahara, Manodoshhara, Medhya Shamaka	1 Part
Rasana	<i>Pluchea Lanceolata</i>	Compositae	Mool (Root)	Shothahara, Vedanasthapana Raktashodhaka, Vishghna, Raktashodhaka	1 Part
Bala	<i>Sida Cordifolia</i>	Malvaceae	Mool (Root)	Vedanasthapaka Shothahara, Mutrala, Raktapitta Shamaka, Garbha Poshaka, Nadibalya Vatahara, Balya Brihana	1 Part
Naagbala	<i>Grewia Hirsuta</i>	Tiliaceae	Mool (Root)	Rasayana, Nadibalya, Medhya, Hridya-Raktapittasamak, Mutrala, Dahaprasamana	1 Part
Abhaya	<i>Terminalia</i>	Combretaceae	Phala (Fruit Pulp)	Shotha-Hara, Vedana-Sthapana, Shonita-Sthapana	1 Part
Shati	<i>Hedychium Spicatum</i>	Zingiberaceae	Mool (Root)	Raktasodhaka, Rocana-Dipana, Sulaprasamana, Savasahara	1 Part

Pippali	<i>Piper Longum</i>	Piperaceae	Phala (Fruit)	Shirovirechana, Medhya, Deepaneeya, Triptighna, Vatanulomana, Krimighna, Rakta Vardhaka, Rakta Shodhaka, Kushthaghna, Rasayana, Balya	1 Part
Pushkarmool	<i>Inula Racemosa</i>	Asteraceae	Mool (Root)	Hridya, Svasahara, Mastiskasamaka Medohara, Mutrajanana	1 Part
Shunthi	<i>Zingiber Officinale</i>	Zingiberaceae	Kanda (Tuber)	Sheetaprashamana, Shotha-Hara, Vedana-Sthapana, Triptighna, Rochana, Deepana, Pachana, Vatanulomana, Shoola-Prashamana, Arshoghna, Shwasa-Hara, Vrushya, Jwaraghna.	1 Part

Mode of action of Kakubhadi Churna

Kakubhadi Churna is mentioned in *Bhaishaya Ratnawali* under *Hridrogadhikar*. It is a combination of ten drugs like *Arjun, Vacha, Shunthi, Haritaki, Rasna, Shati, Pippali, Pushkarmool, Bala & Nagabala*; which has *Rasayan Guna* and due to its *Rasa, Veerya, Vipaka* has *Tridoshnashak* action especially *Vatashamak*. This *Churna* has *Katu-Tikta* as main *Rasa* which acts on *Rakta* and is *Hridya (Arjuna)*. So, this drug is very effective in HTN.

CASE HISTORY

Case 01 presentation - A 65 years old female patient presented on 10/01/2023 at O.P.D. of Kayachikitsa department of Dhanwantari Ayurveda Hospital, Ujjain (M.P) with chief complaint of numbness in right hand, eyes straining, headache, palpitation. She also has a history of hypertension and also taking allopathy medicine in the past 10 years. Blood pressure

examination done on visited date was 130/80 mm of Hg.

Case 02 presentation - A 45 years old female patient presented on 13/03/2023 at O.P.D. of Kayachikitsa department of Dhanwantari Ayurveda Hospital, Ujjain (M.P) with chief complaint of heaviness in the body, dizziness, uneasiness, palpitation in the heart. No past history of hypertension but she was taking allopathy medicine Asomax tablet in the last 10 days. Blood pressure examination done on visited date was 140/90 mm of Hg.

Case 03 Presentation - A 40 years old male patient presented on 03/03/2023 at O.P.D. of Kayachikitsa department of Dhanwantari Ayurveda Hospital, Ujjain (M.P) with chief complaint of giddiness, Body ache, headache, sweating. Blood pressure examination done on visited date was 150/90 mm of Hg.

Demographic data of presented cases

Data	Case 01	Case 02	Case 03
Name	xxx	yyy	zzz
O.P.D.	703	6602	130
DOA	10/01/2023	13/03/2023	03/01/2023
Age	65 Y	45Y	40Y
Sex	F	F	M
Marital status	Married	Married	Unmarried
Occupation	House wife	House wife	Service
Diet and habits	Vegetarian	Vegetarian	Vegetarian
Addiction	Tea	None	Tea
Kostha	Mrudu	Krura	Mrudu
Bala	Madhyam	Madhyam	Avara
Emotional status	Anxious	Sentimental	Sentimental
Sleep	Moderate	Disturbed	Moderate

Family history	Absent	Father Present -	Mother Present -
Treatment history	Taking allopathy in the last 10 years	Taking allopathy in the past 10 days	Fresh case

General examination

Data	Case 01	Case 02	Case 03
Built	Medium	Medium	Lean
Height	5.5 inches	5.3 inches	5.7 inches
Weight	60 kg	75 kg	55 kg
Body temperature	Afebrile	Afebrile	Afebrile
Blood pressure	130/80 mmHg	140/90 mmHg	150/90 mmHg
Pulse rate	72/min	60/min	76/min
Pallor	Absent	Absent	Absent
Icterus	Absent	Absent	Absent
Clubbing	Absent	Absent	Absent
Cyanosis	Absent	Absent	Absent
Edema	Absent	Absent	Absent
Lymphadenopathy	Absent	Absent	Absent
Mutra	Normal	Normal	Prabhut Mutrata
Mala	Niram	Saam	Niraam
Jiwha	Coated white	Uncoated	Uncoated
Prakruti	VP	VP	VP

Given Treatment

Case Name	Case 01	Case 02	Case 03
Name of medicines	Rasayana Vati	Kakubhadi Churna	Rasayana Vati and

			Kakubhadi Churna both
Dose	2 BD (250 mg each tab) After meal	3gm BD After meal	Rasayana Vati - 2 BD Kakubhadi Churna - 3gm BD After meal
Anupana	Lukewarm water	Lukewarm water	Lukewarm water
Duration	2 months	2 months	2 months

Subjective parameters for Raktagatavata

Symptoms	Scoring is done (0-3) on the basis of severity	Before treatment	After treatment	% of relief
Shirashoola (headache)	Nil - 0 Mild headache - 1 Headache in the morning hours, throbbing and usually frontal - 2 Continuous and severe headache - 3	Case 01 = 1 Case 02 = 0 Case 03 = 1	Case 01 = 0 Case 02 = 0 Case 03 = 0	Case 01 = 100% Case 02 = 0 Case 03 = 100%
Bhrama (dizziness)	Nil - 0 Rarely for some moment during change of posture - 1 Feeling slightly off balance - 2 Feels unsteady, off balance and need supports - 3	Case 01 = 0 Case 02 = 1 Case 03 = 0	Case 01 = 0 Case 02 = 0 Case 03 = 0	Case 01 = 0 Case 02 = 100% Case 03 = 0
Spandana (palpitation)	Nil - 0 Rapid palpitations - 1 Rapid palpitations with irregular beating of heart - 2 Slipped beat, rapid flutterings,	Case 01 = 1 Case 02 = 1 Case 03 = 1	Case 01 = 0 Case 02 = 0 Case 03 = 0	Case 01 = 100% Case 02 = 100% Case 03 = 100%

	flip-floppin and pounding sensations - 3			
Swedaadhik yata (sweating)	Absent - 0 Mild sweating - 1 Sweating with moderate work - 2 Severe sweating with mild work - 3	Case 01 = 1 Case 02 = 0 Case 03 = 1	Case 01 = 0 Case 02 = 0 Case 03 = 0	Case 01 = 100% Case 02 = 0 Case 03 = 100%
Systolic BP	Normal (110-119) - 0 Pre-HTN (120-139) - 1 Stage 1 HTN (140-159) - 2 Stage 2 HTN - (160-180) - 3	Case 01 = 1 Case 02 = 2 Case 03 = 2	Case 01 = 1 Case 02 = 1 Case 03 = 1	Case 01 = 0% Case 02 = 50% Case 03 = 50%
Diastolic BP	Normal (70-79) - 0 Pre-HTN (80-89) - 1 Stage 1 HTN (90-99) - 2 Stage 2 HTN (100-110) - 3	Case 01 = 1 Case 02 = 2 Case 03 = 2	Case 01 = 0 Case 02 = 1 Case 03 = 2	Case 01 = 100% Case 02 = 50% Case 03 = 0%

Objective parameters - Before and after the Treatment

Case		Case 01	Case 02	Case 03
Blood pressure (mm Hg)	BT	130/80	140/90	148/90
	AT	120/70	120/80	138/90
HGB(g/l)	BT	11.1	12.5	12.9
	AT	10.4	12.7	12.4
Total lipid	BT	823	523	438
	AT	450	513	448
S. Cholesterol	BT	268	169	162
	AT	164	161	161

S. Triglycerides	BT	286	191	116
	AT	122	185	101
ECG	-	Normal ECG	Inferior T wave abnormality	Normal ECG

RESULT

Both *Rasayana Vati* and *Kakubhadi Churna* are very effective in *Raktagatavata*. Both pacified and normalized the level of systolic and diastolic and all other subjective parameters given above. About 70-85% of symptoms subsides in all cases. Also, adverse drug reaction was not found in both medicines. By this case study we found that more valuable result in subjective parameters were given by Case 01 in which *Rasayana Vati* is given. After that Case 03 in which both the drugs were given and at last case 02 *Kakubhadi Churna*. There were more severe symptoms was present in Case 03 than in Case 02 and then in Case 01, % of relief was more in Case01> Case03>Case 02. All the cases got relief in chief complaint as shown above.

DISCUSSION

Prominent Rasa of both *Rasayana Vati* is *Tikta*. So, it should act up to *Rasa, Rakta Dhatu* along with their *Srotas*. It reduces the *Aama* in the *Rasa Rakta* and there by viscosity of *Rasa Rakta*. This in turn reduces the pressure on the heart muscle and *Rasa Vikshepana* is ease too though.

Laghu and *Ruksha Guna* of both *Rasayana Vati* initially help *Mandagni* factor with *Ushna Virya* of the *Rasayana*. The *Guna* and *Virya* of *Rasayana* should collectively correct the *Mandagni*, and reduce the *Dhamani Upalepa* and *Virya* pacify the *Vayu*. This combines effect of *Rasa* and *Virya* seems to play a major role in breaking the *Dosha Dushya Samurchhana* of EHT.

In addition, major *Vipaka* of combination of *Rasayana Vati* is *Madhur*. This *Madhur Vipaka* should help disturbed *Vata, Oja, Hridaya* and cooling effect (*Shamana* or *Aapyaayana*) on the *Dhatu*s and *Srotas*. Collective mode of action of *Vipaka* should have

Urajaskara and nourishing effect on disturbed *Mana*, as *Madhur* is the only nutrition to mind [*Shadhindriyaprasadana*]. The combination has *Tridosahara* effect so, the action of the *Rasayana* will be general *Shanshamana, Samadoshakara* and they're by *Manaprasadkara*. EHT is *Vatapradhan, Tridoshajvyadhi* with *Raja* and *Tama Dosha*. *Vata* acts as the major *Dosha* in Hypertension. *Pitta* and *Kapha* also plays secondary role in producing the symptoms in Hypertension i.e., dizziness and headache.

Kakubhadi Churna contains *Arjun, Vacha, Shunti, Haritaki, Rasna* etc. which has *Rasayan Guna* and due to its *Rasa, Veerya, Vipak* has *Tridoshnashak* action especially *Vatashamak. Katu-Tikta* as main *Rasa* will act on *Rakta* and is *Hridya (Arjun)*. So, this drug is very effective in HTN. *Kakubhadi Churna* acts on lipids and lowers cholesterol (triglycerides, LDL) and increases HDL level.

CONCLUSION

Since this disease involves persistent elevation of blood pressure. The Blood pressure depends on the force of contraction of *Hridaya* and *Dhamanis* at primary level. *Vata Doshas* is main cause of this conditions. Apart from general *Nidana* for *Vata Kopa*, the incidence of *Rasa Rakta Dushti* also is to be taken into account as *Rasa & Rakta* are *Dushyas*. Role of *Mandagni* is the principal source at the back of every disease told by Acharyas, which causes *Utpatti* of *Aama*. *Aama* in the *Rasa Rakta Dhatu* increases the viscosity and also pressure to combat this. *Dhamani Uplepa* is one of the main incidences in Hypertension and is stated in *Kapha Nanatmaja Vyadhi*. Hence, the Hypertension (EHT) can be assigned as *Tridoshaja Vyadhi* with predominance of *Vata*. According to *Ayurveda* all diseases are caused by *Doshas* only and primary hypertension is no exception to this. All diseases are to be understand thoroughly in terms of *Nidana* [etiology], *Purvarupa* [prodromal signs], *Rupa* [signs and symptoms], *Upashyas* [therapeutics] and *Samprapti* [pathogenesis] for planning of correct line of treatment. In the present trial *Rasayana Vati* better results in pacifying the entire range of Symptomatology. It is suggested that *Rasayana* drugs which have *Hridaya* and *Medhya*

properties are also used. *Kakubhadi Churna* is significant in the control of Hypertension. It can be concluded that *Kakubhadi Churna* possess cardio-protective properties. It is *Balya*, *Aampachak*, *Rasayana*, *Tridoshnaashak* and increases *Dhatwagni* which strengthens all the *Dhatus*, improves blood circulation and brings blood pressure to normal level. No any adverse effect was noted in this study.

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