



## ROLE OF HERBAL FORMULATION AND SHIRODHARA IN THE MANAGEMENT OF ESSENTIAL HYPERTENSION

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### ABSTRACT

The world health organization (WHO) has identified india as one of those nations that is going to have most of the lifestyle disorders in the near future. Hypertension is one amongst the most alarming health problems of present era. Its estimated that approximately 1 billion people world wide are suffering from hypertension and by the year 2025, its number is expected to increase to 2.5 billion. Hypertension is a major risk factor for the development of cardiovascular disease (CVD). Its impact is greatest on stroke and end stage is renal failure. Through a lot of potent antihypertensive drugs are available today in modern medicine, but none of them is free from untoward effects. This paper is a sincere effort to understand hypertension in terms of *Ayurveda* and its management through herbal formulation and *shirodhara* therapy which have antihypertensive activity.

**KEYWORDS :** Essential hypertension, herbal formulation, *shirodhara*.

### INTRODUCTION

Hypertension now becomes a cause of global concern and it is truly called a "silent killer" because it rarely exhibits symptoms in early stage, until it damages the heart, brain or kidney. In present era, hypertension is one among the most common public health issue. Now a days prevalence rate of hypertension is increasing day by day due to rapid modernization, stressful life, improper life style and unhealthy dietary habits. It is estimated that approximately 1 billion people world wide are suffering from hypertension and by the year 2025, its number is expected to increase to 2.5 billion.

Essential hypertension is high blood pressure with unknown etiology, out of total hypertensive patient 95% patient are having essential hypertension. It is an asymptomatic medical condition in which systemic arterial blood pressure is elevated beyond the normal value. Hypertension is defined as a sustained increase in systolic blood pressure more than 140 mmhg and diastolic blood pressure more than 90 mmhg by usual criteria of average as defined by 7<sup>th</sup> joint national committee. Hypertension is a major risk factor for the development of cardiovascular disease (CVD), its impact is greatest on stroke and end stage is renal failure.

In *Ayurveda*, hypertension is not described in any *grantha's* and *Samhita's*, so the exact correlation is difficult to find out. So in *Ayurveda*, the disease can be explained on the basis of *dosha*, *dushya*, *strotas*, *lakshana* and can be correlated with *raktagata vata* and *pittavrita vata*. According to *Ayurveda*, *vyan vayu* are responsible for blood circulation and for high blood pressure, vitiated *vyan vayu* is mainly responsible.

S. No.	Drug name	Part used	Ayurvedic karma	Pharmacological act
1	<i>Sarpagandha</i>	Root	<i>Raktabhar shamak</i> , <i>hardya avsadak</i> , <i>masthishka shamak</i>	Tranquilizer, vasodilator, hypotensive activity
2	<i>Sankhpushpi</i>	Whole part	<i>Medhya</i> , <i>rasayana</i> , <i>mohanasaka</i> , <i>aryusya</i> , <i>vishaghana</i> , <i>anidrahara</i>	Antioxidant, cardio protective, medhya, anxiolytic

3	<i>Arjuna</i>	Bark	<i>Hridya</i> , <i>shothar</i> , <i>spandana shamak</i>	Anti-coagulant, antiatherosclerotic, anti-oxidant, ca++ channel blocker activity
4	<i>Jatamansi</i>	Rhizome	<i>Medhya</i> , <i>nidrajanan</i> , <i>hradya niyamak</i> , <i>mutral</i> , <i>swedajanan</i>	Cardio protective, spasmolytic, antioxidant, anti-coagulant
5	<i>Ashwagandha</i>	Root	<i>Rasayani</i> , <i>balya</i> , <i>anilamhanti</i> , <i>shopahara</i>	Antistress, hypolipidemic activity, anti-oxidant activity

### MODE OF ACTION OF HERBAL FORMULATION AND SHIRODHARA

**Herbal formulation :-** A compound of five drugs which are effective in the management of essential hypertension.

#### *Sarpagandha*

Latin name- *Rauwolfia serpentina*

Family- Apocynaceae

Mode of action – *Sarpagandha* is a *nidrajanaka* and *hridya avsadaka*. It reduces *mastishka uttejana* and high blood pressure. Reserpine is a known indole alkaloid which derived from the *sarpagandha* plant. *Sarpagandha* acts on vasomotor centre, it leads to generalized vasodilatations with a lowering of blood pressure.

#### *Shankpushpi*

Latin name- *Convolvulus pluricaulis*

Family- Convolvulaceae

Mode of action- *Shankpushpi* is a *medhya rasyana*, which controls the production of stress hormones. Its ethanolic extract has been found to reduce cholesterol, triglycerides, phospholipids and non-esterified fatty acids. It act as a psycho-stimulant and tranquilizer effect.

**Arjuna**Latin name – *Terminalia arjuna*

Family- Combretaceae

Mode of action – *Arjuna* bark is used for ischemic heart pain, has a cardioprotective effect and is used in the treatment of hypertension. It works as a cardioprotective which helps to maintain normal blood pressure, promotes proper blood flow and normal homocysteine level. *Arjuna* reduces the amount of lipids in the blood, lowers the level of cholesterol, triglycerides, increases the synthesis of LDL substances.

**Jatamansi**Latin name – *Nordostachys jatamansi*

Family – Valerianaceae

Mode of action – Jatamansone is one of the main sesquiterpene found in *jatamansi*. It also increases high density lipoprotein levels, which are protective lipids. The rhizome of this plant is said to possess hypotensive, diuretics, sedative and stimulant action.

**Ashwagandha**Latin name – *Withania somnifera*

Family – Solanaceae

Mode of action – The hypotensive effect is mainly due to autonomic ganglion blocking action and that a depressant action on the higher cerebral centers also contributed to the hypertension. Stress, as a major cardiovascular risk factor leads activation of sympathoadrenal and hypothalamic pituitary adrenal (HPA) axis and causes stress. *Ashwagandha* possesses a potent antistressor effect and alleviates stress induced changes and provides cardioprotection.

**Shirodhara**

Mode of action – According to *Ayurvedic* classics, *shirodhara* is beneficial for *vata* and *pitta dosha*. The action and qualities of the liquid used in *shirodhara* counters the effects of imbalance *doshas*. It soothes, nourishes and pacifies the *doshas* through the application of liquid to the forehead, scalp and nervous system.

In the procedure of *shirodhara*, a particular pressure and vibration is created over the forehead and this vibration is amplified by hollow sinus present in the frontal bone. The vibration is then transmitted inwards through the fluid medium of the cerebrospinal fluid and thus this vibration along with little temperature may activate the functions of thalamus and basal fore brain which then brings the amount of serotonin, dopamine and catecholamine to the normal stage inducing the sleep, due to continuous and rhythmically pouring of *taila dhara* also lead to state of concentration and enhance the release of serotonin and produces chemicals substance like acetylcholine and small amount of acetylcholine cause fall of blood pressure.

**DISCUSSION**

The majority of the drugs performing antihypertensive action are predominant in *tikta rasa*, *katu vipaka*, *laghu* and *ruksha guna* and *ushna veerya*. Such kind of properties of the drugs are responsible for *srota shodhana* and *srotovivarana* action which in turn reduce hypertension.

Prominent *rasa* of *sarpagandha*, *jatamansi* and *ashwagandha* is *tikta* which will act on *rakta*, *rasa dhatu* and their *srotas*. It reduces the *ama* and thereby viscosity of *rasa* decreases both (*sarpagandha* and *jatamansi*) have effect of *nidrajanan* and *rakta bharshamak*.

*Sankhpushpi* possess *tikta rasa* which has *aampachana* and *shrotoshodhana* property which decreases blood viscosity and check atherosclerotic changes. *Sankhpushpi* has *rasayana*, *medhya*, *sangyasthapana*, *bastishodhaka* and *mridurechaka* property that helps in vasodilation and lowers the blood pressure. *Arjuna twak* has *Kashaya rasa*, *ruksha guna*, *sheeta veerya* and *katu vipaka*. Due to *Kashaya*, *ruksha* and *laghu guna*, *kaphanashan* karma is done.

*Shirodhara* is beneficial for *vata* and *pitta dosha*. The action and qualities of the liquid used in *shirodhara* counters the effects of imbalance *doshas*. The person experiences unexplainable relaxation and brightness, which provides complete rest to mind, allows one to overcome stress related conditions like insomnia, anxiety, chronic headache, hypertension and asthma. It improved blood circulation to the brain, provides nourishment to hair and scalp, reduces nervous tension and help in sleep.

**CONCLUSION**

From the above discussion it can be concluded that the herbal formulation contains combination of 5 drugs that possess *aampachana*, *vaatshamak*, *rasayana*, *medhya*, *hritya*, *raktashodhaka*, *shleshma upshoshaka* and *lekhana* property which are helpful to check the atherosclerotic changes by decreasing viscosity of blood and also works on *rasarakta samvahan* by their *ayurvedic* properties. As essential hypertension can be considered as a *tridoshaj vyadhi* with predominance of *vata* and *pitta* therefore this combination mainly works on regulating movement of *vata* by its *anulomana* action, by checking *rasarakta dushti* and also by removing *margavrodha* that help to reduce blood pressure. *Shirodhara* also relieves stress and mental exhaustion, thereby probably it help to reduce blood pressure.

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