SYNOPSIS

For the registration of title of thesis for

Ayurveda Vachaspati M.D.(Ay.) Rachana Sharir

काशी हिन्दू विश्वविद्यालय BANARAS HINDU UNIVERSITY

ESTABLISHED BY PARLIAMENT BY NOTIFICATION NO. 225 OF 1916

A Study on *Kshipra Marma* & *Tala Hridaya Marma* and its Therapeutic Application on Stage 1 Hypertension

Submitted by:

Dr. Priyanka Gururani

Under the Guidance of

Supervisor
Senior Prof. H. H. Awasthi
M.D. Ay. (Sharir) Ph.D. (Rachana Sharir)
Senior Professor and Head Of Department,
Department of Rachana Sharir
Faculty of Ayurveda, I.M.S., B.H.U
Varanasi

Co-Supervisor
Dr. Lakshmi
M.D. Ay. (Rachana Sharir)
Ph.D. (Rachana Sharir)
Assistant Professor,
Department of Rachana Sharir
Faculty of Ayurveda, I.M.S., B.H.U
Varanasi

Co-Supervisor
Dr. Umesh Kr Pandey
M.D, DM, FSCAI
Assistant Professor,
Dept. of Cardiology, IMS, BHU,
Varanasi

Enrolment No:486915

Date Of Admission:11 nov 2024

SYNOPSIS

FOR THE REGISTRATION OF THE TITLE OF THESIS

FOR AYURVEDA VACHASPATI [M.D. (AY) RACHANA SHARIR]

1. (a) Name of the Candidate : Priyanka Gururani

   (b) Name of the Course : *Ayurveda Vachaspati* [M.D (Ay.)] *Rachana Sharir*

   (c) Year and month of Admission : 11 Nov 2024

   (d) Year and month of examination

   When due to appear : Nov 2027

2. Title of the proposed thesis: **A study on *Kshipra Marma* & *Tala Hridaya Marma* and its Therapeutic Application on Stage 1 Hypertension**

3. Name and designation of the Supervisor:

Dr. H.H. AWASTHI
Senior Professor, Head of Department,
Department of *Rachana Sharir*
Faculty of *Ayurveda,*
Institute of Medical Sciences,
Banaras Hindu University,
Varanasi

4. Name and designation of Co-supervisor:

Dr. LAKSHMI
Assistant Professor,
Department of *Rachana Sharir,*
Faculty of *Ayurveda*,
Institute of Medical Sciences,
Banaras Hindu University,
Varanasi.

Dr. UMESH KR. PANDEY
Assistant Professor,
Department of Cardiology,
Institute of Medical Sciences,
Banaras Hindu University,
Varanasi

5. (a) Department where thesis work will be carried on: Department of *Rachana Sharir*

   (b) Which other Departments of the Institute will co-operate in the proposed thesis:

Department of Cardiology, Banaras Hindu University, Varanasi

INTRODUCTION

According to Acharya *Dalhana ,*

"मारयन्तीति मर्माणि" (Sushruta Sharira, Dalhan Tika 6/3)

Which means Trauma to the point of *Marma* causes death or serious damage to the body or health.

The definition of *Marma* by *Acharya Vagbhata* is

"विषमं स्पन्दनं यत्र पीडिते रुक् च मर्म तत्"

(अ.ह्.शा. 4/37)

These are specialized physio-anatomical structures in the body that show irregular pulsations and, on applying pressure, generate pain.

According to *Acharya Sushruta*, *Marmas* are the vital spots where muscles, tendons, ligaments, bones, and joints meet and where Prana, the vital force, resides.

"मर्माणि मांससिरास्नाय्वस्थिसन्धिसन्निपाताः; तेषु स्वभावत एव विशेषेण प्राणास्तिष्ठन्ति; तस्मान्मर्मस्वभिहतास्तांस्तान् भावानापद्यन्ते"

(सु. शा. 6/16)

To show the importance of *Marma* in the body, *Acharya Sushruta* also quoted that

"सोममारुततेजांसि रजःसत्त्वतमांसि च
मर्मसु प्रायशः पुंसां भूतात्मा चावतिष्ठते
मर्मस्वभिहतास्तस्मान्न जीवन्ति शरीरिणः"

(सु.शा. 6/35-36)

Marma are vital spots in the body that are associated with three *doshas - Soma* (water element), *Marutha* (air element), and *Tejas* (fire element). These *Doshas*

form the structural and functional framework of the body. Three mental forces - *Raja, Satva, Tama*, and the *Bhuta Atma* also reside in *Marma*.

According to *Acharya Sushruta*

These marmas can be categorized in to 5 groups according to

the effect of trauma on it.

1. Sadya pranahara (fatal) marma -19
2. Kalantara pranahara (delayed fatal)- marma-33
3. Vishalyaghna (fatal after removal of foreign body) marma- 3
4. Vaikalyakara (disabling) marma-44
5. Rujakara (painful) marma- 8

Marma therapy contributes to increase or recharge physical, mental and spiritual energies. On the physical level it helps to revitalize or reenergize the body tissues; at cellular level, it improves the vital functions like digestion, respiration, blood circulation and excretion. On the psychological level it improves the mental faculty by directing it in the positive direction. It also offers a way to treat many psychosomatic ailments without any drugs. It harmonizes the functioning of nervous and endocrine systems to control psychological disorders. On the spiritual level, reasoning of mind, regulation and transformation of thoughts in positive direction helps to concentrate towards the ultimate goal of life. As a preventive measure it helps to cope with the situations arising from different diseases.

क्षिप्र मर्म

"तत्र पादस्याङ्गुष्ठाङ्गुल्योर्मध्ये क्षिप्रं नाम मर्म, तत्र विद्धस्याक्षेपकेण मरणं"

(सु. शा. 6/24)

Genesis: Etymologically the word *Kshipra* means quickly or speedily.

Region: Upper and lower limbs.

Number: Four, two in the upper limb and two in lower limb.

Anatomical Site /Surface Anatomy: Situated in between the thumb and index finger. This *Marma* is better felt on the dorsal part of the palm when the thumb and index finger are slightly abducted (separated) so that the space between them is widened.

Measurement/Size: Width of half a finger. (About 1 cm)

Structural Anatomy: It is *Snayu Marma* in nature.

Prognostic Status: *Kalantar Pranahara Marma*.

Injury Results: An injury to this *Marm*a leads to *Akshepa* (clonic spasm or convulsions) and ultimately leads to death. Injury may cause a quick loss of function of adduction and flexion of the thumb.

Regional Anatomy:

Dr. Ghanekar opined that the *Kshipra Marma* is located in the first intermetacarpal space, noting that the first dorsal metacarpal artery is the main corresponding structure. An injury to it is likely to precipitate the titanic convulsions leading to death in due course of time.

According to Dr. R.R. Pathak and Dr. V.S. Patil, the anatomical structure corresponding to this *Marma* may be

1. Tendon of adductor pollicis,
2. Tendon of deep portion of flexor pollicis brevis,
3. Branches of the radial artery in hand
4. Branches of deep volar/palmar arch
5. Arteria volaris radialis indicis,
6. Digital branches of the median nerve,
7. First dorsal interosseous muscles
8. First dorsal metacarpal artery

तलहृदय मर्म-

“मध्यमाङ्गुलीमनुपूर्वेण मध्ये पादतलस्य तलहृदयं नाम, तत्र रुजाभिर्मरणं”

(सु.शा. 6/24)

Genesis: Heart of Palm

Region: Limbs

Number: Four, two in the upper limb and two in the lower limb.

Anatomical Site /Surface Anatomy: This *Marma* is situated in the middle of the palm at joining the line along with the middle finger. *Talahridaya Marma* is situated in the centre of the sole of the foot in a straight line drawn from the root of the *Madhyama Anguli* (middle finger).

The cause of death is the extreme pain of injury to this *Marma.*

This *Marma* is more palpable in patients lying over in bed or comfortably sitting over with open palms. Make an imaginary straight line drawn vertically from the base of the middle finger to the base of the palm. The *Talahridaya* is easily palpable with one thumb in the case of palms.

Measurement/Size*:* *Ardhangula*. (Half an finger)

Structural Anatomy: *Mamsa Marma*

Prognosotic Status: *Kalantara Pranahara Marma*

Injury Results: The cause of death is the extreme pain of the injury to this *marma.* Injury may cause loss of functions of flexion and extension of 2^{nd}, $3^{rd,}$ and 4^{th} fingers and adduction of 2^{nd}, 3^{rd}, and 4^{th} metacarpals.

Severe bleeding may lead to severe pain, shock, and gangrene of the fingers.

Underlying Important Anatomical Structures & Their Applied Anatomy-Corresponding to the above description, the anatomical structures likely to fall under the area of this *Marma* would be

1. Intermediate part of the palmar aponeurosis,

2. Superficial palmar arch

3. Deep palmar arch

4. Adductor pollicis

5. Flexor pollicis brevis

6. Interosseus lumbricals

This was the view of Dr. R.R. Pathak and Dr. V.S. Patil.

Hypertension:

Hypertension (HTN) is a chronic medical condition in which the systemic arterial blood pressure (BP) is elevated, with grade I HTN defined as a systolic blood pressure (SBP) or diastolic blood pressure (DBP) of 140-159 mm Hg or 90-99 mm Hg, respectively. HTN is a major risk factor for stroke, myocardial infarction, heart failure, and arterial aneurysm and is a leading cause of chronic kidney failure. Essential HTN is the most prevalent form of HTN.

According to World Health Organisation -

- An estimated 1.28 billion adults aged 30–79 years worldwide have hypertension, most (two-thirds) living in low- and middle-income countries
- An estimated 46% of adults with hypertension are unaware that they have the condition.
- Less than half of adults (42%) with hypertension are diagnosed and treated.
- Approximately 1 in 5 adults (21%) with hypertension have it under control.
- Hypertension is a major cause of premature death worldwide.
- One of the global targets for noncommunicable diseases is to reduce the prevalence of hypertension by 33% between 2010 and 2030.

Classification of Hypertension:

According to the 2023 ESH Guidelines for the management of arterial hypertension: *The Task Force for the management of arterial hypertension of the European Society of Hypertension,* the classification of hypertension is as follows:

Category	Systolic (mmHg)		Diastolic (mmHg)
Optimal	**<120**	**and**	**<80**
Normal	**120–129**	**and**	**80–84**
High-normal	**130–139**	**and/or**	**85–89**
Grade 1 hypertension	**140–159**	**and/or**	**90–99**
Grade 2 hypertension	**160–179**	**and/or**	**100–109**
Grade 3 hypertension	**≥180**	**and/or**	**≥110**
Isolated systolic hypertension	**≥140**	**and**	**<90**
Isolated diastolic hypertension	**<140**	**and**	**≥90**

NEED OF THE STUDY

Nowadays, Hypertension, especially Stage 1, is a prevalent health concern globally, contributing to cardiovascular diseases, strokes, and kidney disorders. However, the long-term use of antihypertensive drugs may cause side effects, leading to a growing interest in alternative and complementary therapies. The growing interest in non-pharmacological therapies for hypertension management calls for scientific exploration into alternative Ayurvedic practices.

This research will evaluate the feasibility of incorporating *Marma* therapy into modern hypertension care. It will also bridge the gap between traditional Ayurvedic practices and contemporary medical treatments, offering a holistic, integrative approach to healthcare.

This study is essential to scientifically validate *Marma* therapy's role in controlling Stage 1 Hypertension, providing an alternative to long-term pharmaceutical use and enhancing patient quality of life.

AIM AND OBEJECTIVE

- To elucidate the anatomical consideration of *Kshipra Marma* and *Tala Hridaya Marma*
- To determine the effect of *Kshipra Marma* and *Tala Hridaya Marma* therapy in case of Stage 1 Hypertension.
- Cadaveric Dissection of *Kshipra Marma* and *Tala Hridaya Marma.*

HYPOTHESIS

Null Hypothesis(H_0)-

There is no role of stimulating *Kshipra Marma* And *Tala Hridaya Marma* in the Stage 1 Hypertension.

Research Hypothesis/ Alternative Hypothesis(H_1)

There is role of stimulating *Kshipra Marma* And *Tala Hridaya Marma* in Stage 1 Hypertension.

SCOPE OF THE STUDY

The scope of this study is to evaluate the therapeutic efficacy of *Kshipra Marma* and *Tala Hridaya Marma* stimulation in managing Stage 1 Hypertension, with a focus on blood pressure regulation and stress reduction. This study will primarily concentrate on assessing the impact of *Marma* therapy as a complementary, non-invasive intervention to conventional hypertension management**.**

NOVELITY OF RESEARCH

While hypertension is predominantly managed through pharmacological interventions, this study explores into the Ayurvedic concept of add on effect of *Marma* therapy, offering a non-invasive, holistic approach to blood pressure regulation.

LA CUNAE IN THE KNOWLEDGE OF SUBJECT

The description of *Kshipra Marma* and *Tala Hridaya Marma* is available in ancient literature, but the correlative interpretation of *Kshipra Marma* and *Tala*

Hridaya Marma and its Therapeutic Application on Stage 1 Hypertension, with modern parameters has not yet been done.

No one has explored the anatomical implication of *this* in the light of *Ayurvedic*, ancient literature & modern standard, scientific techniques.

State the preliminary work you have already done in this problem: No

State briefly any work about the proposed work that has been done in the department:

- A study on *Talahridaya Marma* and the effect of its stimulation on the Blood Pressure of Primary Hypertension cases in relation to their *Sharirik Prakriti- Dr*. Shiwangi Kanaujia (2023)
- Anatomical consideration of *Hridaya (Anahata) Chakra* & its applied anatomy with special reference to Stage 1 Hypertension and cardiac electrical parameters. – Dr. Gayathri R.

List of important references and brief resume of relevant literature on the proposed work:

1. *Charaka Samhita*
2. *Sushruta Samhita*
3. *Astanga Sangraha*
4. *Astanga Hridaya*
5. Anatomy: Gray's
6. Clinical Anatomy, Richard S. Snell
7. *Thatte D.G. Thatte's Sharir Rachana Vigyana* (Human Anatomy)
8. B D Chaurasia's Human Anatomy

9. Harrison's Principles of Internal Medicine
10. Davidson's Principles and Practice of Medicine
11. A Text Book of *Kayacikitsa* by Dr. P.S. Byadgi and Dr. A.K. Pandey

Other relevant textbooks and literature will be studied.

All relevant references regarding "A study on *Kshipra Marma* & *Tala Hridaya Marma* and its Therapeutic Application on Stage 1 Hypertension" will be collected from the following literature:

- References from ancient literature-
- References from the *Brhatrayi, laghutrayi,* and their commentaries by *Dalhana, Indu*, Ghanekar, *Arunadatta,* etc.-
    a) *Susruta Samhita,* along with its commentary "*Nibandha Sangraha*" by *Dalhana* and "*Nyaya Chandrika*" by *Gayadasa*.
    b) *Charaka Samhita,* along with its commentary "*Ayurveda Dipika*" by *Chakrapani Datta.*
    c) *Ashtanga Sangraha* with its commentary "*Sashilekha*" by *Indu* and commentary by Pakshadhar Jha.
    d) *Ashtanga Hrdaya* with its commentary "*Sarvanga Sundari*" by *Arunadatta* and "*Ayurveda Rasayana*" by *Hemadri*.
    e) *Bhava Prakasa* with its commentary "*Vidyodini*" by Shri Brhmashankara Mishra, etc.

- References from all relevant books of the present era-
    a. Anatomy of *Marma* by DR. Ashutosh Kumar Pathak.

b. *Ayurvediya Sabdakosha* by Joshi V.M. and Joshi N.H.

c. *Ayurveda Rahasya Dipika* – A commentary on *Susrutha Samhita Sharir Sthan* by Dr. B. G. Ghanekar.

d. *Ayurvediya Kriya Sharira* by Ranjit Rai Desai.

e. *Dosha- Dhatu-Mala Vijnana* by Vd. G. A. Phadke.

f. *Parisadyam Sabdarth Sariram* by Damodara Sharma.

- Modern literature related to the topic from-

1. Books, Dictionary, Research papers and Articles from Journals.

- Journals and Published articles-

a) https://wjpr.s3.ap-south-1.amazonaws.com/article_issue/7a0d8bf76bd72a8fbf4ddd95da65fb78.pdf

b) https://www.jaims.in/jaims/article/view/2964

c) Gautam AS, Verma P, Kumar Pathak A. Blood pressure normalizing effect of Talahridaya marma therapy: A case report. J Ayurveda Integr Med. 2021 Jul- Sep;12(3):553-555. doi: 10.1016/j.jaim.2021.05.014. Epub 2021 Jul 15. PMID: 34275703; PMCID: PMC8377184.

d) https://www.academia.edu/44411884/Marma_Science_and_Principles_of_Marma_Therapy_MARMA_SCIENCE_AND_PRINCIPLES_OF_MARMA_THERAPY_Vani_Publications_Delhi

e) *Kshipra Marma*, from Wikipedia, the free encyclopedia.

f) *Tala Hridaya Marma*, from Wikipedia, the free encyclopedia.

g) And others.

Details of procedures and methods proposed to be in the study

1. Critical literary study on classical description of *Kshipra Marma* and *Tala Hridaya Marma* will be carried out by collecting relevant information from the *Samhitas* of *Ayurveda* literature, national and international journals, magazines, seminars, conferences, internet materials, previous works done, presented papers, databases, etc. This study aims to build up the understandable anatomical correlates of *Kshipra Marma* and *Tala Hridaya Marma* as understood in the light of current modern knowledge.

The critical, scientific analysis and explanation of related Sutras and Slokas which are deep rooted or hidden in the scientific world and the approaches given by our ancient and modern scholars about "A study on *Kshipra Marma* & *Tala Hridaya Marma* and its Therapeutic Application" will be collected, reviewed and discussed to provide new dimensions for the research.

2. Clinical aspect: Study of the clinical significance of stimulating *Kshipra* and *Tala Hridaya Marma* in the cases of stage 1 Hypertension. Based on previous studies, a total of 140 cases of Hypertension will be selected from OPD of Department of Cardiology, S.S. Hospital, IMS, BHU.
3. Cadaveric Study: Cadaveric Dissection Of *Kshipra Marma* And *Tala Hridaya Marma.*

Tools & Techniques to be Employed:

The following tools & techniques will be employed in the present study--

1. Physical examination

2. Pulse examination

3. Systolic and Diastolic Blood pressure (using mercury sphygmomanometer)

4. BMI

5. RFT, LFT

6. Lipid profile

7. CBC

8. CRP

❖ **SOP for Blood Pressure Monitoring**

Method: Subjects should refrain from smoking or ingesting caffeine during the 30 minutes preceding the measurement.

1) The subject should be seated in a chair with their back supported and their arms (specifically the area over the brachial artery) supported at heart level. The subject's legs should not be crossed. (If the arm is positioned too low, the blood pressure reading will be falsely high; if the arm is too high, the reading will be falsely low.)

2) Begin the measurement after at least 5 minutes of rest. Measurements will be taken on the right arm unless otherwise specified. If the left arm is used, make sure to record that as well.

3) Position the bladder of the cuff directly over the brachial artery on the inside of the arm. The lower edge of the cuff should be approximately 2.5 cm above the antecubital crease.

4) Sphygmomanometer Instructions:

a. While palpating the radial artery, inflate the cuff to about 30 mm Hg above the point at which the radial pulse disappears. Then, slowly lower the pressure at a rate of approximately 2 mm Hg per second.

b. The first appearance of sound indicates systolic blood pressure (SBP), while the disappearance of sound indicates diastolic blood pressure (DBP).

c. Record the pressure to the nearest mm Hg. Be careful to avoid rounding to an even number or a "pretty" value that ends in zero or five.

Technique:

Technique of stimulation of *Kshipra Marma*

The patients will undergo controlled physical stimulation of the *Kshipra Marma* after providing informed written consent on the same day.

The stimulation will be applied at the point located between the first metacarpal and the second metacarpal on the back of the palm.

Stimulating this area by pressing with the thumb in sync with the patient's breathing. Pressure will be applied to the *Marma* point during the patient's inhalation, generally at a rate of 12 to 15 times per minute, for a duration of 3 minutes.

Technique of stimulation of *Tala Hridaya Marma*

The patients will undergo controlled physical stimulation of the *Tala Hridaya Marma* after providing informed written consent on the same day.

The stimulation will be applied at the point located in the centre of the palm, along the line connecting the middle finger. This Marma can also be identified as the area where the middle finger comes close to the palm when a person clenches their fist.

Stimulating this area by pressing with the thumb in sync with the patient's breathing. Pressure will be applied to the *Marma* point during the patient's inhalation, generally at a rate of 12 to 15 times per minute, for a duration of 3 minutes.

MATERIAL AND METHOD

The following materials and methods will be adopted for conducting the present clinical trial.

STUDY DESIGN

- **Type**: open- labelled, randomized, controlled trial.
- **Duration**: The Total duration of active intervention is 3 months, with an initial baseline assessment and follow-up evaluations at the 1st month, 2nd month, 3rd month (end of intervention).
- **Sample size**: Based on previous studies, with a total of 140 patients, adjusted for a 6% loss to follow-up, ensuring adequate power to detect significant differences.

Statistical method:

The sample size formula of 2 independent means, as given below, has been used, taking 5% level of significance and 80% power.

$$n = \frac{2.\ (Z_{\alpha/2} + Z_{\beta})^2 . \sigma^2}{d^2}$$

where,

$Z_{\alpha/2}$= 1.96 at 5% level of significance

Z_{β} = 0.84 at 80% power

d = difference of mean after treatment

σ= pooled standard deviation

The maximum sample size calculated is n = 64.

Further assuming a 6% loss to follow-up, the required sample size for the present study will be n = 70 in each group.

A total of 140 hypertensive patients of either gender between 18-60 years of either age group and socio-economic status, satisfying the inclusion criteria, will be enrolled in 2 groups for trial.

Ethical Considerations:

- Informed Consent: A thorough informed consent process will ensure participants are fully aware of their participation rights, the study's purpose, interventions, and potential risks and benefits.
- Participant Confidentiality: Strict measures will be adopted to protect participants' personal information and maintain confidentiality.
- Adverse Event Monitoring: A detailed plan for monitoring and addressing adverse events will be in place, ensuring participant safety.
- Ethical Approval: The study will only commence after receiving approval from the institutional review board or ethics committee, with continuous ethical oversight.
- Cultural Sensitivity: The study will engage Ayurvedic practitioners and cultural advisors to ensure the respectful integration of traditional practices.

SELECTION OF CASES

All the patients of either gender, irrespective of occupation and habitat will be screened on the basis of inclusion & exclusion criteria. Those who meet the criteria will be chosen for study. A total 140 Patients of Hypertension will be under taken for the study on random basis from OPD & IPD of Department of Cardiology of S.S. Hospital., IMS, BHU, Varanasi, after history, clinical and laboratory diagnosis.

Inclusion criteria

- ✓ Willing to give consent to participate in the study.
- ✓ Patients in age group between 18-60 years of either sex irrespective of religion, socio- economic status and occupation.
- ✓ Patients having Grade1 Hypertension (SBP= 140-159mmHg & DBP= 90-99mmHg).

Exclusion criteria

- ✓ Patients age <18 or >60 years.
- ✓ Patients with <140/90 mmHg and >159/99 mmHg.
- ✓ Patients with Diabetes Mellitus, thyroid disorders.
- ✓ Patients on steroid medicines.
- ✓ Subjects who are pregnant and lactating.
- ✓ Patients with habits of smoking and alcoholism.
- ✓ Subjects who are with chronic illness except metabolic syndromes.
- ✓ Patients with critical illness like cancer, HIV etc. or hearing impairment.
- ✓ Subjects who are taking any kind of sedatives or psychological treatments.
- ✓ Subjects who are having other renal, hepatic, cardiovascular or respiratory disorders (such as asthma, bronchitis, or excessive mucus).

Termination criteria

- Sudden deterioration in patient's health status during the period of study.
- Noncompliance of the patient

Withdrawal criteria:

- Patient himself wants to withdraw from the clinical trial.
- During the course of trial if any serious condition or any severe adverse effects occur which required urgent treatment.

METHOD OF RANDOMIZATION AND BLINDING

The selected 140 patients will be randomly assigned to one of two treatment groups using computer-generated random numbers. Due to the nature of the interventions, participants cannot be blinded to their treatment allocation; however, outcome assessors will be blinded to group assignments.

Plan of study:

Total 140 cases of Hypertensive patients will be selected from OPD and IPD of Cardiology department of S. S. Hospital, IMS, B.H.U, Varanasi after thorough history taking, clinical and laboratory examination. Patients of different age group of either sex & socio-economic status will be selected, on the basis of inclusion and exclusion criteria. They will be further divided into Two groups (Group A and B) having 70 cases in each group.

Duration of treatment: 3 months with Follow up at 1 month interval.

ADMINISTRATION OF INTERVENTION:

Group A: Control (Telmisartan - 20 mg - as per ESH guidelines).

Group B: Telmisartan- 20mg + *Kshipra Marma* and *Tala Hridaya Marma* Stimulation

DETAILED INTERVENTION PROTOCOLS:

- **Modern drug intervention:** Telmisartan 20 mg once daily after food.

DATA COLLECTION

- Baseline data, including demographic information, medical history, and initial blood pressure readings, will be collected during enrollment.
- Primary outcome measures (systolic and diastolic blood pressure) and secondary outcomes (liver function tests, renal function tests, lipid profiles) will be measured at baseline, monthly during the intervention, at the end of the intervention (3 months).

FOLLOW- UP DURATION

- After the 3-month intervention period, participants will be followed for 3months (interval of 1 month). The follow-up period is designed to assess the sustainability of the intervention effects and monitor for any long-term adverse events or complications.

13. OUTCOME MEASURES:

- Primary outcomes will include changes in systolic and diastolic blood pressure. Secondary outcomes will focus on quality-of-life assessments and safety evaluations.

Subjective parameter:

Most individuals with high blood pressure do not experience any signs or symptoms. However, when blood pressure reaches a certain threshold, symptoms may begin to manifest. These can include headaches, nausea and/or vomiting, shortness of breath, heart palpitations, light-headedness or fainting, nosebleeds, fatigue, and blurry or double vision.

Grading Scale for hypertensive Symptoms:

- **Headache** =Vas scale (The visual analog scale (VAS) is a validated, subjective measure for acute and chronic pain. Scores are recorded by making a handwritten mark on a 10-cm line that represents a continuum between "no pain" and "worst pain."). VAS scale was first developed by Hayes and Patterson, 1921.

- **Vomiting** = Vomiting is characterized by the reflexive act of ejecting the contents of the stomach through the mouth.

Nausea vomiting degree	Score
No any complaint	0
Mild degree nausea	1
Moderate degree nausea and vomit	2
Frequently vomit	3
Severely (continuously) vomit	4

- **Dyspnea** = Shortness of breath.

Grade	Severity	Explanation
Grade 0	None	No trouble with breathing except with strenuous exercise
Grade 1	Mild	Trouble with shortness of breath when hurrying on level or walking up a slight hill
Grade 2	Moderate	Walks slower than people of same age on the level or has to stop for breath walking at own pace on the level
Grade 3	Severe	I stop for breath after walking 100 yards or after a few minutes on the level.
Grade 4	Very severe	Too breathless to leave the house or breathless when dressing or undressing

- **Chest pain** = Chest pain may be caused by a variety of factors that may include diseases such as CAD (VAS scale).

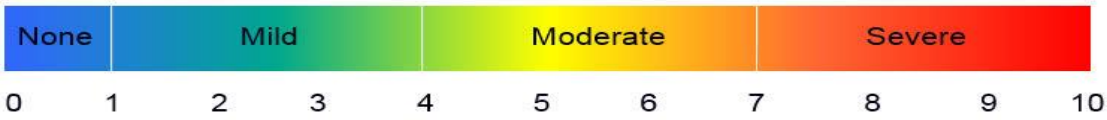
- **Perspiration** = sweat from the body.

Grade	
1	My sweating is never noticeable and never interferes with my daily activities
2	My sweating is tolerable but sometimes interferes with my daily activities
3	My sweating is barely tolerable and frequently interferes with my daily activities
4	My sweating is intolerable and always interferes with my daily activities

- **Dizziness** = Dizziness is a term used to describe a range of sensations, such as feeling faint, woozy, weak or unsteady. Scoring system for the Dizziness Assessment Rating Scale (DARS).

0	1	2	3	4	5	6
None	**Very mild**	**Mild**	**Mild to Moderate**	**Moderate**	**Moderate to Severe**	**Severe**

- **Epistaxis** = The loss of blood from the tissue that lines the inside of nose. Nosebleed severity score is used to measure the Epistaxis.



- **Fatigability** = Numerical fatigue rating scale will be used.

Objective Parameter:

- Pulse rate
- Systolic and Diastolic Blood Pressure
- Mean arterial Blood Pressure
- Body Mass Index
- Renal Function Test, Liver Function Test
- Lipid profile
- Complete Blood Count
- C Reactive Protein

14. Plan of presentation of thesis:

1. Introduction 2. Review of literature 3. Material and method 4. Observation and result5. Discussion 6. Summary and conclusion 7. References 8. Bibliography

15. References

1. Iqbal AM, Jamal SF. Essential Hypertension. [Updated 2023 Jul 20]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK539859/

2. B.D. Chaurasia's Human Anatomy volume 1- ninth edition

3.https://journals.lww.com/jhypertension/fulltext/2023/12000/2023_esh_guidelines_for_the_management_of_arterial.2.aspx

4. (Ref: Comparison of visual analogue scale (VAS) and the Nasal Obstruction Symptom Evaluation (NOSE) score in evaluation of post septoplasty patients

Radhika Hiren, Shukla Sanjana, Vijay Nemade Kiran, JaywantShinde)

5. (Ref: Effects of preoperative lornoxicam versus tramadol on postoperative pain and adverse effects in adult tonsillectomy patients

Berrin ISIK, Mustafa ARSLAN, Ozgur OZSOYLAR, Mehmet AKCABAY)

6. (Ref: Fletcher CM, Elmes PC, Fairbairn AS, Wood CH. The significance of respiratory symptoms and the diagnosis of chronic bronchitis in a working population. Br Med J 1959; 2:257-66.)

7. (Ref: Comparison of visual analogue scale (VAS) and the Nasal Obstruction Symptom Evaluation (NOSE) score in evaluation of post septoplasty patients

Radhika Hiren, Shukla Sanjana, Vijay Nemade Kiran, JaywantShinde)

8. (Ref: Differences in subjective and objective evaluation of hyperhidrosis. Study among medical students Lukasz Dobosz, Tomasz Stefaniak, Joanna Halman, and Anna Piekarska)

9. (Ref: Nicergoline in Balance Alterations in Adult and Elderly Patients A Double-Blind, Placebo-Controlled Study - Giovanni Felisati1, Angelo Battaglia, Maria Grazia Papini, Bianca Maria Rossini and Oreste Pignataro on behalf of the Nicergoline Dizziness Study Group*)

10. (Ref: Nosebleed Severity Score (ESS) - Dr. Hoag)

11. (Ref: Novel method for measurement of fatigue in multiple sclerosis: Real-Time Digital Fatigue Score- Edward Kim, MD; Jesus Lovera, MD, MsPH; Laura Schaben, MD; J. Melara, MPH; Dennis Bourdette, MD; Ruth Whitham, MD)

12. National Institute of Health, National Heart, Lung, and Blood Institute. NIH: https://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/GetPdf.cgi?id=phd003631.1

Signature of DRC members:

1. 2. 3.

4. 5.

Signature of HOD

CONSENT FORM

This is a research work on **"A Study on *Kshipra Marma* & *Tala Hridaya Marma* and its Therapeutic Application on Stage 1 Hypertension"** in IMS, BHU, Varanasi. Your participation in this study is voluntary. You may refuse to participate or withdraw from the study at any time without affecting in anyway in the medical treatment that you are receiving.

If you agree to participate in this study, we will collect relevant information's from you/your hospital records.

The following examination / investigations will be required to investigate you -

1. Physical examination 2. Pulse examination 3. Systolic and Diastolic Blood pressure (using mercury sphygmomanometer) 4. BMI 5. RFT, LFT 6. Lipid profile 7. CBC 8. CRP

Standard technique of stimulation of *Kshipra Marma* and *Tala Hridaya Marma* will be employed.

Data from the study will be used for research purposes only. The research results are of no significance to your medical care. There will be no direct benefit to you other than the satisfaction of participating in this research for the possible benefit of future generations. Your participation will give us insights into the problems faced by the patients like yourself and will help us in improving our services. The information concerning your participation in the study will be kept confidential to the full extent permitted by law and used only for scientific purpose.

I have read the explanation about this study and I hereby consent to take part in the study.

…… ……..

Signature of Patient Signature of Witness

<u>सहमति पत्र</u>

यह आईएमएस, बीएचयू, वाराणसी में "**अ स्टडी ऑन क्षिप्र मर्म एंड तलहृदय मर्म एंड इट्स थेरेपयूटिक एप्लीकेशन ऑन स्टेज 1 हाइपरटेंशन** " पर एक शोध कार्य है। इस अध्ययन में आपकी भागीदारी स्वैच्छिक है। आप किसी भी समय अपने द्वारा प्राप्त चिकित्सा उपचार को प्रभावित किए बिना अध्ययन में भाग लेने से इनकार कर सकते हैं या अध्ययन से हट सकते हैं। यदि आप इस अध्ययन में भाग लेने के लिए सहमत हैं, तो हम आपसे/आपके अस्पताल के रिकॉर्ड से प्रासंगिक जानकारी एकत्र करेंगे। आपकी जांच के लिए निम्नलिखित परीक्षा/जांच की आवश्यकता होगी - 1. शारीरिक परीक्षण 2. नाड़ी परीक्षण 3. सिस्टोलिक और डायस्टोलिक रक्तचाप (पारा स्फिग्मोमैनोमीटर का उपयोग करके) 4. बीएमआई 5. आरएफटी, एलएफटी 6. लिपिड प्रोफाइल 7. सीबीसी 8. सीआरपी, क्षिप्र मर्म और तलहृदय मर्म की उत्तेजना की मानक तकनीक का उपयोग किया जाएगा।

अध्ययन से प्राप्त डेटा का उपयोग केवल शोध उद्देश्यों के लिए किया जाएगा। शोध के परिणाम आपकी चिकित्सा देखभाल के लिए कोई महत्व नहीं रखते हैं। भविष्य की पीढ़ियों के संभावित लाभ के लिए इस शोध में भाग लेने की संतुष्टि के अलावा आपको कोई सीधा लाभ नहीं होगा। आपकी भागीदारी हमें आपके जैसे रोगियों द्वारा सामना की जाने वाली समस्याओं के बारे में जानकारी

देगी और हमारी सेवाओं को बेहतर बनाने में हमारी मदद करेगी। अध्ययन में आपकी भागीदारी से संबंधित जानकारी कानून द्वारा अनुमत पूर्ण सीमा तक गोपनीय रखी जाएगी और केवल वैज्ञानिक उद्देश्य के लिए उपयोग की जाएगी। मैंने इस अध्ययन के बारे में स्पष्टीकरण पढ़ लिया है और मैं इस अध्ययन में भाग लेने के लिए सहमति देता हूँ।

……

…….

मरीज के

हस्ताक्षर गवाह के

हस्ताक्षर

INSTITUTE OF MEDICAL SCIENCE

BANARAS HINDU UNIVERSITY

DEPARTMENT OF RACHANA SHARIRA

Ayurveda Vachaspati M.D. (Ay.) Rachana Sharir

THESIS PROFORMA

"A Study on *Kshipra Marma* & *Tala Hridaya Marma* and its Therapeutic Application on Stage 1 Hypertension"

Investigator: Dr. Priyanka Gururani

Supervisor: Senior Prof. H.H. Awasthi

Co-Supervisors: Dr. Umesh Kr. Pandey

Dr. Lakshmi

General Information

Name…… Case no……...

Age/Gender……...Contact no……...

Occupation…….....Education……...

Marital Status…… Socio economic status…….

Date of admission……. Date of discharge……...Habitat- Rural / Urban

Address……

Group: A / B

Chief complaints with duration

1.	
2.	
3.	
4.	
5.	

Comorbidities

1) Diabetes (with duration and treatment)
2) Dyslipidemia
3) Smoking
4) Alcohol
5) Coronary artery disease

6) Obesity

7) Hypothyroidism

8) Pulmonary disease

9) Kidney disease

10) Physical inactivity

11) Stress

Family History

Hypertension	
Diabetes Mellitus	
Stroke	
Ischemic Heart Disease	
Others	

Treatment history: whole prescription

Subjective Assessment

- **Headache**

- **Vomiting**

Nausea vomiting degree	Score
No any complaint	0
Mild degree nausea	1
Moderate degree nausea and vomit	2
Frequently vomit	3
Severely (continuously) vomit	4

- **Dyspnea**

Grade	Severity	Explanation
Grade 0	None	No trouble with breathing except with strenuous exercise
Grade 1	Mild	Trouble with shortness of breath when hurrying on level or walking up a slight hill
Grade 2	Moderate	Walks slower than people of same age on the level or has to stop for breath walking at own pace on the level
Grade 3	Severe	I stop for breath after walking 100 yards or after a few minutes on the level.
Grade 4	Very severe	Too breathless to leave the house or breathless when dressing or undressing

- **Chest pain**

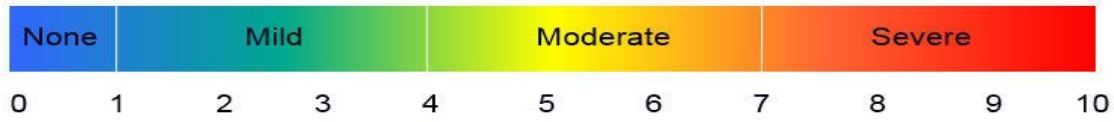
- **Perspiration**

Grade	
1	My sweating is never noticeable and never interferes with my daily activities
2	My sweating is tolerable but sometimes interferes with my daily activities
3	My sweating is barely tolerable and frequently interferes with my daily activities
4	My sweating is intolerable and always interferes with my daily activities

- **Dizziness**

0	1	2	3	4	5	6
None	Very mild	Mild	Mild to Moderate	Moderate	Moderate to Severe	Severe

- **Epistaxis**



- **Fatigability**

SYMPTOMS	BT	1ST FOLLOW UP	2ND FOLLOW UP	3RD FOLLOW UP
Headache				
Vomiting				
Dyspnea				
Chest pain				
Perspiration				
Dizziness				
Fatigability				

INVESTIGATIONS

	Initial	1 month	2 months	3 months
Hb				
WBC				
RFT BUN Serum creatinine Urea				
LFT SGOT SGPT ALP				
Lipid profile LDL TG VLDL HDL				
BMI Height Weight				
CRP				

OBJECTIVE PARAMETER

Participant ID	Age	Gender	Group Assignment	Baseline Systolic BP (mm Hg)	Baseline Diastolic BP (mmHg)	Systolic BP Post-Intervention (mmHg)	Diastolic BP Post-Intervention (mmHg)	Adverse Events Reported	Follow-Up Systolic BP (mm Hg)	Follow-Up Diastolic BP (mmHg)
1.										
2.										
3.										
4.										

Legend:

- Participant ID: Unique identifier for each participant.
- Age: Age of the participant at the time of enrollment.
- Gender: Gender of the participant (M = Male, F = Female).
- Group Assignment: Indicates the intervention group to which the participant has been assigned (A = Control, B = Allopathic + *Kshipra Marma and Tala Hridaya Marma stimulation*).
- Baseline Systolic/Diastolic BP: Blood pressure measurements before the intervention.
- Systolic/Diastolic BP Post-Intervention: Blood pressure measurements immediately after the intervention period.
- Adverse Events Reported: Any adverse events reported by the participant during the intervention period.
- Follow-Up Systolic/Diastolic BP: Blood pressure measurements at a follow-up visit after the intervention period (suggest specifying the time frame, e.g., 1-month post-intervention).

FOLLOW- UP HISTORY OF ANTIHYPERTENSIVES

First Visit	First follow up	Second follow up	Third follow up

LIFESTYLE/COMPLIANCE OF ANTIHYPERTENSIVES

	FIRST VISIT	First follow up	Second follow up	Third follow up
Exercise				
Smoking				
Alcohol				
BMI Height weight				

DASHAVIDHA PARIKSHA

प्रकृति	
विकृति	
सार	
संहनन	
सात्म्य	
सत्व	
वय	
प्रमाण	
आहार शक्ति	
व्यायाम शक्ति	