REVIEW ARTICLE

ROLE OF TAKRADHARA IN UCHCHARAKTACHAPA (HTN)

DAKSHA KANAKSINH RATHOD

ABSTRACT

World Health Organization has estimated that High Blood Pressure / Hypertension cause 1 in every 8 deaths, making Hypertension the third leading killer in the world. Globally, there are about one billion hypertensive people and about one million people die as a direct impact of Hypertension. Stress and strain of day to day life affects one’s bodily organs through several psychophysical mechanisms. Among the several psychosomatic diseases, the cardiovascular disorder like Uchcha Raktachapa (HTN) is quite significant. In Ayurveda, it is considered as a vatapradhanatridoshajavyadhi (vata dominant disease) and we can consider Hypertension as an abnormality of raktadhatu (blood element), also known as shonitadushti (blood-imbalance). Though Hypertension is well known in Ayurvedic systems of diagnosis and treatment, effective treatment through Ayurvedic medicines and methods have not been fully standardized. Further, it will be useful to explore new methods and procedures for treatment of such a major problem. Takradhara (treatment to the head through medicated takra) which is a well established course of treatment in Ayurveda has not been used extensively for management of Hypertension. Therefore, a review has been undertaken to understand the effect of Takradhara of takra (butter milk) on Hypertension.

Key words: Hypertension, Blood Pressure, Uchcharaktachapa, Takradhara.
INTRODUCTION
Hypertension is a leading public health challenge globally due to its high prevalence and related morbidity and mortality\[^1\]. An estimated 978 million adults, or 28% of the world’s adult population, had uncontrolled hypertension in 2008\[^2\]. More alarming, conservative estimates indicate that the global burden of hypertension will increase to more than 1.56 billion by 2025. As the most important modifiable risk factor for cardiovascular disease and all-cause mortality, high blood pressure was responsible for approximately 7.6 million deaths globally, or 13.5% of all deaths, in 2001\[^3\].

Hypertension is classified as either primary or essential hypertension and secondary hypertension, about 90–95% of cases are categorized as "essential/idiopathic/primary hypertension" which means high blood pressure with no obvious underlying medical cause. The remaining 5–10% of cases (secondary hypertension) is caused by other conditions such as coarctation of aorta, renal artery stenosis, vesiculo-ureteral reflux nephropathy, Cushing syndrome and hemorrhage etc. In pathogenesis of hypertension (Uccharaktachapa), Vata (Vyana&Prana), Pitta (Sadhaka),Kapha (Avalambaka) (bodily humors) and Manovaha Srotas (psyche channels) involving Hridaya, Rasa-Rakta Samvahana and Oja are main responsible factors. They are vitiated due to disturbed ManasikaBhavas (psychological factors) like Chinta (Anxiety), Tanav (Stress), Krodha (Anger) etc. producing hypertensive state.

AcharyaCharaka has advised to control ManasikaBhavas (psychological factors)\[^4\]. The line of treatment in the disease consists of Nidanaparivarjana(Avoiding etiological factor), Shodhana(Purification) in the form of Virechana(Purgation), Shirovirechana, Raktamokshana(Blood letting), Shirodhara, Shamana(Pacification) medications and RasayanaChikitsa (Rejuvenating)\[^5\].

BLOOD CIRCULATION AS PER AYURVEDA
Circulation of blood is a very vital process in the human system. It was known in India, much before William Harvey re-reported in 18\(^{th}\) century about blood circulation.

The Atharva Veda refers to the blood circulation in the human body in the following terms (AV-Brahma PrakashanaSukta):\[^6\].


[Who does form in men the blood turning in all directions (i.e., having circulation throughout body and limbs) to flow in the blood vessels which are red, hasty, copper-
hued and purple, running all the ways up-ward and downward in men’s body?

Rakta (blood) is adravadhatu (liquid element). Therefore, it has natural property of flowing. To maintain the circulation up to the end tissue, additional force is required which is provided by the contraction and relaxation of the heart. In Ayurveda, thridosha-vata (principle of movement/nervous system), pitta (principle of secretions/metabolism) and kapha (carrier of nutrients), seven dhatu (rasa (lymph), rakta (blood), mamsa (flesh), meda (fat), asthi (bones), majja (bone marrow) and shukra (semen) and three mala (excretions-sweat, urine and stools) are considered as fundamental for the functioning of the body.

According to Acharyasushruta formation of Hridaya(heart) of a foetus occurs by the essence of Kapha and Asruk(blood)[7]. Therefore both kapha and asruk should be in its normal ratio and status to maintain the normal functioning of the heart.

AcharyaCharaka has mentioned hridaya as the root of dhamani. Dhamani circulates rasa rakta propelled out by hrudaya and nourishes all the body tissues(dhatus). Therefore dhamani is called as ‘OJOVAHA’ (channel of vitality). Bala(strong) of the body depends on it. Through dhamanis a pressure is exerted by the rakta at the walls of dhamanis, which depends on the elasticity of dhamani.

If any pathology occurs in dhamani, adverse effect is seen on the blood pressure. The vessels in which sravana (Movements) takes place known as sirah (vein) like dhamani, sira is also mentioned as pitrajabhava. These are the pulsation less vessels. They are formed by the mridupaka (fatty material). They also forms as an updhatu (sub-element) of Rakta. They carries blood from the body to the heart.

Ayurvedic texts refer to conditions like Raktagata vata (Vata in blood), Raktavegavriddhi (increase in blood speed), Raktachapaadhikya (increase movements of blood), Dhamanipraparana (arterid pulsation) and Rudhiramada (efflux of blood) but Essential hypertension has not explained specifically as such as in Ayurvedic texts. The following factors have been found associated with Essential hypertension- 1) Kulaja (inheriyance/genitic influence), 2) Vaya (age), 3) Linga (sex), 4) Samhana na (constitution), 5) Manodosh (temperament and stress), 6) Jatiprasakta and Prakruti (Races and environment), 7) Physical activity, 8) Smoking

Takradhara relieves insomnia and provides mental calm, in addition to provide cure of hypertention. In addition, it also provided significant relief in their symptoms like Shiroruka (headache), Bhrama (vertigo), Klama (Mental fatigue) and Breathlessness[8].

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CLASSIFICATION OF BLOOD PRESSURE

Oxygen (bound to haemoglobin in red blood cells) is the most critical nutrient carried by the blood. In all arteries a part from the pulmonary artery, haemoglobin is desaturated at about 75%. The blood pressure in blood vessels is traditionally expressed in millimetres of mercury (mmHg). In the arterial system this is usually around 120 mmHg systolic and 80 mmHg diastolic. In contrast, pressures in the venous system are constant and rarely exceed 10 mmHg. Based on the 7th report of the Joint National Committee on detection, evaluation and the treatment of high blood pressure (JNC-7), the following classification has been adopted[9].

AIMS & OBJECTS:
1) To review about Uchcharaktachap (Hypertension)
2) To review in detail about Takradhara.
3) To review the effect of takradhara in uchcharaktachapa (Hypertension)

METHODS AND MATERIAL:

MATERIAL: Takra-38 tola, Amalakichurna-1 ½ prasruta, Jalam-18kudav.

The powder of Amalaki and water should be taken in the mentioned proportions. They should be heated on moderate fire on the stove until 1/6th of water remains (i.e. until 38 tola – 456 grams). The contents should be filtered to this equal quantity of takra – 38 tola (456 grams), is added the medicine for Takra Dhara is ready for use[10].

METHOD:

PRE-OPERATIVE MEASURES: Since it is done as a shamana therapy no poorvakarma is needed. The application of oil on head. Suitable oils according to roga are selected by the physician for this purpose. The eyes should be covered with eye pads and gauze should be tied around the head above the eyebrows. The ear should be plugged with two cotton pieces.

PROCEDURE: The patient should lie in supine position on the droni. A small pillow should be placed under the neck. The dhara pot should be kept in such a way as to allow steady flowing of the liquid, poured into it, over the forehead of the patient. The tip of dharavarti should be 4-5 cm above the forehead of the patient and total wick length should be 8-10 cm. The takra falling should be poured again into the vessel after collecting it from the droni. The vessel should always be kept oscillating so that the takra will fall into the patient’s entire forehead without interruption. All the procedures are same as shirodhara, but takra should not be heated or reused.

TIME TO PERFORM THE PROCEDURE:
Generally the treatment is done in the morning hours, between 7-10 am. If necessary, it can be done between 4-6 pm.

DURATION: The process should be done daily for a period of 7 to 14 days. The duration of
treatment as well as the time period is according to the nature of the disease and the physical condition of the patient. It is done usually for a fixed time (45 minutes to 1 hour).

**POST-OPERATIVE PROCEDURE:** After the dhara, the head is washed with Amalaki kwatha. Then head should be wiped with towel and Rasnadichoorna is applied. Patient is advised to take rest for a period same as the period of the procedure, then to take bath.

**DISCUSSION AND CONCLUSION:**

Description of Hridaya and processes of Rasa Vikshepana (circulation) by Vyana Vayuis helpful to understand the disease. Though the exact nomenclature of the disease to some extent is controversial, the signs and symptoms of the disease can be understood in terms of Dosha, Dushya, Strotasa, etc. Looking at hypertension from this perspective, we can assume that vitiated Vata Dosha is the main cause of the disease, as the Dhatu Gati (Rasa Gati) or Vikshepa is achieved by Vayu itself\[11\]. Pitta and Kapha complement the effect of vitiated Vata and support the progress of the disease with Rasa, Rakta (whole blood) being the main mediator of vitiation. This suggests the involvement of Tridosha in hypertension. Inference of previous research work done is that hypertension is nothing but a ‘Vata Pradhan Tridosha Vyadhi’, be greatly influenced by Mana. Therefore it may be considered as Sharirand Manas Roga (Ubbhayashrita Vyadhi). Sharirand Satva (Mana) have been designated as the habitats of Vyadhi by Acharya Charaka\[12\]. Academicians of Ayurveda suggested different names to demonstrate the phenomenon - like Rakta Gata Vata (Y.N. Upadhyaya – 1950), Shiragata Vata (Acharya G.N. Chaturvedi – 1962), Avritta Vata (Acharya R.K. Sharma – 1966), Dhamani Prapurnata (Acharya A.D. Athawale – 1977), Rakta Vridhdi (Acharya G.N. Chaturvedi – 1981), Rakta Vikshepa (Shukla J.P. – 1954), Rakta Chapa (Ravani & Mahaishkar U.B. – 1967), Rakta Sampida (Pandey S.B. – 1972), Vyana Bala (Triguna B. – 1974), Dhamanipratichaya (Athawale A.D.), Rasa Bhara (Athawale T.S. 1979), Rudhira Mada (Dwivedi V.N. 1991).

This list goes on with different concept by different Vaidyas and it creates confusion for upcoming Ayurvedic generation regarding causative factors, pathophysiology, complications and exact treatment modalities of hypertension.

**FACTORS INVOLVED IN HYPERTENSION:**

**Dosha:**

In modern science, the functions of nervous system have been described similar to description of the Prakrita Prana Vayu. ‘Hridaya Dhruka; (i.e. Dharanaof Heart) the function of Prana Vayu can be correlated with the vagal inhibition of nervous system\[14\]. In addition to
this, vasomotor center controls the blood pressure by autonomic nervous system; similarly PranaVayu also controls the regulation of blood pressure by controlling VyanaVayu. So pathology of PranaVayu can cause abnormality of heart as well as vessels. VyanaVayu is said to be responsible for various kinds of movements in the body\textsuperscript{[15]}. 

**Probable Mode of action of Takradhara**

Takra is having tremendous cooling properties and induces the same to the brain with the intent of relaxing the mind and reducing mental stress. Ayurveda suggests this treatment especially for Vata predominant disorders like Hypertension. It is also a preferable therapy for people who complain of migraines and other specific Pitta disorders, where cooling and refreshing therapies are recommended.

Takradhara have a balancing effect on the deepest recesses of our brains, stimulating the endocrine system, the pituitary and pineal glands (for hormonal imbalances) and pleasure neurotransmitters (for depression or emotional insecurity). It is also said to enhance blood circulation to the brain, improving clarity and releasing deeply trapped Aama, or toxins.

If the Dhara is dropped on the forehead nearer to the eyebrows, it provide more relief to the patients. Sushruta has mentioned Sthapani Marma between the two eyebrows. It is Vishalyaghana type of the Sira Marma. The hypotensive effect of Takradhara proved by this study seems to be mediated through this Sthapani or Kurcha Marma. Being a Sira Marma it might have some reflex action on the baroreceptors which are disturbed in hypertension and may be held responsible for constriction of the arterioles leading to rise in blood pressure. Takradhara reduced both systolic and diastolic pressure in a more pronounced way.

Takradhara has been mentioned as an effective treatment for kaphapittajshirorogah(headache), shirodaha(burning sensation in head), atiswedapavrauti(excessive sweating), nidranash(disturb sleep), unamad(Mental disease), apasmar(memory loss), moha(hallucination)\textsuperscript{[16]}. In uchcharaktachapa this symptoms like shirahshool, nidranash are found. Sotakradhara can be give relief in uchcharaktachapa by relieving this above said symptoms. Takradhara has been mentioned as a treatment for all urdhvajatrugatavikara\textsuperscript{[17]}. The mode of action of takradhara is attributed to the therapeutic effects of the medicine, takra procedural effect of the process like pressure, rhythmic streaming, local application of heat, treatment timing, the rhythmic streaming, pressure of the medicine and temperature causes vasodilatation and
helps the medicine to penetrate through the follicular pores to the follicles and then to the dermis via the sebaceous glands. The permeability of the cell of the sebaceous glands is greater than that of granular layer of epidermis. The procedure helps in oxygen consumption, normalizing blood pressure, brain cortisones and adrenalin levels, muscle tension and probably an increase in alpha brain waves. The space between the two eye brows is the seat of pituitary and pineal gland. Pitutatry gland is one of the main glands of the endocrine system and exhibits its action on other organs.

Considering all these factor Takradhara is said to be affected treatment for Hypertension.

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