

# “EFFICACY OF GANDHARVAHASTADI KASHAYAM IN THE MANAGEMENT OF ESSENTIAL HYPERTENSION (UCCHA- RAKTHACHAAPA) ”

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## INTRODUCTION

- ▶ The 21<sup>st</sup> century is described as the age of anxiety and stress. The modern man is constantly facing symbolic stress.
- ▶ This stress and strain of day to day life affects one's bodily organs through several psycho-physical mechanism.
- ▶ Among the several psychosomatic diseases, the cardiovascular disorder like Hypertension is quite significant.
- ▶ Essential Hypertension is one of the life threatening gift of today's life, which is psychosomatic, hereditary and occurring as a result of aging.
- ▶ Although there has been widespread dissemination of knowledge of hypertension, it is poorly treated in most of the populations including India.
- ▶ Among the persons identified as being hypertensive, only half are being treated and out of those receiving treatment, only half have their blood pressure normal. Along with all these problems the lifelong and palliative treatment of hypertension in modern science induces many side effects. Therefore to attain and to maintain good health, hypertensive patients are looking towards Ayurveda. So it has become an important duty of Ayurvedic research scholars and physicians to study the theory of hypertension and to chalk out its proper mode of treatment

## OBJECTIVES

- ▶ To evaluate clinical efficacy of Gandharvahastadi kashayam in the management of Essential Hypertension (Uccharaktachapa).
- ▶ To study the Etiopathogenesis of Hypertension
- ▶ To assess the regulation and control of Hypertension Symptoms and Blood Pressure readings by above drug administration

## REVIEW OF LITERATURE/DISEASE REVIEW

- ▶ Hypertension is a condition in which arterial BP is chronically elevated & it occurs in a continuous range.
- ▶ In more than 95% of cases, specific underlying cause of Hypertension cannot be found. Such patients are said to have ESSENTIAL HYPERTENSION.
- ▶ The pathogenesis of it is not clearly understood. Many factors may lead to the development of Essential Hypertension such as renal dysfunction, endothelial dysfunction, Neurohumoural factors etc. This is more common in some groups such as Japanese, Black Americans.
- ▶ Approximately 40-60% is due to genetic factors. There is evidence of stress causing Hypertension & some environmental factors include high salt intake, heavy alcohol consumption, lack of exercise etc.
- ▶ In Hypertension, there is an elevation in blood pressure & is probably the most important health problem to the public due to its increased risk of cardiovascular disease
- ▶ There is an increase in incidence rate of Hypertension which ranges from 3%-18% depending on age, gender& community
- ▶ **HYPERTENSION**
- ▶ Hyper = Above (Greek )
- ▶ tensio=tension (Latin)
- ▶ Tension or tonus above normal
- ▶ A condition in which person has a higher pressure than normal for his age- Clarence Wilbur Taber medical dictionary Hypertension or High blood pressure is a

circulatory state; arising from any cause, in which the pressure of the blood in the arteries becomes elevated beyond normal limits. In general the term includes, any rise in arterial pressure whether temporary involving systolic pressure, diastolic pressure or both of any origin. (British encyclopedia of medical practice. P. 508. )

### **NIDANA**

- ▶ Among the diverse etiological factors of Shonitadushti enlisted in Charaka Samhita, some of them are Particular in predisposing even hypertension.
- ❖ Consumption of alcohol,
- ❖ Good nutrition with sedentary habits,
- ❖ Too much intake of dietary salt,
- ❖ Mental stress
- ❖ physical strain are said to cause Shonitadushti and same causative factors are analogous to trigger of hypertension. The modes aparendi of these etiological factors leading to Shonitadushti and hypertension is to be discussed at full length in this study.

**RUPA:** Symptoms of **uccha rakthachaapa** comprises of

- ❖ **Shiroruk**
- ❖ **Klama**
- ❖ **Anidra**
- ❖ **Brama**
- ❖ **Krodha-pracurata**
- ❖ **Tamodarshana**
- ❖ **Dourbalya**
- ❖ **Buddi sammoha**
- ❖ **Kampa** These symptoms are akin to manifestations of hypertension. Shonitadushti includes plethora of illness ranging from obstinate skin disorders to abnormality of blood coagulation. It also includes clinical manifestation akin to hypertension.

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### **SADHYA-ASADHYATA:**

- ❖ To consider the disease shonitadushti in terms of Sadhya-asadhya category, samprapti of the disease is considered. Shonitadushti is a Vata pradhana Tridoshaja Vyadhi with vitiated Doshas being held up in the Madhyama Rogamarga. Along with this, involvement of all the 3 Mahamarmas (Shira, Hridaya, Basti) is evident from the etiopathogenesis of the disease. The disease is known to run a chronic course. Thus summing up the above facts it can be said that :
- ❖ All Vata vyadhi after certain period of time become Durupkrama or Kricchasadhya and Tridoshaja Vata Vyadhi is Pratyakhyeya according to Agnivesha.
- ❖ It is Yapyas as per the involvement of three Mahamarma and Madhyama Rogamarga.
- ❖ As the disease is associated with chronicity and Updravas, it is again Yapyas in nature

**PATHYAPATHYA:** Invariable involvement of Tridosha with shonita with in the Raktavaha strotas is the characteristic pathogenesis of Shonita dushti/mada /moorcha. Accordingly any dietetic or behavioral factors that facilitate the remission of the Tridosha and shonita are likely to be the Pathya of Shonitadushti.. Following list unravels the Pathya and Apathya in Shonitadushti

### **PATHYA:**

- ▶ Shooka Varga : shali purana Yava
- ▶ Shimbi Varga : Mudhga.
- ▶ Krutana Varga : Mudga Yusha, laghu anna.
- ▶ Dugdha Varga : Go-Dugdha,
- ▶ Shaka Varga : Kushmanda, Haritaki, mocha ,madhooka pushpa, patola Tanduliyaka,.
- ▶ Phala Varga : Dadima, Narikela .

### **APATHYA :**

- ▶ Ahara Varga: Virudda annapana ,Pancha shaka ,Tamboola, Katu rasa dravya,takra Ati lavana sevana,Drava snigda guru ahara,Teeksha madya,Jalaja anoopa mamsa, Dadhi,
- ▶ Vihara: Atapasevana,vyavaya ,divaswapna

- ▶ Vegadharana: Mutra, pureesha vega rodha, chardi vega rodha

## DRUG REVIEW

- ▶ Gandharvahasthadi kashayam is very potent in many different clinical conditions. It has been given more importance and it is used as Pathi Kashayam by many physicians in south india. Pathi Kashayam means that which is used during the course of treatments (Abyangam, Kizhi etc) in order to remove the doshas, which reached koshtas, and to produce mala sodanam. This Kashayam is mentioned only in Sahasrayogam under vatahara kashaya prakaranam. other than sahsrayogam no where this kashaya yogam is explained. Drugs used in this kashayam are Eranda, cirabilva, Chitraka, Viswa, Hareetaki, Punarnava, yavashaka and bhoomitala. This Kashayam should be given along with saindava lavana and Guda as Anupana.
- ▶ When saindavam is used as anupanam it produces pavan shanthi, agni deepanam and ruci vardhanam. When gudam is used as anupanam it produces malashodhanam and agni vardhanam. It is anabhisyandhi. According to Bhavaprakasha nighandu there are two types of gudam. Naveena Gudam and Purana Gudam. Purana gudam should be used because naveena gudam is abhisyandhi, causes malabandhanam and agnimandhyam. This kashayam consists of drugs which are kapha vatha samanam and usnaviryam.

## Materials & Methods:

### Ingredients of Gandharvahasthadi kashayam

Drug name	Rasa	Guna	Veerya	Vipaka	Karma
Gandarahasta	Madhura, Katu, Kasaya	Guru. Snigdha, Teeksa, Suksma	Ushna	Madhura	cure intestinal troubles, cccC
Chirabilva	Tikta, Kasaya	Laghu, Rooksa	Ushna	Katu	Anti inflammatory
chitraka	Katu	Laghu, Rooksa, Tiksa	Ushna	Katu	Carminative, Antihelminthic, Antiinflammatory, Antiarthritic
Viswa	Katu	Laghu, Rooksa, Tikshna, Snigda	Ushna	Madhura	Stomacic, aromatic,
Pathya	Kasaya pradhana panca rasa lavana vargita	Laghu, Rooksa	Usna	Madhura	Stomacic, antihelminthic, Antidysentric, Tonic
Punarnava	Madhura, Tikta, Kasaya	Laghu, ruksa	Usna	Madura	Diuretic, Antipyretic, Laxative, Stomacic, Sodorific
Yavashaka	Madura, tikta, kasaya	guru, snigdha	Seeta	Madura	Antiemitic, Antiinflammatory, Diuretic, Expectorant
Bhoomaitala	Madhura	Guru	Sita	Madhura	Cooling, Demulcent, Increase Sexual vigour

#### ▶ Source of data:

- ▶ OPD & IPD OF MUNIYAL INSTITUTE OF AYUVEDA MEDICAL COLLEGE & HOSPITAL.

#### ▶ Method of data collection:

- ▶ 30 clinically diagnosed patients of Hypertension are selected as a single group based on inclusion criteria. Detailed clinical history will be taken & Patients will be examined as per case Performa prepared for this purpose. The selected patients will be given Test drug for 30 days
- ▶ **Test drug** - Gandharvahasthadi Kashayam along With Saindava Lavana & Guda
- ▶ **Dosage of medication** - 15ml kashayam + 45ml Ushnajala + 1/2gm Saindavalavana + 1gm Guda twice daily, before food
- ▶ **Duration of medication** - 1month

▶ **Inclusion Criteria**

- Patient presenting with Hypertension symptoms.
- Patient aged b/w 30-60 yrs.
- Patients of either sex.
- Patients whose BP systolic ranges b/w 140-159mm of Hg & Diastolic ranges b/w 90-99mm of Hg.

▶ **Exclusion criteria**

- Secondary Hypertension
- Renal failure
- Cerebrovascular disease
- Comatose patients
- Age below 30yrs & above 60yrs
- Necessary investigation will be done to exclude other conditions

**Diagnostic criteria**

- ▶ Systemic blood pressure is measured by Sphygmomanometry methods.
- ▶ Systemic BP, i.e. systolic blood pressure 140 -159mm of Hg and diastolic blood pressure 90 -99mm of Hg.

**Assessment Criteria:** Efficacy of treatment will be assessed by the change in signs & symptoms which are recorded before & after the course of study. Assessment will be done with the help of subjective, objective & Lab parameters

**Subjective parameter:**

Shiroruk, Krodapracurata, Tamasa atidarsana, Bhrama, Anidrata, Akshiraga, Atidourbalya Vibanda.

**Shiroruk**

Grading	Score
Nil	0
Rarely Headache relieves without medication	1
Frequently Headache relives by rest doesn't disturb daily activities	2
Frequently severe Headache disturbs daily activities requires medication	3
Continuous / severe Headache disturbs sleep and daily activities and also not managed by the medication	4

**Atidourbalya**

Nil	0
Rarely feeling of tiredness without any Exertion	1
Rarely feeling of tiredness without any exertion with inability in concentration	2
Frequently feeling of tiredness without any exertion with inability in concentration	3
Continuous feeling of tiredness without any exertion with inability in concentration	4

### Tamasaatidarsana

Grading	Score
Nil	0
Rarely Tamahadarshana for short duration	1
Rarely Tamahadarshana for small duration leads to Bhrama	2
Frequently Tamahadarshana for small duration leads to Bhrama	3
Frequently Tamahadarshana persist for longer duration make patient to sleep	4

### Bhrama

Grading	Score
Nil	0
Rarely Bhrama for some movement during change of posture	1
Often for some movement during change of posture	2
Often for each movement even in lying condition also	3
Patient unable to hold himself without any support	4

### Anidrata

Grading	Score
Sound Sleep	0
Disturbed Sleep wake up 1-2 times a night (Khandita Nidra )	1
Difficult to onset Sleep remains disturbed in night (Alpa Nidra )	2
Very less Sleep in small intervals makes patient irritable (Ati alpa Nidra )	3
Not getting sleep without medicine (Anidra)	4

### Akshiraga

Nil	0
Rarely and mild redness remains for small duration	1
Frequently and moderate/mild Redness remains present for 2 3hrs	2
Often and moderate/severe redness remains for longer duration	3
Continuos and moderate/severe redness nearly always present	4

**2) Objective parameter :Blood pressure recording (i.e SBP &DBP)**

**Systolic B.P. (mmHg)**

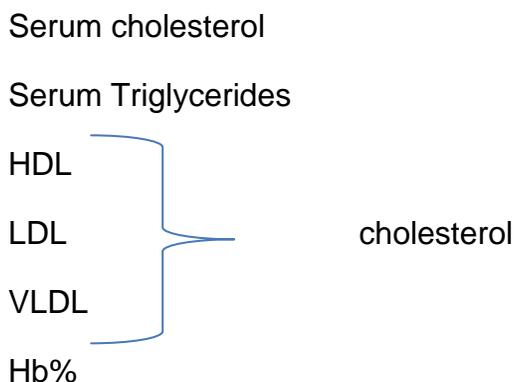
Grading	Score
120 > Optimal	-1
130 > Normal	0
130 – 139 High Normal	1
140 -159 Stage 1 Hypertension	2
160 – 179 Stage 2 Hypertension	3
180 < Stage 3 Hypertension	4

**Diastolic B.P. (mm Hg)**

Grading	Score
80 > Optimal	-1
85 > Normal	0
85 – 89 High-Normal	1
90-99 Stage 1 Hypertension	2
100-109 Stage 2 Hypertension	3
110 < Stage 3 Hypertension	4

**Criteria for assessment of blood pressure:-**

- ▶ To calculate the % relief in blood pressure, the normal range of S.B.P. (i.e. <140 mm. of Hg.) and DBP.(i.e.<90mm.of Hg) were considered to be base line and so percentage relief was calculated at the end by using the formula % Relief in Systolic Blood Pressure =( BT - AT)/(BT)\*100, % Relief in Diastolic Blood Pressure =( BT - AT)/( BT)\*100 Here BT shows the level before treatment and AT denotes the blood pressure level achieved after treatment. The after treatment (AT) levels were calculated after 30 days Shamana medication.
- ▶ Lab Parameters such as



**▶ Assessment on Basis of complaints:**

- |                     |                              |
|---------------------|------------------------------|
| (1) Controlled      | 100% relief in complaints    |
| (2) Marked Relief   | ≥ 75% relief in complaints   |
| (3) Moderate Relief | ≥50-74% relief in complaints |
| (4) Mild Relief     | ≥25-49% relief in complaints |
| (5) No Relief       | <25% relief in complaints    |

▶ **Assessment on basis of Systolic and Diastolic blood Pressure level**

- 1) Controlled Patients having blood pressure levels within normal limit.
- 2) Marked Relief Blood pressure level improved by  $\geq 75\%$  than before treatment
- 3) Moderate Relief Blood pressure level improved by  $\geq 50-74\%$  than before treatment
- 4) Mild Relief Blood pressure level improved by  $\geq 25-49\%$  than before treatment
- 5) No Relief Blood pressure level not improved or improved by  $< 25\%$  than before treatment

▶ **Statistical Analysis**

The obtained information were analyzed statistically in terms of mean score (x), Standard Deviation (S.D.) and Standard Error (S.E.). **Paired 't' test** was carried out at the level of 0.05, 0.02, 0.01, 0.001 of P levels. The results were interpreted as,

- ❖ P<0.05 & P<0.02 Not Significant improvement
- ❖ P<0.01 Moderately Significant improvement
- ❖ P<0.001 Highly significant improvement

▶ **Presentation of Data**

The data collected & analyzed has been depicted in the following sequence

- (1) General observations viz. age, sex, religion etc.
- (2) Results of treatment, evaluated on the basis of improvement in complaints as well as Blood pressure readings and biochemical parameters

**BIOSTATISTICAL OBSERVATIONS**

**AGE WISE DISTRIBUTION OF 30 PATIENTS**

Patients aged b/w 50-60yrs are abt 66.67%, and b/w 40-50yrs are of 26.66%

**SEX WISE DISTRIBUTION OF 30 PATIENTS**

In this study around 66.66% are females and 33.33% are of males.

**RELIGION WISE DISTRIBUTION OF 30 PATIENTS**

- ▶ In this study 46.66% are of muslim community
- ▶ In this study 48.66% are belonging to middle class
- ▶ In the present study 50.50% of patients are comes to Business class
- ▶ The present study showed that 33.33% of patients complete high school level 20% were graduates, 10% are uneducated.
- ▶ The present study showed that 56.66% of patients dwelling Rural area, 43.33 % from urban area.
- ▶ The present study showed that 76.67% of patients doing sedentary work, 23.33 % showing non sedentary works.
- ▶ The present study showed that 70% of patients have family history and 30% have no family history.
- ▶ The present study showed that 90% of patients are married in that 20% widows, and 10% unmarried.
- ▶ The present study showed that 30% of patients have anxiety, 26.66% have depression and tension.
- ▶ The present study showed that 60% of patients are eating non veg, 33.33% are mixed, 26.66% are veg.
- ▶ The present study showed that 36.66% of patients have irregular bowel, 33.33% are constipated. 30% have normal.
- ▶ The present study showed that 50% have tea / coffee addiction, 36.66 have cigarette and 33.33% have alcohol addiction
- ▶ The present study showed that 50% patient are vata pitta prakriti and 26.66% are vata kaphaja. 13.33% are vata prakriti.
- ▶ The present study showed that 66% have visamagni, 13.33% have mandagni
- ▶ The present study showed that 53.33% have divaswapna, 46.66% have ratrijagarana 46.66% have krodha, 16.66% have citodvega etc.
- ▶ The present study showed that 83.33% have stage 1 HTN, 13.33% have high normal B.P
- ▶ The present study showed that 76.66% have DBP in between 140 and 159. 16.66% have DBP in between 130 to 139

## THERAPUTIC EFFECTS

### ▶ Effect of Gandharvahastadi Kashayam in Shiroruk

There was very effective result on shiroruk after course of whole regimen. It was noticed that after the samana medication i.e Gandharvahastadi kashaya % of relief after 30days of treatment 72.08% occurred is highly significant as ( $P < 0.0001$ ).

### ▶ Effect of Gandharvahastadi Kashayam in Anidrata

There was very effective result on Anidrata after course of Treatment. It was noticed that after the samana medication i.e Gandharvahastadi kashaya % of relief after 30days of treatment 40% occurred is highly significant as ( $P = 0.0029$ ).

### ▶ Effect of Gandharvahastadi Kashayam in constipation

There was very effective result on constipation after course of whole regimen. It was noticed that after the samana medication i.e Gandharvahastadi kashaya % of relief after 30days of treatment 72.08% occurred is highly significant as ( $P < 0.0001$ ).

### ▶ Effect of Gandharvahastadi Kashayam in Systolic BP

A statistically significant reduction in the mean score of Systolic blood pressure was observed at the end of treatment, The Systolic blood pressure falls to 152.66 from 135.833 with a with  $P$  value =  $< 0.001$  which is statistically significant

### ▶ Effect of Gandharvahastadi Kashayam in Diastolic B.P

The mean score of Diastolic pressure before treatment gradually decreased by samana medication. The Diastolic blood pressure falls to 92.9 from 86.866 with a % Of relief as 56.89%, with  $P$  value  $< 0.001$  with help of Paired't' test giving statistically highly significant result.

### ▶ Effect of Gandharvahastadi Kashayam in Lab parameters

The administration of Gandarvahastadi kasham was found to be effective in reducing the Total cholesterol ( $P < 0.0001$ ), LDL cholesterol ( $P = 0.0001$ ) .Decrease in the TGL was observed in whole course of treatment and proved to be statistically very significant as  $P = 0.0092$ .

### ▶ Assessment of total effect of Gandharvahastadi Kashayam in Chief complaint

Overall assessment of drug Gandharvahastadi kashayam in chief complaint shows that 46.66% have Moderate relief, 23.33% have mild relief, 13.33% are controlled

Results	No of patients	%
Controlled	4	13.33%
Marked Relief	2	6.66%
Moderate Relief	14	46.66%
Mild Relief	7	23.33%
No Relief	3	10%

### Assessment of total effect of Gandharvahastadi Kashayam in Systolic B.P

Overall assessment of drug Gandharvahastadi kashayam in Systolic B.P shows that 56.66% have Moderate relief, 23.33% are controlled mild relief, 13.33% have no relief and 6.66% have mild relief.

Results	No of patients	%
Controlled	7	23.33
Marked Relief	0	00%
Moderate Relief	17	56.66%
Mild Relief	2	6.66%
No Relief	4	13.33%

### Assessment of total effect of Gandharvahastadi Kashayam in Diastolic B.P

Overall assessment of drug Gandharvahastadi kashayam in Diastolic B.P shows that 66.66% have Moderate relief, 23.33% are controlled and 10% have no relief.

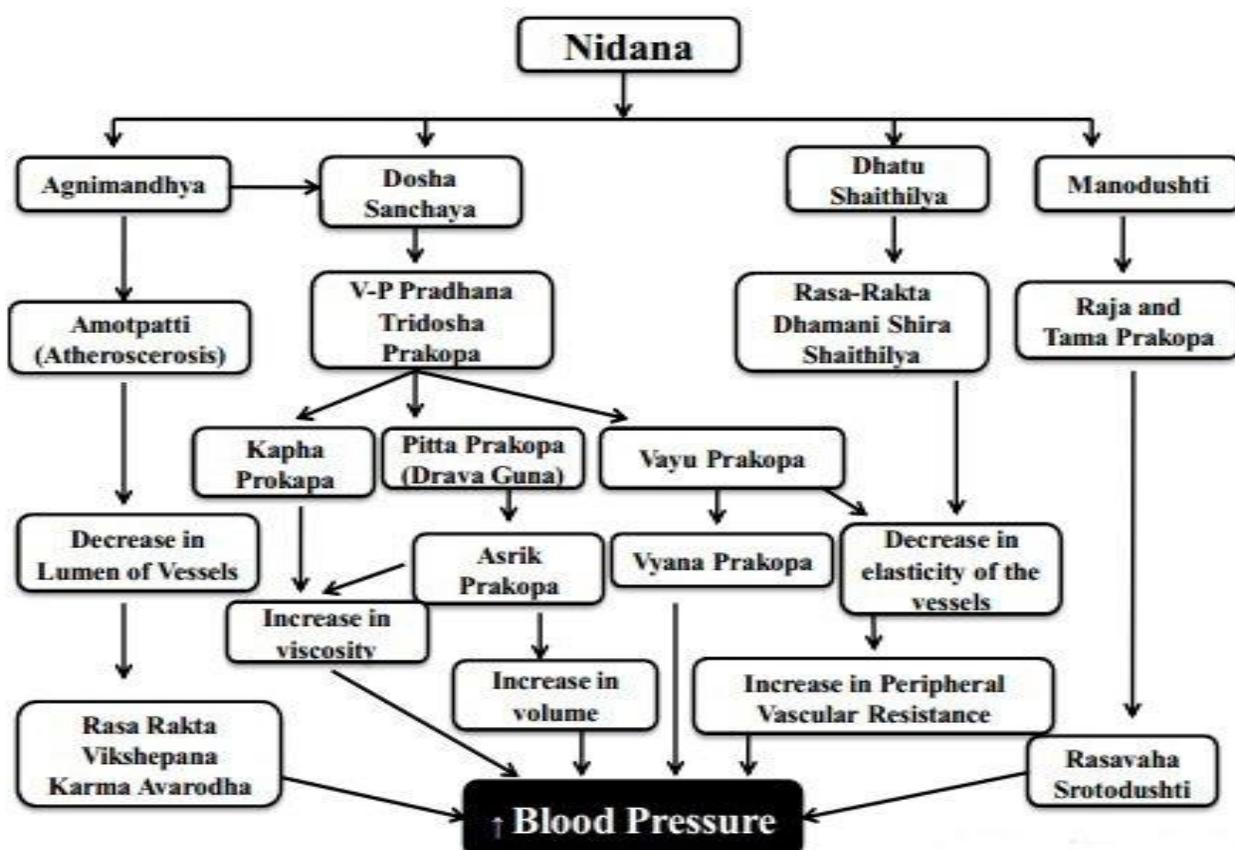
Results	No of patients	%
Controlled	7	23.33
Marked Relief	0	00%
Moderate Relief	20	66.66%
Mild Relief	0	00%
No Relief	3	10%

### DISCUSSION

#### DISCUSSION ON DISEASE

- ▶ Essential Hypertension is a psychosomatic haemodynamic disease with multifactorial pathology and originated by several dietary, environmental and genetic factors.
- ▶ Modern medical science has already invented so many medicines, to keep the blood pressure in its normal ranges. but all these drugs have a long list of adverse effect with them. The ayurvedic medicine give side benefits instead of side effects.
- ▶ The disclosure of the etiological factors guide to alter the normal functioning of tridosha and shonita which further result into these morbidity.
- ▶ The clinical symptoms are result of all the tridosha incriminating the rakta dhatu, circulating all over body localising in head and siras, as a resultant of sanga and vimargagamana manifest as shonitadusti, mada, moorcha and sanyasa.
- ▶ These progressive stage of shonitadushti corresponds asymptomatic HTN, symptomatic HTN, delerium, Malignant HTN.

#### ▶ SAMPRAPTI OF DISEASE



## ► DISCUSSION ON DRUGS

Gandharvahasthadi kashayam is very potent in many different clinical conditions. It has been given more importance and it is used as Pathi Kashayam by many physicians in south india.

Pathi Kashayam means that which is used during the course of treatments (Abyangam, Kizhi etc) in order to remove the doshas, which reached koshtas, and to produce mala shodhanam. This Kashayam has been mentioned in Sahasrayogam under vatahara kashaya prakaranam. Drugs used in this kashayam are Gandarvahasta (eranda), Cirabilva, Chitraka, Viswa, Hareetaki, Punarnava, yavashaka and bhoomitala.

### ► Effect of the drug:

Vatha samanam, Agni vardhanam, Rucyam and Malashodhanam but this kashayam can also be used in some other diseases too, while vatha samanams, agnivaradhanam, rucyam and malshodhanam are being mentioned in cikitsa sutram. It is having a Mridu virecana property

By considering Essential hypertension as the Vata-pitta pradhana tridosha vyadhi this mridu virecana property pacifies the dosas. In Essential Hypertension the impairment of vata occur, to pacify that disturbed vata dosas this mridu virecana will work.

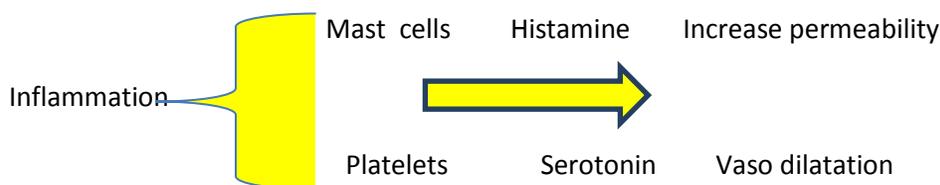
### Mode of action of Mrudu virechana:

- ❖ Nithya virechana expels the digestive products downwards.
- ❖ Due to properties of Ushna, Tikshna, Sukshma, Vyavayi, Vikasi, the Virechana drug reach to the heart, flow through the Dhamanis, and loosen the accumulated morbid Doshas in the body, there upon, the liquified Doshas glide in the body just as honey flows out from a oleated jar.
- ❖ These aggravated Doshas after being disintegrated float in the circulation and further get into Pakwashaya by two properties (i) Anubhava and (ii) Pravanabhava (Koshthagamana Mukha - Chakrapani).
- ❖ If the drug's composition is dominated by Jala and Prithvi and specific potency, the excreta are pushed downwards.

### Modern Point of View:

- ❖ Ayurvedic Shodhana Karma induces mild inflammation. Vamana and Virechana drugs are quite irritant to the stomach and the intestinal mucosa causing inflammation.
- ❖ This changes the permeability of the membrane and morbid substances come out due to the changed permeability which can not come out in normal condition. In inflammation redness, heat, swelling, pain and loss of functions are the common signs.
- ❖ These sign occurs due to the following changes at microscopic level
- ❖ Hyperemia :Occurs due to capillary dilatation.
- ❖ Exudation :Exudation is the increased passage of protein rich fluid through the vessel wall, in the intestinal tissue. The advantageous result of fluid increases in dilution of toxins (Morbid Doshas).
- ❖ Some chemical factors are also responsible which increase the permeability in response to acute inflammation.

### ► Vaso-active Amines:



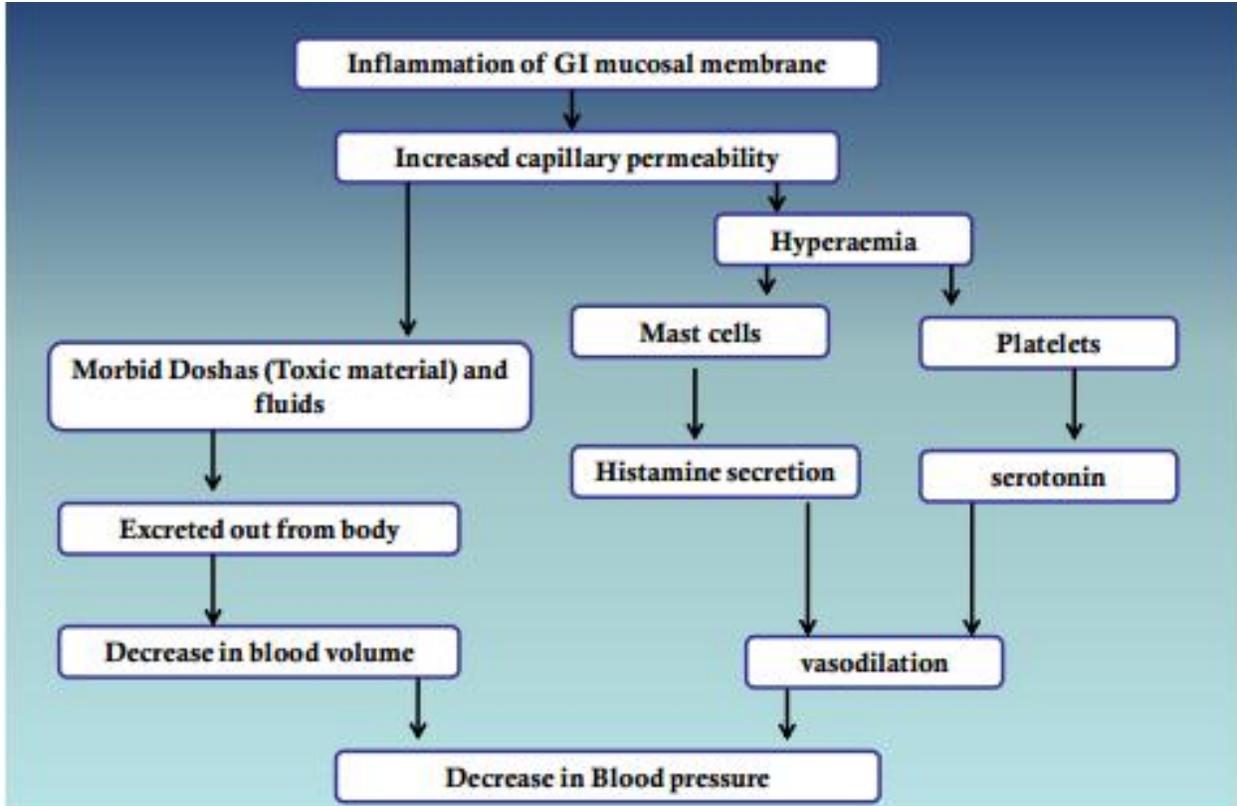
### ► Vasoactive Polypeptide:

These causes vasodilatation.

- **Miscellaneous Agents:** The other agents influencing vascular dilatation and increasing permeability are –
- ❖ Lysosomal enzymes from polymorphs
- ❖ Prostaglandins
- ❖ Globulin permeability factor
- ❖ Lymph node permeability factor
- ❖ Degradation products of DNA and RNA.
- ❖ Antigen – antibody complexes
- ❖ Some of the above factors may be responsible for the increase permeability of the intestinal mucosa in response to the inflammation caused by irritant Virechana Yoga.

- ❖ The inflammation in which hyperemia and exudation are the factors coincides with Anubhava, Pravanabhava and (Koshthagamana Mukha - Chakrapani). Thus Virechana Karma evacuates Doshas (toxic substance) from the body.
- ❖ Due to Virechana, **transmembrane Samshodhana** takes place. The mucosa of gastrointestinal tract extracts the impurities, excessive electrolytes and water from the body. Virechana Karma reduces the total volume of Rasa-Rakta which may help in controlling the blood pressure.
- ❖ Virechana Karma also causes the sodium and calcium catharsis which may also help in maintenance of blood pressure levels.

**Probable mode of action of Mridu Virechana:**



- ▶ Hypertension is reckoned to be an illness caused due to the erroneous life style. Occurrence of the illness in population of sedentary life style is well known.
- ▶ This life style is characterized by positive energy balance by way of excessive consumption and relatively less utilization. In a long run, the positive energy balance has an incriminatory effect on the fat metabolism and its sequel.
- ▶ It is established that this sedentary habits leads to abnormal accumulation of cholesterol in the body. Circulating cholesterol when gets deposited in vessels, and the phenomena is popularly referred as atherosclerosis, which in turn increases the peripheral vascular resistance.
- ▶ This is how the pathogenesis of Essential hypertension surfaces, Atherosclerosis is one of the most leading predisposing factor of Essential HTN.
- ▶ There are some drugs in Gandharvahastadi kashaya yoga which are having actions like Antiatherogenic, Diuretic, Antitoxic, antistress, Adaptogenic, Sedative, Hypnotic, CNS depressant, Vasodialatation, Sympathatolytic, Antianxiety, Med hyarasayana, Srothoshodaka, avarana nasaka action which have influence in reducing Hypertension.
- ▶ In Gandharvahastadi kashayam the ingredients are Eranda, cirabilva, chitraka, viswa, Hareetaki, Punaranava, Yavashaka, and Talamooli.
- ▶ Some studies shows that Chitraka is having Antiatherogenic, CNS depressant, Avarana nasaka action.
- ▶ Punarnava and saindava lavana shows diuretic action
- ▶ Hareetaki is having antistress, adaptogenic, antitoxic, rasayana and medya properties.
- ▶ Eranda having srotosodaka action. Talamooli have diuretic action
- ▶ The same condition in the language of Ayurveda goes like this - due to excess intake of drava, snigda, ahara in combination with lack of physical exertion behaves as santarpana nidana. This santarpana nidana in the long run leads to abnormal accumulation of kapha and medas. Further this accumulation of kapha and medas exhibits the prediction of involvement of raktamarga.

- ▶ To add, accumulation eventually progress to obstruction in these vessels and is now referred as margavarana
- ▶ It is worth mentioning here that margavarana is a generalized process and the root cause of many fatal disease.
- ▶ Shonitadushti / Essential hypertension, siromarmabhighata, hrdroga, basti marmabhighata, vatarakta, gulma are some of the manifestation of the margavarana due to kapha and medas.
- ▶ This concept of shonita dusti and the santarpana nidana is best treated by the Samana cikitsa.
- ▶ Present study has showed that Gandharvahastadi kashayam along with saindhava lavana and Guda helps in reducing elevated arterial pressure to near normal, also relieving the symptoms of shonita dushti partially if not completely.

### **SUMMARY AND CONCLUSION**

- ▶ Historical survey reveal that there is no direct explanation of Hypertension in Ayurvedic classics. However shonita dushti and vyanabala vaishmya have some simily in the symptomatology of Hypertension
- ▶ According to modern science increase in sympathetic drive, sodium and water retension, chronic renal disease and atherosclerosis are the common causes of Hypertension.
- ▶ Essential Hypertension on chronic course leads to complications like chronic renal failure, Hypertensive retinopathy, Left ventricular failure, cerebral haemorrhage, and heart attack. Control of Hypertension will be helpful in prevention of development of these complications.
- ▶ Aim of the present work is to evaluate Gandharvahastadi kashaya in Essential Hypertension. It is observed that above formulation is effective in cases of Essential Hypertension.
- ▶ In the present study it is observed that males are dominant and at 6<sup>th</sup> decade of life
- ▶ Rural are more commonly affected by Hypertension in this study.
- ▶ Tea, coffe, ciggarate addiction were common in case of EHT. vatapittaja prakrithi is more dominant in this study.
- ▶ Effect of the drug in symptoms of HTN like shiroruk, anidrata, atidourbalya shows there is a significance in reduction of symptoms. Even Systolic and Diastolic B.P also have reduced in patients. some of the lab parameters like Total cholesterol, LDL, VLDL and serum TGL shows marked reduction after the medication.
- ▶ Overall effect of the study shows the medication is moderately effective in patients. The observation made in this study substantiate the ancient concepts of vatahara, Kaphahara, Mootrala & rasayana or rejuvenative effect of the yoga.
- ▶ The method of treatment has advantage over conventional modern treatment irrespective of minimal side effects.
- ▶ The Hypertensive action of Gandharvahastadi kashayam may be due to the combined effect of action like Diuretic, CNS depression, Antistress, Adaptogenic, Hypocholestremic, Antiatherogenic actions
- ▶ This study is considered as an advancement in the Ayurvedic management of Hypertension. Further studies in Pharmacology of Gandharvahastadi kashayam can be taken for research.