

PREVENTIVE MEASURES OF CARDIOVASCULAR DISEASE (VATAJ HRIDROGA) IN MENOPAUSE

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ABSTRACT

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Introduction: *Hridroga* can be correlated to cardiovascular disorder, which is one of the most common cause of mortality. Acc to World Health Organization, cardiovascular disease causes 12 million deaths in the world each year. cardiovascular disease in postmenopausal women is often underdiagnosed. Diagnosis at later stage leads to increase in number of deaths due to CVD in women. **Observation:** Old age is the *Vata Prokpa Awastha* of life so *Vatapradhana Vyadhi* mainly occurs in old age. Due to age factor, wasting of *Sharira Dhatus* aggravates *Vata Dosha* and affects an important *Marma* like heart. Stress is also contributing factor for it. Disturbed function of *Apana Vayu* also leads to *Udavarta*. In *Vatika Hridroga Chala, Laghu* and

Khara guna of *Vata* is responsible for calcification of arterial vein i.e., Atherosclerosis. In the postmenopausal women, there is an increase in circulating androgens associated with the increased risk of cardiovascular disease after 5 years post menopause usually after the age of 60 years. There are changes in the cardiac functions in the form of decreased myocardial contractility, decreased stroke volume, decreased peak flow, decreased peak flow velocity and decreased vascular resistance. *Rasayana* drugs may play a major role in CVD occurring in perimenopausal age as it is *Dhatu Poshaka*. Similarly, *Vatanulomana* and *Vatashamaka* drugs may be useful for *Vata* vitiated due to *Jara-awastha*. **Conclusion:** It can be concluded that use of *Rasayana*, *Vatashamana*, *Vatanulomana* and other phytoestrogens in postmenopausal women may play a major role as prevention of cardiovascular disease.

KEYWORDS: Menopause, *Vataj Hridroga*, *Vatanulomana*, *Rasayana*, phytoestrogen.

INTRODUCTION

Menopause is generally defined as cessation of periods for 12 months or a period equivalent to three previous cycles or as time of cessation of ovarian function resulting in permanent amenorrhea.^[1] Currently, the number of menopausal women is about 43 million & projected figures in 2026 have estimated to be 103 million.^[2] According to IMS (Indian Menopause Society) research, there are about 65 million Indian women over the age of 45 and this figure is expected to creep-up. Average age of Menopause is around 48 years but it strikes Indian women as young as 30-35 years. So, menopausal health demands even higher priority in Indian scenario.^[3] Before Menopause, the risk of death from coronary artery disease is at least three times as great for men as for women, which relatively increases significantly after Menopause. Combined both coronary artery disease and cerebrovascular disease account for more than 50% of all deaths in women older than 50 years of age. Cardiovascular disease has been associated with multiple causes, important of which may be the age, psychological stress plays significant role as a causative factor for cardiovascular diseases in menopausal women. In Ayurveda, *Rajonivritti* is not described in the classics as a separate disease. It deals with the *Jara Pakwa Awastha* of body so it can be understood on the basis of concepts of "*Rajah Utpatti Hetu*", *Dhatukshaya*, *Abhighata*, environment etc. The ancient Acharyas termed it as a normal physiology occurring at the age near about 50 years due to *Vata* predominance and *Dhatukshaya*. Vitiating stage of *Vayu* in the body is very well understood in the case of *Rajonivritti*. Factors like *Vridhivastha*, generalized *Dhatukshaya*, *Rukshata* and *Shosha* will lead to *Vatavridhi*. Hence, a vicious cycle will come into play and all the functions of *Vata* will be affected including *Rajah Utpatti*, which may be manifested as *Rajah Nivritti*. *Apana vayu* and *vyana vayu* are responsible for *Rajah Utpatti* as well as its cyclic expulsion at every month. Hence, it can be considered as a causative factor for *Rajah Nivritti* also, and any vitiation of these factors may alter this process. With the advancement of age, the condition of *Dhatu* deteriorates day by day. (i.e. *Dhatukshaya*) and neither they will be able to nourish the body nor hold the body in a same manner as that of *Yuvavastha*. As a result, *Upadhatu Artava* is not formed in a normal way and it gradually ceases, so quality of reproduction vanishes. Due to all above mentioned factors chances of development of *vataj hridroga* is increased in menopause age.

AIMS AND OBJECTIVES

To assess the role of *Rasayana*, *Vatanulomana*, *Vatashamana* and effect of phytoestrogens described in Ayurveda texts which have good role in prevention & cure of the cardiovascular diseases in menopausal women.

MATERIAL AND METHOD

Different Ayurvedic classical books, research papers and journals were referred to fulfil this part, it comprises of subsection dealing with *Nidana*, *Samprapti*, prevention & management of cardiovascular diseases in Ayurveda.

The terms *Hridyata*, *Hridroga*, *Hridayamaya* and *Hridaya Sula* have been used in vedas. In Ayurveda *Hritshoola*^[4] is described under *Hridroga vyadhi* as a symptom of *Vataja Hridroga*. In *Vataja Hridroga* pain has been described as the main feature. *Hritshoola* has been described separately by *Sushruta* entitled *Gulma Pratishedadyaya*.^[5] The Etiological factors of *Hridroga*, as in the case of any other disease revolve around the type as well as mode of food intake and the way of living one's life. *Nidanas* which founds mainly in *Vataj Hridaroga* are:

Nidana

1. *Aharaj nidana* (Dietetic factors): *Ushna*, *Teekshna*, *kashaya*, *Tikta sevana*, *Shushka*, *Alpa*, *Krushatajanya Aahar Sevan*. *Tika(pungent) Rasas*, *Ruksha* (dry and rough) food articles and *Langhana* causes the vitiation of *Vata*. *Atimatra Sevana*, *Adhyasana*, *Ajeerna* and *Asatmya Bhojana* etc. are responsible for the vitiated *Vata Kapha dosha* and excessive production of *Dushita Rasa*. If we review the pathogenesis, vitiation of *Vata* and *Rasa* are considered to be predominantly involved in the pathogenesis of heart disease. Some factors vitiate *Vata* and some vitiate *Rasa* and ultimately both are involved in pathogenesis.
2. *Vihara Nidana* (Somatic factors) *Shrama*, *Vegadharana*, *Abhighata*, *Ati Ativyayama*, *Upvasa*, *Dharan of Adharneeya Vega*, *Atiyog of Virechan* and *Basti Upakrama*, *Aaghat on Hridaya Pradesha* leads to *vata* vitiation and ultimately disturbs the function of *vyan vayu*.
3. *Manasik bhava* (Psychological factors): *Chinta*, *Bhaya*, *Trasa* also plays major role in *Pranavaha srodusti* and *vata* vitiation. Due to *Vatavridhhi*, vitiation of *Raja & Tama Dosha* will take place. On the other hand, due to *Jaravastha*, progressive decline occurs in the various physical and psychological factors, and mainly manifests as *Grahana* -

Dharana - Sarana - Vigyanadi Hani. These both conditions will vitiate the *Manovaha Srotas* due to *Sthansamshraya* and as a result, symptoms like *Krodha, Shoka, Bhaya, Chinta* etc. manifest.

Heavy exertion or mental stress have trigger plaque disruption, leading to MI.^[6] According modern science mental stress increases catecholamine secretion, which may lead to hypertension, hyperlipidaemia and plaque rupture resulting in atherosclerosis and coronary artery disease.

Samprapti: On the basis of the functional aspect, the function of heart takes place due to *Vyana Vayu*. In case of *Vata* vitiation, *Chala, Laghu* and *Khara guna* of vitiated *Vata* imparts its qualities over *Shira & Dhamani*, leading to sclerosis and hardening of Arteries. Thus, blood flow is affected. *Prakruta Kapha* is responsible for the correcting and imparting unctuousness and smoothness in body, *Kapha* localizes in the area (*Ek Desha Vriddhi*), tries to repair the sclerosis, but due to heaviness and vitiation of *Vata*, *Gati* of *Kapha* is affected and remains even afterwards, making the area of lowered vitality and due its cohesive and adhesive actions it catches other *Kapha Vargiya Dravyas*, thus blocking the pathway and decreases lumen. This produces *Sanga Janya Avarana* of *Vyan Vayu*. *Udavarta* is inverse movement of *Vata* due to willful suppression of Urges or pathologically suppression of natural movement due to *Dosha* vitiation, usually *Vayu*. Acharya charaka has clearly mentioned that patient certainly dies due to *Hrid Shoola*. It is usually presented with symptoms of compression type of chest pain, gastric motility is grossly disturbed due to circulatory disturbances i.e., food remains in undigested form for prolonged period, rapid decrease in physical strength (*Bala* decreases) & excessive thirst (*Trishna*).^[7] This description of *Hrid Shoola* is very much similar to massive cardiac arrest and mostly encountered in Anterior Wall Infarct. Symptoms mentioned above are also narrated in *Udavarta*, it is the second place where treatise mentions the disease.

Lakshanas of Vataj Hridroga (*Cha*,^[8] *Su*,^[9] *A. S*,^[10] *A.H*^[11])

Shunyata, Stambha, Dinata, Shoka, Bhaya, Alpa Nindrata, Shabda asahishnuta mainly found in *Vataja Hridaroga*. These symptoms are also found in *Vatavruddhi* as well as *Dhatukshya Avastha* in menopausal women.

Preventive measures

Menopause is a risk factor for CVD because estrogen withdrawal has a detrimental effect on cardiovascular function and metabolism. Other factors which increase risks are changes in body fat distribution from a gynaecoid to an android pattern, reduced glucose tolerance, abnormal plasma lipids, increased blood pressure, increased sympathetic tone, endothelial dysfunction and vascular inflammation which are attributed to oestrogen deficiency. In these phyto estrogens plays vital role to decrease the risk of CVD in peri menopausal women.

Phytoestrogens: Ayurveda, the oldest system of medicine, has provided many herbs which can be used in prevention of geriatric problems in women. Some of the main identified herbs contains phytoestrogens are *shatavari* (*Asparagus racemases*), *Vidari* (*Ipomea digitata*), *Methika* (*Trigonella frenum*), *Guduchi* (*Sida cordifolia*), *Yastimadhu* (*Glycyrrhiza glabra*), *Pueraria tuberosa*, *Mishreya* (*Foeniculum vulgare*), other varieties of *Dioscure* and *Pueraria*.^[12]

Apoptogenic activity of phytoestrogens is considered to be its main action. They can be beneficial in both hyper estrogenic and hypoestrogenic state in the body. Thus, they have mixed estrogenic and anti-estrogenic actions, depending on target tissue. This variation in activity may be due to the fact that phytoestrogens have a greater affinity for the oestrogen receptor (beta) β compared with oestrogen receptor (alpha) α . When phytoestrogens are metabolized, they bind on the same cellular sites as do oestrogens.^[13] The beneficial effects of phytoestrogens on the cardiovascular systems are by inhibiting new intima formation, decrease in LDL, increase in HDL and thus providing protection from coronary artery disease.

Basti Karma: It is the best *Pacarana* for vitiated *Vata Dosha*. which is always, affected in diseases of vital organs (*Marmas* like heart) hence different types of Basti has been indicated in all types of *Hridroga* and particularly in *Vataja Hridroga* e.g., *Taila Basti*. *Anuvasana Basti* with *Vatahara Dravyas* and *Bhadradarvyadi Gana Sadhit Taila Basti* is also used for *Anuvasana*.^[14]

Rasayana: in menopause, due to *rasa Kashaya*-various symptoms can be seen like *Shabda - Asahtva, Hridravata, Shool, Shrama, Shosha, Trusha*. Etc. *Rasayana* drugs maintains proper quality of *rasa dhatu* and prevents risk of cardiovascular disease and other symptoms in perimenopausal women. *Rasayana* therapy for *Hridroga* mentioned in classics are- *Brahma*

Rasayana, Amalaki Rasayana, Shilajeet Rasayana, Agastaya Haritaki, Chayavanprasha Rasayana ect.^[15]

Vatanulomana and Vatashamana: Proper *Anuloma* of *Apana Vayu* prevents the *Samprapti* of the *Udavarta*, which is the one of the cause of *Vataj Hridroga*. Some of the *Vatanulomana* and *Vatashamana* drugs are mentioned here, which are described as *Hridya* or *Hridroghara* by *Acharya Bhavmishra*.^[16]

Haritaki (*Terminalia chebula* retz.) —*Haritaki* is *Tridosha Shamaka*, *Rasayana* and best *Vatanulomana* drug. Vasodilator drugs relax the smooth muscle in blood vessels, which causes the vessels to dilate. Some of the flavonoids present in *Terminalia chebula* showed Vasodilatory effects in rat aortic smooth muscles. It is concluded that the main Vasodilatory mechanism of Flavonoids seems to be the inhibition of Protein Kinase C.^[17] Inhibition of Cyclic Nucleotide Phosphodiesterase or decreased Calcium ion (Ca^{2+}) uptake may also contribute to their Vasodilatory effects. *Vidari* (*Pueraria tuberosa* DC) is highly valued in Ayurvedic classics as a restorative, tonic and rejuvenator. It is also considered cardiogenic, laxative and useful in disorders of liver and spleen. The plant is also reported to have hepatoprotective and hypoglycaemic activity. Total flavonoids mixture has been demonstrated to exhibit coronary vasodilatory effect.^[18] Same way *Gokshura*, *Pippali* etc. drugs can be used.

DISCUSSION

Though, Menopause is a natural event as a part of the normal process of aging, it is turning into a major health problem in recent years in developed as well as developing countries like India. *Jara* and *Rajonivritti* are manifested due to progressive reduction in the functional ability of *Agni*. Certain nidanas in this phase enhances the risk of cardiovascular disease in menopausal women which needs to be prevented by Ayurveda measures.

CONCLUSION

The prevention of the CVD in menopause can be done successfully by understanding the pathology of *Vataj Hridroga*. In Ayurveda *Rasayana*, *Vatashamana*, *Vatanuloma* drugs are described which have good role in prevention & cure of the cardiovascular disease in menopausal women. The researches on the cardio protective drugs and phytoestrogens mentioned above have an effective role in the management cardiovascular diseases in menopausal women.

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