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# An integrated approach in the management of **Cardiovascular** Diseases

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# ABSTRACT

Cardiovascular diseases (CVDs) are the leading cause of death globally. According to WHO an estimated 17.9 million people died from CVDs in 2019, representing 32% of all global deaths. Of these deaths, 85% were due to heart attack and stroke. India has one of the highest burdens of cardiovascular disease worldwide. The annual number of deaths from CVD in India is projected to rise from 2.26 million (1990) to 4.77 million (2020). The rate of incidence of cardiac disorders is almost doubled in Indian population which is an alarming fact. Cardiovascular Disease is largely the product of interactions of modifiable risk factors like changing lifestyles, bad eating habits and rapidly evolving socio-economic determinants like access to healthcare. There is a need of developing an integrative approach which conceptualizes a unique blend of different systems to bring the balance of body, mind and spirit for perfect health. Ayurveda holds the breakthrough to the key challenges that the India and in turn the world is facing in present era in cardiac care. Various scattered literature can be brought together and a clinical cardiology in Ayurveda can be given to modern society. Present paper is an effort towards Integrative approach for the management of CVDs.

Key words: Ayurveda, CVD, Integrative approach, Lifestyle changes

# **INTRODUCTION**

Last few years has proved to be havoc! Not only in terms of health but also brought a considerable economic distress globally and a significant loss of life. It makes us to re-think about our health status as well as our preventive protocols. Notably, the prevailing

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Cardiovascular Diseases are among the prime concern. The prevalence of cardiovascular disease is spreading rapidly and alarming in India. In today's modern era Cardiology has become increasingly technology intensive and while these advances are life saving in many situations, there is growing concern that such interventions are sometimes being used out of context and become the cause of economic burden to the public. People are searching for less invasive, cost effective and safer solutions where it is warranted. While the advancements in modern cardiology cannot be undermined in any way, complementing it with alternative approaches can perhaps reduce drug dependence, minimize surgical procedures and improve quality of life where it is reasonably possible to do so. Integrative Cardiology is developing around the world by incorporating many practices from complementary and alternative Medicine. However the role that Ayurveda can play in Integrative

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Cardiology is yet to be widely recognized. Use of herbal medicines among patients under cardio protective drugs is widespread. An integrated approach is needed to manage heart disease using the growing body of knowledge gained through scientific developments.

# **MATERIALS AND METHODS**

Different Ayurvedic classical books, research papers and journals were referred while writing the paper.

#### Cardiovascular Diseases in Ayurveda

CVD can be correlated with Hridroga in Ayurveda.<sup>[1]</sup> The various causes of *Hridroga* are classified into:

Causes directly affecting the heart - psychological, dietetic, traumatic and iatrogenic factors like toxic effect of drugs, abnormal or excessive use of emetics, purgatives or enemas.

Causes affecting the basic elements important for maintaining physiological function of the heart-Vitiation of Prana Vayu, Vyana Vayu, Sadhaka Pitta & Avalambaka Kapha will lead to improper functioning of heart and ultimately development of Cardiovascular diseases.

Heart disease as a complication of other diseases like Covid19.

# Classification of Hridrogas & Their Correlation with Modern View<sup>[2]</sup>

## 1) Vataja Hridaya Roga

Symptoms of Vataja Hridaya Roga	Clinical Presence	Modern Disease	Treatment
Vepathu	Palpitation	Atrial fibrillation	Hrida- Dashemani
Veshtana	Feeling of heart is covered by wet cloth ( <i>Chakrapani</i> ) Compressing or burning type of pain in cardiac region	Pericardial effusion, Left sided Pleural effusion	Hrida- Dashemani

Hrida- Stambha/ Moha	Bradycardia	Conduction defects / Heart block	Hridabasti with Narayana Tail, Shilajit Vatak, Hapushadi Ghrita
Hrida- Shunyata	Feeling of emptiness in cardiac region	Observed in idiopathic cardiomyopat hy caused by nutritional disorder	Chyavanprash a, Amritprashag hrita, Bhrihta Shatavari Ghrita
Hrida- Darah/Dra vata	Palpitation/ Tachycardia	Cardiac murmur	Dashmula Haritaki
Hrida- Shosha	Feeling of dryness in cardiac region	Observed in atrophic or degenerative cases of heart	Agastyaharita ki Avaleha, Baladi Niruhabasti, Shatapaki Madhuparni Tail
Hrid- Ayaam	Sensation of expansion of heart with pain	Hypertrophy or enlargement of heart	Virechana to Decrease Cardiac Load,Punarna vasa, Shwadanshtra di Ghrita
Jeerne Cha Atyarth Vedna	Severe pain after digestion of food	Anginal pain	Drakshasava, Hinguadi Gutika, Shatyadi Churna, Lashunadi Ksheera,

2) Pittaj Hridroga - Pitta mismatch can result in myocardial infarction, endocarditis, myocarditis and pericarditis.

Symptoms of Pittaja Hridroga	Clinical Presentation	Diseases
Hrid-daha/ Ushma	Burning in cardiac region	

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Pita-bhava	Yellow discolouration of body	Cyanosis seen in Rt ventricular failure and acute MI
Chosha	Sucking type of feeling	Due to ischemic condition of heart, Syphillitic aortitis, Pericarditis
Tikta Vakre / Tikta amla udgirana	Bitter taste in mouth, Bitter and sour vomiting	Not observed in cardiac disorder
Kleda	Foul smell of body due to <i>Vistra Guna</i> of <i>Pitta</i>	Profuse sweating during acute ischemic attack
Tamo/Bhrama /Trishna/Murc hha/ Santras	Feeling of darkness in front of eye/ giddiness/fainting/l oss of consciousness.	Cerebral ischemic condition.

**3)** *Kaphaja Hridroga - Kapha* leading to metabolic disorders like glycogen storage, tumors of the heart.

Symptoms	Clinical Presentation	Disease Involved
Hridstambhana/ Hridsupti	Feeling of inactivity of heart	Total or partial block of heart
Hrid-staimitya/	Feeling like heart covered by wet cloth or heaviness in cardiac region	Expansion of heart is restricted due to Pericardial Effusion, Pulmonary congestion or CCF
Hrid-bharikam/ Hrid-Gouravam/ Hrid- Ashmarivata	Feeling of compression of heart by stone.	Heaviness in cardiac region is seen in CAD, Gastrointestinal disorders

**4**) *Sannipataja Hridroga: Sannipataja Hridroga* can be correlated with acute chest pain.<sup>[3]</sup>

Use of Til, Ksheer, Guda  $\rightarrow$  Raktaja Krimi Utpatti  $\rightarrow$ Granthi Utpatti in Marmadesha  $\rightarrow$  Sankledana Bhakshana by Krimi  $\rightarrow$  Vrana Utpatti  $\rightarrow$  Vrana Vastu formation  $\rightarrow$  Hardening (stenosis)  $\rightarrow$  Regurgitation  $\rightarrow$ Formation of Granthi (cyst) in heart. **REVIEW ARTICLE** January 2024

**5)** *Krimija Hridroga* - It is a complication of *Sannipataja Hridroga. Krimija Hridroga* can be correlated with MI due to severe pain.

## **Integrative Management in CVDs**

**Hypertension** - HTN is the serious risk factor for cardiovascular diseases.

Sarpagandha is described in Sushruta Anagatbadha Pratishedhiya. If Sarpagandha Ghan Vati is used patients BP falls down and also bradycardia is observed. Adverse drug reactions found in reserpin is not found as Sarpagandha is used in crude form.<sup>[4,5]</sup>

*Vachadi Yoga Vati* is the combination of *Medhya Rasayana* mentioned in Charaka Chikitsasthana 1 & 10.

# Effect of Takradhara in Essential Hypertension<sup>[6]</sup>

The effect of *Takradhara* is comparatively better for 1<sup>st</sup> stage of hypertension, rather than the 2<sup>nd</sup> stage. The appropriate duration of action is 12 hours. *Takradhara* establishes normal functions of *Manas* and *Prana Vayu* and also stimulates hypothalamus by its penetrating effect, which in turn reduces the impulses of sympathetic division.

# Shirodhara with Madhuyashti Kshirapaka

*Madhuyashti* being a *Medhya Rasayana* calms down the anxiety and stress, thus results in lowering of BP.

A step care management strategy

Shirodhara - mild HTN

Shirodhara + Tagaradi Kwath - Moderate HTN

Shirodhara + Tagaradi Kwath + Modern drug - Severe HTN

When *Shigrupatra Churna* & Amlodepine tablet given, it was found to be effective in regression of cardinal signs as well as associated symptology.<sup>[7]</sup>

In a study *Makardhwaja* is found most effective against diastolic hypertension with 14.16% relief which is highly significant. As this drug did not develop dependence and withdrawal symptoms it is proved to be a better choice for managing HTN.<sup>[8]</sup>

**Coronary Artery Diseases** - Atherosclerosis is considered as root cause of coronary artery diseases.

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In modern medicines statins are the drug of choice here. But long standing use of statins causes side effects like rhabdomyolysis which are life threatening. In *Ayurveda* Tab Spirulina (a type of algae) is found to decrease cholesterol levels. *Medopachaka* drugs like *Vidang, Guduchi* and *Amalaki* can be considered as *Ayurveda* statins and can be used along with modern medicines. *Pramathi* drugs like *Maricha, Vacha*.etc are used in hyperlipidemia.

In MI thrombolytic drugs like streptokinase are prescribed. In a study *Paravata Shakrit* (fecal matter of pigeon) is found effective to refuse the area of Myocardial Ischemia by inducing thrombolytic mechanism.<sup>[9]</sup>

**Vascular Obliterative Diseases** - The different types of Strokes in heart, brain and leg (DVT) are precipitated mainly by the action of thrombosis. The treatments which are used are blood thinner like aspirin and anticoagulants, which are associated with complications like gastritis, duodenal ulcers and internal bleeding. Bypass surgeries are also expensive and do not completely change the pathogenesis. In such cases *Ayurveda* advocated Leech Therapy which is known to have a potential anti-coagulant effect without any sideeffects, if applied under medical supervision.<sup>[10]</sup>

Rheumatic Heart Disease - RHD defined as damage to the heart muscle and heart valves from rheumatic fever, caused by streptococcal bacteria. Ayurveda describe RHD as the complication of Amavata mentioned as Hrudayavishuddhi and Hrudgraha. Accumulation of Ama in the endocardium. myocardium & pericardium gives rise to rheumatic endocarditis including valvulitis, myocarditis and pericarditis respectively. Accumulation of Ama in large quantities in Rasa (body fluids) gives rise to rheumatic fever. The treatment of rheumatic fever should be carried out on the lines of Ama stage of fever in general. The treatment of rheumatic myocarditis should be on the lines of Mansagata Jwara. The treatment of rheumatic endocarditis should be on the lines of Rasagata and Raktagata Jwara, while the treatment of rheumatic pericarditis should be carried out on the lines of Medogata Jwara.[11]

**Cerebral Stroke** - Formation of cysts (*Raktaja Granthi*) in brain. If presence of cyst is superficial *Kapota Vishtha* can be used.

Valvular Heart Diseases - refers to permanent damage to heart valves due to Rheumatic fever. Treatment in modern medicine aims at, Medications to avoid over exertion & Surgery, to replace the damaged valves by insertion of an artificial heart valve. *Ayurvedic* management includes firstly the cleansing of *Strotas*. Then *Hridya* medicines along with *Krimighna* drugs are useful. A formulation described in Bhavaprakasha in *Hridrogadhikara* containing *Haritaki*, *Vacha*, *Rasna*, *Pippali*, *Nagar*, *Shati* and *Pushkarmoola* may be given to the patient of Valvular heart disease along with *Sankhavati*.

*Rasayana* Therapy - *Rasayana* comprehends all the modalities of health care i.e. preventive, curative, eliminative, restorative, behavioural, pharmaceutical and dietetic.

For practical utility *Rasayana* can be classified into following types;

*Ajasrika Rasayana* (Dietary modification) - one must include *Hridya* drugs in dietary regime like Garlic, Lemon, cow's Ghee, etc.

Garlic Works as a Cardiac *Rasayana* - Garlic by its digesting and appetizing actions helps in the proper digestion of food (*Kayagni Deepana*) and creates ideal fluids for tissue nutrition. Similarly, its lipid lowering anti-atherosclerotic effect and anti-clot formation, fibrinolytic and anti- platelet aggregation affects help to keep the body channels open for better circulation of food and nutritive tissue fluid.

Achara Rasayana (Lifestyle modification) - We cannot eliminate stress in our lives, but we can change our attitude towards it.

- S Stop anger, egoism, over thinking and have a self control.
- T Trust yourself
- R Remember the preventions
- E Exercise regularly
- S Spirituality
- S State of calm mind

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*Naimittika Rasayana* (Therapeutic modification) drugs like *Arjuna, Amlavetas, Hritpatri*, etc. are well described in our classical textbooks.

# CONCLUSION

The increasing incidence of the CVDs in all over the world demands an integrated approach. *Ayurveda* being the ancient science if collaborated with modern medicine prove to be a major milestone in CVDs. Different researchers has been showed that *Ayurveda* drugs have effective role in CVDs. If someone adopts the diet pattern, life style and especially the *Rasayana* therapy described in *Ayurveda*, it can be helpful to decrease the incidence of such prevailing disease. As mentioned in our classical texts – 'As the food so the mind, as the mind so the man'. 'As the food so the heart, as the heart so the man' (*Geeta* chap. 4)

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