

CRITICAL ANALYSIS OF NIDANA AND NIDANAPARIVARJANA IN HRIDROGA

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**ABSTRACT**

Ayurveda is the oldest medical science of human civilization which helps in preventing diseases and promoting health and longevity. Cardiovascular diseases are chronic disease pathology with acute manifestation and is a major cause of death in both the elderly and middle-aged. *Nidana* is the foremost component of *Nidana Panchaka*, which not only gives knowledge about causative factors of diseases but also helps in planning treatment protocol. Cardiovascular disorders as per Ayurveda can be studied under the spectrum of *Hridroga*. Over nourishment accompanied with physical inactivity leading to *Santarpana* state is well known to cause plethora of diseases like *Hridroga*. Consumption of food having mutual contradictory qualities results in morbid accumulation of *Kapha* and *Meda* in *Raktamarga* heralding *Margavarana*. It is said that the best treatment is *Nidanaparivarjana* i.e, to abstain from the causative factors. This paper deals with all the *Nidanas* of *Hridroga* and the importance of *Nidanaparivarjana* in preventing them.

Keywords: *Hridroga*, Cardiovascular diseases, *Nidana*, *Nidanaparivarjana*

INTRODUCTION

Trimarmas are the basic authoritative organs that represent three distinct body systems: the nervous, cardiovascular, and urinary systems. *Hridaya* is classified as one of the *Sadyapranahara marmas* in Ayurveda and is the *Moolasthan* of *Rasavaha srotas*, *Pra-navaha srotas*, and *Asraya* of *Dasadhamanis*. *Prana* and *Vyana vata*, *Sadhaka pitta* and *Avalambaka kapha* have their *sthana*, *Hridaya*. Multiple cardiovascular diseases as per Ayurveda can be studied under the spectrum of *Hridroga*. According to WHO cardiovascular diseases are the major causes of death globally, taking an estimated 17.9 million lives each year¹. The incidence of lifestyle disorders like Hypertension, Diabetes mellitus, dyslipidemia and obesity associated with cardiovascular diseases is on rise. Changes in lifestyle and nutrition habits, a lack of physical activity, increased mental stress, and environmental changes are all increasing the risk of cardiovascular disease in today's world. *Nidanas* are the *Vyadhi ut-pattikara bhavas* which helps to know about the aetiology, symptomatology and pathogenesis². It is one among the *Upalabdhi-karana* of a disease³. According to Ayurveda the causes of *Hridroga* are classified into three and are *Aharaja* (dietary factors), *Viharaja* (lifestyle-related) and *Manasika* (psychological factors). Ayurveda is based on the concept of cure and prevention, and it is well applicable in the context of *Hridroga*. In order to prevent a disease, it is important to understand the causative factors. *Nidanaparivarjana* is one of the treatment protocols as per Ayurveda, is nothing but preventing disease by abstaining from exposure to causative factors. Understanding various risk factors of *Hridroga* is need of the hour.

MATERIALS AND METHODS

Nidanas of Hridroga

Acharyas enumerate several causative factors for *Hridroga*, and we may add *Santarpanottha nidanas* to the list, as they cause *Srotolepa*⁴, which is nothing more than *Margavarana*. So, according to the *Samhitas*, the

causes of *Hridroga* may be classified as *Apatarpanajanya nidana*, *Santarpanajanya nidana*, *Manasika nidana*, and *Iatrogenic factors*.

Apatarpanajanya Nidanas

Atisevana of *Ruksha*, *Sushka*, and *Tikta rasa*, *Alpabhojana*, *Upavasa*, and *Ativyayama* are *Apatarpana nidanas* for *Hridroga*. These *Nidanas* will affect *Snigdhatva* of *Raktadhatu*, owing to *Vataprakopa* and they will lead to *Srotokharatwa* (Coronary spasm). In modern environment, these *Apatarpana nidanas* will cause a shortage of fatty acids and antioxidants, which will increase the creation of cholesterol.

Santarpanajanya Nidanas

Santarpana nidanas include *Atisnigdha bhojana*, *jeernabhojana*, *Guru-madhura-picchila aharas*, *Navanna*, *Guda*, *Ksheera*, *Taila*, *Navamadhya*⁵, *Acheshtana* and *Nidra sukha* etc. Excessive use of these will lead to the accumulation of circulating *Meda* in the *Siras* to *Hridaya*, which leads to *Srotolepa* and *Dhamanipraticaya*⁶. *Madya* is having properties like *Ruksha*, *Ushna*, *Vikashi*, *Teekshna*, *Sukshma*, *Vyavayi* and *Vishada*⁷. *Atimadhya sevana* will cause *Raktadushti*, *Mamsavidahata* and *Medovaha srotodushti*. It leads to *Ojakshaya* and thereby producing heart diseases because *Hridaya* is the *Moola sthana* for *Ojas*. According to contemporary science, chronic alcoholism leads to thymine deficiency, which acts as a cause for Wet beri beri heart disease i.e., Chronic cardiomyopathy.

Viruddhahara Sevana

When we are consuming mutually contradictory food-stuffs, for example, consumption of *Chilichima Matsya* along with *Paya* (milk), even though they are having *Samana rasa* i.e. *Madhura rasa* and *Samana vipaka* i.e. *Madhura vipaka* they are *Veerya viruddha*. This will act as *Maha abhishyandi* and will cause *Sonita pradushana*⁸. Thus, it ends up in *Margoparodha* and *Hridroga*.

Vegadharana

The suppression of *Adharaneeya vegas* will produce an impact on *Hridya*.

Table 1:

| Vegas | Effect on heart |
|--------------------------------|----------------------------|
| <i>Adhovata</i> | <i>Hridgada</i> |
| <i>Mutra and Sakrut</i> | <i>Hridayasya uparodha</i> |
| <i>Srama swasa and Bashpa</i> | <i>Hridroga</i> |
| <i>Sukra and Pipasa</i> | <i>Hrid vyadha</i> |
| <i>Hikka, Swasa and Udgara</i> | <i>Hrid vibandha</i> |

According to the modern view, this can be understood under the term Valsalva manoeuvre. Valsalva manoeuvre is the action of attempting to exhale with nostrils and mouth or glottis, closed. While this Valsalva manoeuvre there will be pressure rise inside the chest which leads to mild rise in blood pressure due to the forcing of blood out of the pulmonary circulation into the left atrium. The pressure inside the chest continues to rise. This will cause the return of systemic blood to the heart to be delayed. The heart's output is decreased, and blood pressure drops. With a rise in pressure, blood vessels contract reflexively. As a result, the pulse rate rises. Cardiac output began to rise as well. So, the pulse rate return to normal. The cardiovascular system of a healthy man withstands the intensive repeated straining at defaecation, compromised cardiovascular system may fail, resulting in syncope or even death. The increased pressure, tachycardia and reflex bradycardia can cause cardiac arrest in heart patients. The increased frequency and severity of straining for defecation or urination while holding the desire for *Mutra* or *Sakrut* will amplify the effect of the Valsalva manoeuvre and produce syncope.

Manasika nidanas

Acharyas have explained several *manasika nidanas* like *Chinta*, *Bhaya* and *Trasa* for *Hridroga*. Excess indulgence in these *Nidanas* will increase the *Tamoguna*. It will cause *Kapha- Medodushti* and accumulation of these in the *rakta* resulting in *Shonita abhishyandana* and *Dhamani pratichaya*. In modern science, it is explained that long term stress leads to high levels of cortisol which in turn causes an increase in the level of blood cholesterol, triglycerides, glucose, and blood pressure. All these will increase the risk of cardiovascular diseases.

Iatrogenic factors

Iatrogenic variables include chemotherapy-induced vascular events such as MI, arrhythmia, congestive heart failure, acute coronary events, thrombosis, and veno-occlusive disorders. Herbal drugs like *vatsanabha*, *karaveera*, *ativisha* if taken excessively in quantity produces *Hridroga* i.e. *ativisha* does vascular constriction and *ahiphen* does chyene- stroke breathing and tachycardia. *Vamana* and *Virecana vyapats* will produce *Hridgraha*⁹. In *Basti*, *Hridprapti* is a *Vyapat*¹⁰. *Hridshoola* and *Hridroga* are produced by *Ashuddha* preparation of *Abhraka bhasma*, *Loha bhasma*, *Vanga bhasma*, *Siddha makaradwaja*, *Rasa sindoor*, *Sameerapannaga rasa*, and so on.

RISK FACTORS

Risk factors can be divided into 3 categories viz.- non-modifiable risk factors, modifiable risk factors and emerging risk factors. Advanced age and genetic predisposition are non-modifiable risk factors. Smoking and alcohol use, sedentary lifestyle, hypertension, type II diabetes, dyslipidemia, obesity and metabolic syndrome are all modifiable risk factors.

Emerging risk factors:

Calcium supplementation: Aortic calcification is caused by long-term calcium supplementation, which increases the thickness of the carotid intima-media and raises the risk of coronary artery calcification.

Vitamin D deficiency: The mechanism by which Vitamin D improves CVD outcome is unknown; however, probable theories include downregulation of the renin-angiotensin-aldosterone system having direct effects on the heart and vasculature improvement of glycemic control. Vitamin D has a cardioprotective impact on the body. Vitamin D deficiency increases the chance of acquiring incident hypertension or sudden

cardiac death in people who already have heart disease.

Anti-phospholipid syndrome (APS): Major cause of morbidity and mortality in the context of APS is a recurrence of thrombotic events. Experiments show evidence of an association between APS and premature formation of atherosclerotic plaque.

Premature birth/ Low birth weight: Studies shows that birth weight less than 6 pounds is associated with future cardiovascular diseases.

NIDANAPARIVARJANA

There are some lifestyle disorders where the core of the treatment is *Utpatti hetum pariharet*¹¹ i.e. abstain from the causative factors. In the case of heart diseases, we should avoid those causative factors which result in *Shonita abhishyandana* and *Srotolepa*. So, we should make a habit to include the *ahara* and *vihara* which are conducive for *Hridaya*. According to *Bhavaprakasha nighantu*, *Godhuma*, *Piyusha*, *Rasala*, *Navaneeta*, *Vilapika*, *Sauvarchala lavana*, *Anupa jala*, *Alabu*, *Daadima*, *Kharjura*, *Naarikela*, *Maamsarasa*, *Edaka- lavaka mamsa*, *Shashkuli- shailendrya matsya*, *Purana madira* are good for heart. *Amra*, *Amrataka*, *Lakuca*, *Karamarda*, *Vrikshaamla*, *Amlavetasa*, *Kuvala*, *Badara*, *Dadima* and *Matulunga* are the ten drugs which are cardiac tonic according to *Acarya Caraka*. These drugs are mainly *Amlarasa pradhana* and modern science proved that Vitamin C is cardio-protective in action. Vitamin C is having potent anti-oxidant properties and it will reduce LDL and increase HDL¹².

Viharas like optimum activities can be suggested to prevent heart disease. Regular practice of *Yoga* can relieve stress and anxiety thus lower the risk of cardiovascular diseases. Daily practice of *Asanas* like *Paschimottasana*, *Pavanamuktasana*, *Shavasana*, *Gomukhasana* and *Ardhamatsyendryasana* prevents the incidence of CVD. Meditations like *Pranayama* including *Bhastrika*, *Kapalabandhi*, *Anulom- Vilom*, *Bhramari* and *Nadishodhana* etc are beneficial.

DISCUSSION

The incidence of lifestyle disorders like hypertension, diabetes mellitus, dyslipidemia and obesity associated

with cardiovascular diseases is on the rise. Various Ayurveda *Samhitas* have elaborately described *Hridroga* along with its *Nidana*, *Samprapti*, *Lakshana* and *Chikitsa*. Comparisons of different cardiac events explained in contemporary science with that of Ayurveda can be made mainly based on *Lakshanas* of different types of *Hridroga*. Management of cardiovascular events through Ayurveda can be done by accepting *Nidanaparivarjana* as the first step.

CONCLUSION

Viruddhahara, *Santarpanottha ahara*, *Vega dharana*, *Cheshta dwesha* and various *Manasika nidanas* are the leading factors predisposing cardiovascular diseases. As it is told in the classics "*Nidana parivarjanameva chikitsta*" one should abstain from all these *Nidanas* to prevent these diseases. Use of *Ojasya*, *Hridya* and *Srotoprasadaka ahara- vihara* are important line of treatment in *Hridroga*. To reduce the occurrence of cardiovascular diseases one should take a healthy diet, maintain a healthy weight, exercise regularly, keep levels of blood pressure and cholesterol under control, quit smoking, limit alcohol, and manage stress through *Yogasanas* and *Pranayamas*. The health of the heart is important through the health of the body. Leaving everything else, one should maintain the body. For if there is no body, there is nothing that can be made available to the individual¹³.

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