



Review Article

CONCEPTUAL STUDY OF HEART DISEASE AND ITS MANAGEMENT: AN AYURVEDIC PERSPECTIVE

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ABSTRACT

Heart diseases have a large share amongst non-communicable diseases. India is currently heading towards becoming a heart disease capital of world. This puts a tremendous pressure on available resources of medical and surgical management. Thus, it would be a great asset if these diseases could be managed through traditional system of medicine like Ayurveda. According to latest data of American Heart Association, cardiovascular disease including heart attack and stroke remain the No. 1 killer of men and women causing 36 percent of all the deaths per year. Changes in diet pattern, dietary habits and lifestyle, certain social and environmental changes have led to us in the era of hypertension, hyperlipidemia, obesity, cardiac diseases and many more diseases. There are a number of drugs and medicinal preparations described in the texts of Ayurveda like *Arjuna*, *Tagara*, *Haritaki*, *Tambula*, *Brahmi* etc, having wonderful effects in CVD. Various techniques of *Yoga*, *Pranayama* (breathing practices), spiritual upliftment are having excellent preventive and therapeutic effects on anxiety, hypertension etc. which are main risk factors of heart disorders.

INTRODUCTION

*Hridaya*- The *Marma* located in the thorax (*Uras*) in *Stanyormadhye* and near to *Amashaya-dwar*, where resides the *Tamas*, *Rajas* and *Satva guna*, is known as *Hridaya*. The *Hridaya* in *Samhitas* was considered to be hollow organ (*Koshtha*), made up of two *Peshi*, three *Mandala sandhi* and in shape of lotus and connected with ten *Mahadhamnies* i.e., pulsating vessels and supply blood, oxygen, nutrition and thus immunity to entire body therefore anatomically, physiologically and functionally *Urustha Hridaya* is similar to heart. The diseases or conditions that affect the working of any of these structures in circulatory system refer to as cardiovascular disease. Cardiovascular disease is now epidemic. WHO estimates that by 2020 close to 60% of cardiac patients worldwide would be Indians. The cardiovascular diseases has largest share in non-communicable diseases (31%).

It is due to exposure to chemicals and other environmental substances that also have a profound impact on cardiac health. Heart diseases are referred to as *Hridroga* in Ayurveda. As per Ayurveda treatise *Hridroga* are of five types. First four are based on the predominance of specific *Dosha* in its genesis as well as signs and symptoms hence named *Vataja*, *Pittaja*, *Kaphaja* and *Tridoshaja*, while fifth type is referred to as *Krimija*, which is attributed to infestation by worms in an individual.

MATERIALS AND METHODS

*Nidana* for *Swatantra Hridroga* are *Vyayama*, excessive *Tikshna Ahara*, *Virechana*, *Basti*, *Vamana*. *Hridroga* can occur as *Partantra Vyadhi* to certain disease leading to emaciation, excessive worry, stress or fear. Direct *Abhigata* to *Hridaya* may also leads to *Hridroga*. By analysing the *Nidanas*, it can be inferred that the precipitating factor of *Hridroga* are concerned with an excessive fluid loss i.e., due to *Vaman*, *Virechan*, *Basti*, exercise, trauma or reduced intake of water and nutrition as in emaciation, stress, fear, worry. All these leads to *Kapha kshaya* along with *Rasa kshaya* leading to compromised functioning of heart. Risk factors for cardio-vascular diseases include modifiable risk factors- hypertension, obesity, smoking, diabetes, high

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cholesterol and psychosocial factors and non modifiable risk factors- ethnicity, age, gender, family history. Symptoms of CVD are dyspnoea- systemic hypertension, valvular heart disease, cardiomyopathy, myocardial disease, arrhythmia, orthopnoea-advanced heart disease, paroxysmal nocturnal dyspnoea, peripheral oedema: common in congestive heart failure, Palpitation: It is the awareness of heart beats in the chest, tachycardia, bradycardia, chest pain: angina pectoris, myocardial infarction, pericarditis, aortic dissection, infective endocarditis.

### Management of Heart Disease

Prevention of *Hridroga* (cardiac disorders): Ayurveda mainly relay upon the principle of 'Prevention is better than cure'. So, the preventive aspect of the diseases has given first prime importance in the management of all the diseases including *Hridroga* as well. Recognizing its importance as a vital organ governing the systemic circulation. Ayurveda pays special attention to save heart from any direct or indirect trauma and also from various factors which may in turn precipitate a heart disease. Certain stress factors are consistently told to be avoided and cardio promotive activities told to be observed. The deep vision of *Acharya Charaka* has laid the prime importance on avoidance of the factors that cause Emotional and mental upsets i.e., suppression of *Dharniya mansika vega* like anger, fear, worry etc, *Swasthyavritt Palana*, *Ahara* (diet) and *Vihara* (lifestyle) modifications. Specific *Rasayana* drugs for heart (*Naimittika Rasayana*) like *Arjuna*, *Pushkarmula*, *Tambula* have cardioprotective and cardiogenic properties thus their daily use decreases the tendency to develop cardiac diseases. Drugs like *Amalaki*, *Haritaki* have anti-hyperlipidemic and anti-hypertensive property which is important risk factors for coronary artery disease, ischemic heart disease and heart attack. Beneficial *Rasayana* preparation for prevention of cardiac diseases are *Amalaki Rasayana*, *Brahma Rasayana*, *Agastaya Haritaki Rasayana*, *Chayavanprasha Rasayana* and *Shilajeet Rasayana*.

### Aushadha Varga:

**Single drugs:** *Arjuna* (*Terminalia-arjuna*), *Hritpatri* (*Digitalis purpurea*), *Vana palandu* (*Urgenia indica*), *Tambula* (Betel leaf), *Putikaraveer* (*Theveshia nurifolia*), *Taruni* (*Rosa centifolia*), *Rudraksha*, *Patala* (*Stereospermum suaveolence*), *Vasa* (*Adhathoda vasica*), *Twaka* (*Cinnamomum zeylanicum*), *Brihati* (*Solanum indicum*), *Karchura* (*Curcuma zedoria*), *Pushkara mula* (*Inula racemosa*), *Soma*, *Malaya vacha*, *Kustumbaru* (green coriander leaves), *Rasona* (garlic), *Ardra* (ginger) etc.

**Compound drugs:** *Pippalyadi churna*, *Haritakyadi churna*, *Arjuna twaka churna*, *Sukshma eladi churna*, *Trivritadi churna*, *Hingvadi churna*, *Prabhakara vati*, *Shunti kwatha*, *Pushkaradi kwatha*, *Pushkaramuladi*

*kalka*, *Dasamula kwatha*, *Vallabhaka ghrita*, *Arjuna siddha ksheera*, *Nagarjunabhra rasa*, *Hridayarnava rasa*, *Panchanana rasa*, *Visweswara rasa*, *Trinetra rasa*, etc.

### Ayurvedic Principle of Management of Cardiac Disease

1. **Nidana parivarjana**- Avoiding the aetiological and risk factors (diet and lifestyle modification), Reduction of weight in obese patients is important.
2. **Samshodhana** (Purification) therapy- *Vamana Karma*- Though it is contraindicated in heart diseases but can be induced in *Kaphaja Hridroga* and strong patients. *Virechana Karma* - Beneficial in hyperlipidemia, hypertension and *Krimija Hridroga*. *Basti* therapy- *Lekhana Basti*-hyperlipidemia, obesity, *Tikta Basti* - hypertension, ischemic heart diseases, CHF, *Brinhana* and *Ksheera basti* - Cardiac arrhythmias.
3. **Shamana (Pacifying) Therapy**
  - a) *Vataja Hridroga* - *Tailapana* - Oil cooked with drugs like *Sauviraka*, *Takra*, *Gomutra*, *Lavana*, *Bijaura nimbuka rasa* is beneficial.
  - b) *Pittaja Hridroga* - *Ghritapana* - Ghee cooked with *Draksha*, *Madhuka*, sugar, honey etc, use of *Pittahara* drugs, *Sheeta Parisheka*- With *Ghrita*, decoction of *Pittashamaka* drugs has been indicated.
  - c) *Kaphaja Hridroga* - *Langhana*, *Ama* - *Pachana*, use of *Katu* drugs, *Vamana Karma*
  - d) *Krimija Hridroga* - *Virechana*, followed by use of *Krimihara* drugs like *Vidanga* is indicated.

### Group of Drugs useful in the treatment of cardiac diseases

**Hridya Mahakashaya:** *Amra*, *Amrataka*, *Lakucha*, *Karmarda*, *Vrikshamala*, *Amlavetas*, *Badara*, *Dadima* and *Matulunga*. These drugs are rich source of Vitamin C and have antioxidant and cardiogenic properties.

**Agnideepana and Vatanulomana drugs:** *Ajmoda* (*carum roxburghii*), *Hingu* (*Frula northax*), *Pippal* (*Piper longum*), *Shunthi* (*Zinziber officinalis*), *Chitraka* (*Plumbago zeylinica*). Improves digestion and pacifies *Vata*, effective in *Hridgulma* & CAD.

**Lekhaneeya Dravya:** Like *Vacha* (*Acorus calamus*), *Haridra* (*Curcuma longa*), *Daruharidra* (*Barberis aristata*), *Mustaka* (*Cyprus rotundus*), cow's urine and *Guggulu* (*Commiphora wightii*), useful in hyperlipidemia, obesity and atherosclerosis.

**Some important formulations (Yoga):**<sup>[9]</sup> *Haritakyadi churna*, *Amalaki Rasayana*, *Pathyadi Kwatha*, *Dashmula Kwatha*, *Arjunatwaka Kwatha*, *Pippalyadi Ghrita*, *Arjuna Ghrita*, *Trayamana Ghrita*, *Shunthi Ghrita*, *Chandra prabha vati*, *Prabhakara Vati*, *Shilajitwadi vati*, *Hinguwadi vati*, *Arjunarishta*, *Mrigshringa Bhasma*, *Akika Pishti*, *Hridyarnawa Rasa*, *Nagarjunabhra Rasa* and *Krishna Chaturmukha Rasa*.

## DISCUSSION

Lifestyle modifications have been shown to have a significantly beneficial impact on reducing the incidence and severity of cardiovascular events. Studies have shown a consistent inverse association between physical activity/fitness, and the incidence of heart disease and general risk factors. It has also been determined that regular, moderately intense activity, such as brisk walking for 30-60 minutes daily, is sufficient to reduce cardiovascular risk factors. However, Ayurveda offers many different herbal medicines which can play a role in treating and preventing different aspects of cardiovascular disease. A summary of these is given in the table below.

**Sarpagandha** is *Kaphavatashamaka*, cardio depressant, hypnotic and sedative. Acts as vasodilator, thus reduces the tone of the blood vessels. Reserpine, an alkaloid present is responsible for inhibiting brain centres which are responsible for controlling blood pressure. This results in decreased heart rate, strength of heart muscle contraction and tone of the blood vessels.

**Parpata** in *Samhitas*, recommended for treatment of fever and blood disorders. An extract of the plant was found to have a relaxant effect and produce a moderate fall in blood pressure.

**Vacha** reduces the systolic blood pressure and heart rate significantly.

**Carrot seeds** possess antihypertensive effect of two coumarin glycosides from carrot.

**Chaksu** has ability to lower blood pressure, also a strong anti-bacterial agent and works as an astringent.

**Gokshura** is *Hridya*, *Shothahara*, *Vrisya*, *Mutral*, *Kaphanisaraka*, hypotensive, cardio tonic, hepatoprotective and muscle relaxant, has diuretic property and increases release of nitric oxide from endothelium and nerve endings so that it relaxes smooth muscles and increases angiotensin converting enzyme (ACE) inhibition. Hence it is used in hypertension.

**Punarnava** studies have revealed that *Punarnava* is an excellent diuretic, anti-inflammatory, mild laxative and is a heart tonic.

**Guggulu** act as antioxidant, *Guggulsterones* keep LDL cholesterol from oxidizing, an action which protects against atherosclerosis. It has also been shown to reduce the stickiness of platelets – another effect that lowers the risk of coronary heart disease.

**Arjuna** is *Raktastambhana*, *Hridyauttejaka*, *Raktaprasadan*, *Hridaya*, *Shothahara*, *Medohara*. Cardio protective, spasmogenic, hepatoprotective and anti-angina.

**Kushtha** has been claimed to be anti-allergic, anti-bacterial, antihistaminic and hypolipidaemic agent.

**Bala** is *Balya*, *Hridya*, *Raktapitta shamak*, *Mutrala* and can be used as CNS depressant, analgesic, anti-inflammatory, hypotensive and hepatoprotective.

**Hritapatra** being *Hridya*, *Mutrala*, *Shothhara*, decreases the heart rate, strengthen the heart muscle.

**Rasona** is *Raktutkleshaka*, *Shothahara*, *Vedanasthapana*, *Hridyauttejaka*, *Kaphanissaraka* and *Rasayana*. It also decreases the blood cholesterol level.

**Ashwagandha** is *Rasayana*, it has analgesic, mildly sedative, anti-inflammatory and anabolic activities and it is useful in stress, strain, fatigue, pain.

**Brahmi** is *Medhya*, anti-oxidant, anti-inflammatory, reduces stress and anxiety. Animal studies suggest that, it reduces both systolic and diastolic blood pressure levels by releasing nitric oxide which helps dilate blood vessels.

**Jatamansi** has hypolipidemic, cardioprotective activity, hepatoprotective and diuretic.

**Pushkaramula** is *Mutrala*, used in *Hrid roga*, *Parshar shool*, *Kasa*, *Shwasa*.

## CONCLUSION

With the emergence of increasing number of heart disease in all age groups, it is the time to explore different herbs and its preparations so that it can be incorporated in our *Dinacharya* (daily life) to reduce the morbidity and mortality due to heart diseases. Here single herb medicines are grouped based on their properties with special emphasis on *Rasona*, *Arjuna* and *Gokshura* which are used commonly. *Rasona* has anti-hyperlipidemic property, it inhibits platelet aggregation, lowers blood pressure and has significant anti-arrhythmic effect. *Gokshura* has diuretic property and increases release of nitric oxide from endothelium and nerve endings so that it relaxes smooth muscles and increases angiotensin converting enzyme (ACE) inhibition. Hence it is used in hypertension. *Arjuna* has anti-ischemic, antioxidant, lipid lowering, and anti-atherogenic properties. There are many other herbs with has diuretic, lipid lowering, anti-platelet aggregation and blood pressure lowering properties. Some of them may be used as cardio tonics which has got a great scope of research.

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