



A Review of Selected Clinical Studies of Essential Hypertension in Ayurveda

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ABSTRACT

Hypertension is a major problem faced by the public in present era. The prevalence of hypertension ranges from 20-40% in urban adults and 12-17% among rural adults. The number of people with hypertension is captured to increase from 118 million in 2000 to 214 million in 2025, with nearly equal numbers of men and women.[1]

A survey of 26,000 adults in South India showed a hypertension prevalence of 20% (men 23% and women 17%) but 67% were unaware of their diagnosis. Most of the hypertensive remain undetected and noticed only after occurrence of stroke or some major diseases. Control of Hypertension is also improper and insufficient. This calls for urgent prevention and control measures for hypertension.[2]

Hypertension is uniquely said to be a silent killer. In classical Texts there is no reference regarding Essential Hypertension as the naming of a disease is not important but the condition of doshas we have to assess, for the proper treatment or management. A few clinical studies being conducted on Essential Hypertension throughout India was selected. [3]

This is an attempt to review the 5 clinical studies of Essential Hypertension with their influence in the samprapti vighatana and in the proper management level.

KEY WORDS: Essential Hypertension, clinical studies, Ayurveda

INTRODUCTION

Essential hypertension accounts for 95% of all cases of hypertension without any symptoms and only 5% recognised as secondary Hypertension. Some of the symptoms are head ache,dizziness,chest pain, shortness of breathing etc.The cause of hypertension is not known.essential hypertension is a serious medical condition that increases the risk of heart,brain ,kidneys An estimated 1.28 billion adults aged 30-79 years worldwide have hypertension, most (two-thirds) living in low- and middle-income countries [4]

Essential Hypertension can be correlated with many of the diseases described in Ayurveda Generally it is a tridoshajavyadhi with vatapitta dushti,rasa,raktha dhatu dushti . The main culprit is deranged vatha affecting

small siras in the body and pittadushti is happening with improper diet pattern, old and ill nourished food intake, stress and sleep pattern. Dhamani pratichaya by means of kaphadushti, inelasticity of blood vessels. Vata is the main dosha in connection with movement, as a result of various nidana there is an increased pressure created in the walls of blood vessels:

- Essential hypertension is also known as primary hypertension or idiopathic hypertension. Primary hypertension is familial and occurs as a consequence of environmental and genetic factors. Hypertension is a major cause of premature death worldwide [4]

As per JNC 7 blood pressure classification in adults ≥ 18 yrs categorised as normal (< 120 systolic and < 80 diastolic), prehypertension (within range 120-139 systolic and 80-89 diastolic), Hypertension stage 1 (within range 140-159 systolic and 90-99 diastolic) and Hypertension stage 11 (≥ 160 systolic and ≥ 100 diastolic) [5]

AIMS AND OBJECTIVES

- To study the trend and pattern of academic research works carried out in various parts of India
- To provide compilation of research work in the various formulations of hypertension
- To make the Ayurvedic fraternity aware of the results of the already completed trials

MATERIALS AND METHODS

Some of the dissertation works completed in the area of Essential hypertension were studied in detail and review was done, pointing on the importance of various modified interventions and the results attained during the trials and summarized.

SUMMARY OF CLINICAL STUDIES

1) Pooja Gautam [6]

This study was a comparative study of management of essential hypertension using herbal formulation with or without gokshura kwatha. The contents of herbal formulation are sarpagandha, sankhapushpi, arjuna, jatamansi, aswagandha in the form of ghanavati. Clinically diagnosed cases of 32 essential hypertension subjects of age group between 40-65 yrs and stage 1 hypertension range in between 140-159 mm of Hg systolic BP and diastolic BP 90-99 mm of Hg and those who are stopped allopathic drug were selected using simple random technique and grouped into two groups: group A containing 25 subjects and group B containing 27 subjects. The intervention was done with ghanavati 250mg or 2 tab in group A with water as anupana and in group B with gokshura kwatha as anupana two times daily for 30 days after meals. Follow up on subsequent 7th, 15th, 30th days. On comparison overall Herbal formulation along with Gokshurakwatha was found to be more effective than Herbal formulation alone in the management of EHT.

2) Prerna [7]

The study was a clinical study to evaluate the effect of trinapanchmula in Essential hypertension and the study conducted in 30 subjects grouped into 3 and were selected randomly in the OPD and IPD of RGGPGAC and Hospital paprola

Group 1 subjects managed with trinapanchamula kwatha

Group 2 subjects managed with chorthalidone

Group 3 subjects managed with both trinapanchamula and chorthalidone

Results analysed and found to be highly significant reduction was observed in systolic and diastolic blood pressure after 45 days of therapy. Results clearly states that group 3 combination of trinapanchamula and tab chlorthalidone showed best results than other two groups group 2 with tab chlorthalidone alone better than

the group one .statistically the 3 groups showed highly significant reduction in systolic and diastolic Blood pressure reductions

3) Mashyal P [8]

A self controlled clinical study of Safety and usefulness of Laghu shankha prakshalana in patients with essential hypertension:

32 patients involved in this study mild to moderate hypertension admitted in residential yoga therapy in benguluru daily routine integrated approach of yogatherapy for 6 hours physical postures .relaxation sessions ,pranayama and meditation .laghu sankha prakshalana is a yogic bowel cleansing technique and its pilot study revealed safe and complimentary on observation LSP is an additional practice that include drinking luke warm water with triphala or without triphala followed by a set of yoga that stimulates defaecation reflex .That was administered 2nd day without triphala and on 5th day with triphala assessed sitting blood pressure and pulse rate just before and after LSP .secondary outcome measures such as BMI,symptom score ,meditation scores,fatigue,general health and quality of life on 1st and 6th day of integrated approach of yoga therapy.the number of visits to defeacate bowel during the procedure significantly higher with triphala compared to without triphala

4) Ujwala Samadhan Hivale [9]

This is a clinical study on the effect of triphaladi kalabasthi with arjunapunarnavadi ghanavati in the management of Essential Hypertension.15 patients were selectd from OPD and IPD of panchakarma National Institute of Ayurved Jaipur and recruited who were diagnosed cases of essential hypertension as per 7th JNC and WHO criteria for diagnosis of hypertension was administered with triphaladi kala basthi followed by oral administration of arjunapunarnavadi Ghana vati. Arjuna Punarnavadi Ghanavati was prepared using Arjuna, Punarnava., Guduchi, Gokshura Shankhapuhspi ,Draksha Haritaki Pushkarmoola and Shunthi patients age group in between 20-60 years .stage1 hypertension ,stage2 hypertension ,isolated systolic hypertension as per JNC and WHO were selected.

Ingredients of triphaladi kala basthi are triphala oil 60ml for anuvasanavasthi and for niruha basthi triphala decoction 240ml honey 80 ml saindava 5g triphala oil 120ml satapushpa powder 30gm

On each day patients were subjected to whole body massage with dasamula oil for 25-30 minutes followed by dasamula decoction fomentation mildly for 5-10 monutes for 16 days After recording vitals the patients are subjected to vasthi prayoga.for anuvasas basthi 60 ml lukewarm triphala oil with satapushpa and rock salt was used as per norms of vasthi

The observations such as time of administration of Basti Dravya, time of expulsion and Samyak Lakshana (symptoms of proper administration of enema), Vyapada (complication) if any and vitals were noted on each day. Patients were advised to take lukewarm water, avoid heavy and oily foodstuffs and suppression of natural urges, excess traveling or, exercise for one month after completion of Basti procedure.

After vasthi procedure arjuna punarnavadi ghanavati 2 tab twice a day was administered for 30 days .Then follow up to 1 month..The patients were not taking any other medicine during follow up period.This combination of drugs are moderately effective in reducing blood pressure

5) Karthika R.S [10]

A survey of Current Trends in the Management of Hypertension Among Ayurvedic Physicians in Kerala was done among 20 physicians working in Govt. hospitals in Kerala, with a pre-set questionnaire. Grade of hypertension managed were reported as up to grade 1 by 45%, up to grade 2 by 30% and up to grade 3 by 25% of the physicians. The pathogenic components (samprapti ghataka) assigned to hypertension included vata dushti,(movement related) kapha dushti,(structure related-dhamani pratichaya) Vata-Pitta dushti(movement and functional related), Vata-Kapha dushti(movement and structure related), Kapha- Pitta dusthi(structural

and functional related), Raktha dushti(dushya related) and Avarana(srotorodha related). 60% of physicians advised stopping the medications when ideal blood pressure attained. According to the stage of pathology (avastha) a bunch of medicines are being used for management of hypertension by the physicians. There are variations in medical judgement of hypertension among practicing physicians of Govt. Ayurveda hospitals in Kerala. Thalam (application of suitable medicine over the scalp) and lifestyle modification were the individual treatment modalities adopted commonly by all interviewed, indicating their utility in management of Hypertension .

DISCUSSION

Among five selected clinical studies ,two of them are internal administration of herbal formulation and the third one is a combination of internal administration of herbal formulation followed by kalabasthi .in others one is of Laghu Prakashalana Yoga therapy along with or without triphala and the second one is a survey among medical practionares inside kerala

1) Sapagandha,jatamansi,sanupushpi tikta in rasa which reduces ama and stimulates proper rasarakta vikshepana process.ushnaveerya property of sarpagandha and aswagandha causing amapachana and results in vatasamana karma.sarpagandha and jatamansi are nidrajanaka and manodoshahara.sankupushpi is sara in nature which enhances srotosodhana

Madhura Vipaka and Sheet Veerya of Sankhpushpi has Rasayana, Medhya, and Mridurechaka property that helps in vasodilation and lowers the BP. Arjuna Twak has kashaya rasa, Rukshaguna, Sheetaveerya and Katuvipaka. Due to kashaya, Ruksha and Laghuguna, Kaphanashan karma is the result Gokshura is having Madhura Rasa and Madhura Vipaka in addition with Rasayana and Balyaprabhav . Its Mutra Virechaiya Prabhav and Basti Shodhak karma causes elimination of kleda from the body, by there it might have helped to reduce the raised blood pressure. It's Madhura Rasa and Vipaka, Snigdha, Guru Guna may reduce hyperactivity of Vata and thus probably reduced Sankocha and kathinya of Srotas, along with its diuretic properties the reduction in inflammation might have resulted

2) KUSHA Rasa is Madhura, Kashaya Guna is Laghu, Snigdha, Sheetaveerya,Vipaka Madhura, Dosha Karma Tridoshagna

KASHA

Rasa Madhura, Kashaya,Guna Laghu, Snigdha,Veerya Sheeta. Vipaka Madhura, Dosha Karma Vatapittagna SHARA

Rasa: Madhura, Tiktha,Guna Laghu, Snigdh,Veerya : Sheeta,Vipaka : Madhura,Dosha Karma: Tridoshagna DARBHA

Rasa Madhura, Kashaya,Guna Laghu, Snigdha,Veerya Sheeta Vipaka Madhura,Dosha Karma Tridoshagna IKSHU

Rasa: Madura,Guna Guru, snigdha,Veerya Sheeta

Vipaka Madhura,Dosha Karma Vatapittagna

Five ingredients are of madhura rasa,madhura vipaka ,seetha veerya as a whole projects the vatapittasamaka,rasaraktaprasadhana karma .By its mutravirechaneeya property plays a role in reducing kledamsa and srotorodha .helps in vasodilation and lowers BP.maximum subjects are female in this study. the prevalence of hypertension is more in females after the age of 40. This suggests that the oestrogen probably play a part in preventing or delaying hypertension.

In the present study maximum registered patients had Madhyama Vyayama Shakti and Avara Vayayama Shakti.Exercise increases blood circulation, reduce platelet stickiness, increases fibrinolysis, lower blood lipids and reduces obesity

This drug alleviates vitiated Vataby virtue of its Snigdha Guna, Madhura Rasa and Madura Vipaka and Pitta with its MadhuraRasa, MadhuraVipakaand SheetaVeeryaand Kaphaby its KashayaRasa. By Tridosh

Shamaka effect it helps in reducing the blood pressure. Trinpanchmoolis Mootra Virechniya drug. These drugs perform their action by decreasing the Agneyatatva and increasing the fluidity in urine. They do Pitta-Shaman and Vata-Anuloman. In the recent studies all the drugs found to have diuretic property. Results revealed that therapy given in Group-III i.e., the combination of Trinpanchmool Kwathand Tab. Chlorthalidone showed best results as compared to other groups. Group-II, in which patients were managed with Tab Chlorthalidone showed better results over Group-I where only Trinpanchmool Kwathwas given to the patients. However statistically highly significant reduction in both systolic and diastolic pressure was observed in all three groups.

1) 32 participants with essential hypertension was aimed at looking at the safety of LSP The present study on the immediate effect of yogic LSP in patients with moderate to mild HTN has shown reduction by 11.4% (systolic) and 6.68% (diastolic) after TWLSP, and 10.4% (systolic) and 6.62% (diastolic) after NWLSP Yoga changes the physiological responses to stressors by improving autonomic stability with better parasympathetic tone and reduction in sympathetic arousal with improved performance.[39] The percent reduction of BP was higher after triphala water LSP than normal water LSP and frequency of stools was significantly more in the triphala group, this can be explained on the basis of mild laxative effect of triphala which may help in reducing blood volume further, thereby reducing the blood pressure Triphala is a combination possessing kashaya rasa, laghu ruksha guna and madhura vipaka Mainly kaphapittasamana although it is taught to be tridoshasamana, deepana pachana and rakthaprasadhana, rasayana karma. LSP regularizes the movement of vata in a proper manner 4) firstly administering the triphaladi kala basthi followed by arjunapunarnavadi ghanavati. This basthi specifically concentrate on deranged vata dosha and brought back to normal, the cleansing effect of Basti in the colon may have its effect all over the body in general Triphala kalabasthi having Lekhana (scraping), Srotoshodhaka (body channels cleanser) and Rakta-Pittashodhaka (blood purifier) property might have helped to reduce the blood pressure Arjunapunarnavadi ghanavati is Rasayana (rejuvenating), Medhya (brain tonic), Mutrala (diuretic), Deepana (appetizer) and Hridya (cardiac tonic) Guduchi reported are antioxidant, anti-diabetic, anti-inflammatory, anti-arthritic, anti-stress, hepatoprotective, immunomodulatory and anti-neoplastic activities. Shankhapushpi is nootropic and neuro-tonic property. Convolvulus pluricaulis (The chloroform fraction of the total ethanolic extract) elicited a significant antidepressant-like effect in mice by interaction with the adrenergic, dopaminergic and serotonergic systems.[Haritaki is Tridoshahara, It is mild laxative Shunthi is anti-inflammatory and is used in cardiac pain. Recent study on Zingiber officinalis, in spontaneously hypertensive rats, showed that it reduces systolic blood pressure B. diffusa helps to inhibit damage to arteries and thus reduces blood pressure.

5) various treatment modalities are made by keralite physicians for managing hypertension. one among that is application of thalam on bregma the medicated paste along with suitable oil is heated and allowed to cool upto luke warm .then it is applied there , gets absorbed through the sringatana marma and stimulates the nerve endings there .pacifying the excess pitta dushti in the body .

Most of the hypertension cases may be due to Avarana. A large variety of medicines are being used for its management among physicians, selected according to avastha(condition). Thalam and lifestyle modification were the individual treatment modalities adopted commonly by all the physicians interviewed, thus indicating their usefulness in reducing elevated blood pressure Although the CCRAS guidelines and National Health Portal names Hypertension as Vyanabalavaishamya, no physician interviewed named hypertension as Vyanabalavaishamya. standardisation of hypertension management is needed for the uniformity of hypertension ayurvedic management. All the external as well as the internal drug combinations are highly effective in controlling the essential hypertension .ayurveda offers successful management of hypertension of mild and moderate variety.

CONCLUSION

All the 5 clinical studies point out the significance of Ayurvedic management in Essential Hypertension. Ayurveda offers a valuable protocol in this aspect of mild and moderate range of hypertension. Essential Hypertension is a relevant and discussable subject to be explored more in the treatment side as well as in research works. It should be incorporated with therapeutic yoga and counselling techniques for reducing stress.

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REFERENCES

1. Reddy KS. Regional case studies—India. Nestle Nutr Workshop Ser Pediatr Program. 2009;63:15-24; discussion 41-16, 259-268
2. Mohan V, Deepa M, Farooq S, Datta M, Deepa R. Prevalence, awareness and control of hypertension in Chennai—The Chennai Urban Rural Epidemiology Study (CURES-52). J Assoc Physicians India. May 2007;55:326-332
3. Jithesh a review of selected clinical studies on alcoholism in Ayurveda published on world journal of pharmaceutical research vol7 issue5 2018 398-404
4. <https://www.who.int/news-room/fact-sheets/detail/hypertension>
5. <https://www.bing.com/images/search?q=JNC+7+Hypertension&form=RESTAB&first=1&tsc=ImageBasicHover>
6. Pooja Gautam Management of essential hypertension using herbal formulation with and without gokshura kwatha – a comparative study .Post Graduate scholar, Final year, Department of Kaya Chikitsa Pt. Khushilal Sharma Govt. (Auto.) College and Institute, Bhopal, Madhya Pradesh, India published in International Ayurvedic medical journal April 2021 pgno 702-707
7. Prerna A clinical study to evaluate the antihypertensive effect of trinpanchmool kwath in management of Essential Hypertension
8. Research Scholar, P.G. Dept of Kayachitiksa, RGGPG Ayurvedic College, Paprola, Himachal Pradesh, India published in Ayushdhara vol7 suppl 1 sep-octo Pg 1-10
9. Mashyal P Safety and usefulness of *Laghu shankha prakshalana* in patients with essential hypertension: A self controlled clinical study
10. Department of Yoga and Cardiology, Division of Yoga and Life Sciences, Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA), Bengaluru, Karnataka, India published in journal ayurveda and integrative medicine 2014 oct-dec 5(4) 227-235
11. Ujwala Samadhan Hivale A clinical study on the effect of *Triphaladi Kala Basti* with *Arjuna Punarnavadi Ghanavati* in the management of essential hypertension
12. Department of Panchakarma, National Institute of Ayurveda, Jaipur, Rajasthan, India published in AYU 2018 oct-dec 39 (4)250-25
13. Karthika R.S* Current Trends in the Management of Hypertension Among Ayurvedic Physicians in Kerala PG Scholar, Department of Dravyagunavijnana, Govt. Ayurveda College, Thiruvananthapuram, Kerala, INDIA published in Asian journal of pharmaceutical and health sciences March 2021 Pg 2394-2400