

Pharmacological Review on *Hridya Dasaimani* in the Management of *Hridroga* (Cardiovascular diseases)

Seminar Article

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Abstract

Cardiovascular disease is a major cause of disability and premature death throughout the world. The heart is the vital organ as any type of damage to this organ leads to loss of life. Several forms of therapies can prevent Coronary, Cerebral and peripheral Vascular events. Recommendations are made for the management of major Cardiovascular risk factors through a change in lifestyle and Prophylactic drug therapies. *Hridya Mahakashaya* as said by *Charaka* is a group of ten drugs that comprise mostly citrus fruits with Ascorbic acid in it. These drugs are useful in maintaining cardiac health. The Critical analysis of these drugs in the treatment of *Hridroga* indicates they have a crucial role in the management of cardiac as well as cerebrovascular diseases. Apart from cardio protective activity, some were also reported for their antioxidant, antihypertensive, anti-stress, anti-hyperlipidemic, antidiabetic, diuretic, antimicrobial and immunomodulatory activities. In this review, an attempt has been made to explain the *Hridya* action of *Hridya Dasaimani* in Ayurveda as well as modern aspect.

Key Words: *Hridya, Hridya Dasaimani, Cardio vascular Diseases, Prophylactic, Cardio protective.*

Introduction

The magnitude of cardio vascular diseases continue to accelerate globally, there is pressing need for increased awareness and more focused on early detection. Most of the CVD can be prevented by addressing behavioral risk factors like Hypertension, diabetes, hyperlipidemia etc. The role of plant based bioactive compounds or phytochemicals has got much attention due to their unique cardio protective property. *Amla rasa* is said to be good for heart in Ayurveda. *Acharya Charaka* has placed 10 drugs in *Hridya mahakashaya* which contain mainly *amla rasa*. These drugs has shown considerable anti-hypertensive, anti-inflammatory, anti-oxidants and anti-atherosclerotic effects. These fruits have more potential as a healthy supplement rich in natural anti-oxidants. In this present study effort has been made to understand the effect of *Amla rasa* on *Hridroga*.

The term '*Hridaya*' in *Ayurveda* is a synonym for heart in modern medicine. *Hridaya* is formed from *Prasada Bhaga*(Clear part) of *sonita*(blood) and *Kapha*(phlegm).

"HRU" - means *Harati* (to receive)

"DA" - means *Dadati* (to give)

"YA" - means *Yagati* (to control)

Hridaya receives blood from all over the body by venous return and supplies blood to the body by cardiac output thereby giving nutrition to the body and controls the circulation by its special action of contraction and dilation, which is the fundamental function of the Heart. All these functions are due to *Prakruta Vata dosha*. *Prakruta Vata dosha* is responsible for *gati* and *Chala Guna* (movement) specially *Prana* and *Vyana Vayu* which resides in the heart. Also, *Hridaya* is the *adistana* for *Sadaka pitta*, *Avalambaka Kapha*, *Buddi*, *Atma*, *manas* and *Ojas*. The heart is also the Origin of *rasavaha* and *pranavaha srotas*.(1)

Aim and objectives

The aim of the article is to highlight the action of *Hridya dasaimani* in management of *Hridroga*.

Materials and methods

Literary review of *Hridya Mahakashaya* was taken from an Ayurvedic texts, *Samhitas* and *Nighantus*, different text books of *Dravyaguna*. The research work done by scholars on this herbs regarding pharmacological activities was also compiled.

Aetiology

The Etiological factors of *Hridroga*, according to Ayurveda is the mode of food intake and the way of living one's own life.

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Dietetic factors

Usna(hot), *Guru*(heavy), *Kashaya*, *Tikta rasa sevana* (consuming astringent and bitter food)

Somatic factors

Srama (Physical exertion), *Vegadharana* (Suppression of urges), *Abhighata* (Injury), *Ativirechana* (Excessive purgation)(2)

Psychological factors

Chinta (Anxiety), *Bhaya* (fear), *Kroda* (angry), *Mada* (Psyche). (2)

Vagbhata states the etiological factors of *Hridroga* are similar to that of *Gulma roga*.

Classification and Symptoms

As per Ayurveda, *Charaka* mentioned 5 types of *Hridroga*. *Vataja*, *Pittaja*, *Kaphaja*, *Sannipataja* and *Krimija*.

General symptoms of *Hridroga* (Cardiac disorders) as described by *Charaka* are like *Vaivarnya* (Abnormal complexion), *Murcha* (Fainting), *Jwara* (Fever), *Kasa* (Cough), *Hikka* (Hiccup), *Chardi* (Vomiting) *Kaphotklesa*, *Aruchi* (Anorexia) etc.(3)

Pathogenesis

Basic concepts of Ayurveda states that vitiating of *Agni* followed by the formation of *Ama* cause diseases. The same concept is applicable to *Hridroga*. Due to *ama*, *tridoshas* get vitiated these further vitiate *rasa vaha stotas*. As *Hridaya* is the seat of *Rasavaha*

srotas, *doshas* reach *Hridaya* by *rasavaha srotas* and produce *Hridroga*.(4)

Modern aspect

Common causes of heart diseases are Food containing a large amount of fat, cigarette smoking, stress, hypertension, diabetes, obesity and sedentary lifestyle.

CVD- cardiovascular disease generally refers to conditions that involve narrowed or blocked blood vessels that can lead to heart Attack, Angina or stroke. Other conditions , such as those that affect heart muscles, valves or rhythm, are also considered as forms of heart disease.

Principles of management of Hridroga

Prevention starts with correction of basic lifestyle. Ayurveda has enough lifestyle choices like *Dinacharya* (which includes regular exercise, prayer, meditation, wholesome diet) and *Ritucharya* (seasonal purification) incorporating dietary changes like reduced intake of salt, increased consumption of vegetables, fruits, cereals and *Sadvritta* (personality development and mental health care aids.) (5)

Ayurveda suggests *ahara*, *vihara* including psychological factors and continuous use of appropriate medicines in the management of *hridroga* .In classical texts, several *Ganas* such as *Hridya Dasaimani* by *Charaka*, *Parushakadi Gana* by *Susrutha* and *Vidaryadi Gana* by *Vagbhata* are aimed at better management of the conditions of *Hridroga*.(6)

Discussion

Table no 1: Charakokta Hridya Dasaimani (7)

S/N	Sanskrit Name	Latin Name	Common Name	Family
1	<i>Amra</i>	<i>Mangifera indica L.</i>	Mango	Anacardiaceae
2	<i>Amrataka</i>	<i>Spondias mangifera Willd.</i>	Wild Mango	Anacardiaceae
3	<i>Likucha</i>	<i>Artocarpus lakoocha Roxb.</i>	Monkey jack	Moraceae
4	<i>Karamarda</i>	<i>Carissa carandus L.</i>	Carandas plum	Apocynaceae
5	<i>Vrikshamla</i>	<i>Garcinia indica Chois.</i>	Kokum butter tree	Clusiaceae
6	<i>Amlavetasa</i>	<i>Garcinia pedunculata Roxb.</i>	Indian rhubarb	Clusiaceae
7	<i>Kuvala</i>	<i>Zizyphus sativa Gaertn.</i>	Chinese date	Rhamnaceae
8	<i>Badara</i>	<i>Zizyphus jujuba Mill.</i>	Jujube red date	Rhamnaceae
9	<i>Dadima</i>	<i>Punica granatum L.</i>	pomegranate	Lythraceae
10	<i>Matulunga</i>	<i>Citrus medica L.</i>	Citron	Rutaceae

Charaka introduced ten drugs under *Hridya Mahakashaya* group that comprises fruits which contain *Amla rasa* and rich in vitamin C. These *Hridya* drugs works by virtue of their “Rasa”. *Amla* rasa is also claimed to nourish the heart - “*Hridya Tarpayati*”. It is proven that certain phytoconstituents present in these herbs help to maintain a healthy state of blood vessels including coronary arteries. Some others quoted that “*Hridaya Manaso Hitam*”(Gangadhar & Yogaratnakara)(8) thus it is more evident that these drugs are beneficial to heart as well as mind and helps in reducing the stress. All these ten drugs has *Amla* rasa in their unripe state and *Madhura* rasa in their ripe state.(9)

Table no 2: Properties of Charakokta Hridaya Dasaimani

	Sanskrit Name	Latin Name	Rasa	Guna	Virya	Vipaka	Dosha karma
1	Amra	<i>Mangifera indica</i> Linn.	Madhura, Amla, Kashaya	Guru, snigdha	Sita	Madhura	Kapha-Pitta shamaka
2	Amrataka	<i>Spondias mangifera</i> Wild.	Amla, Madhura, Kashaya	Guru, snigdha	Usna	Madhura	Vata-shamaka
3	Likucha	<i>Atrocarpus lakoocha</i> Roxb.	Madhura, Amla	Guru, Ruksha	Usna	Amla	Tridoshpropaka
4	karamarda	<i>Carrisa carandas</i> Linn.	Amla	Guru	Usna	Amla	Vatasamaka
5	Vrikshamla	<i>Garcinia indica</i> Chois.	Madhura, Amla	Laghu, Ruksha	Usna	Amla	Kapha-Vata shamaka
6	Amlavetasa	<i>Garcinia pedunculata</i> Roxb.	Amla	Laghu, Ruksha	Usna	Amla	Kapha-Vata shamaka
7	Kuvala	<i>Ziziphus sativa</i> Gaertn.	Madhura, Amla	Guru	Sita	Madhura	Pitta-shamaka
8	Badara	<i>Ziziphus jujuba</i> Mill.	Madhura, Amla	Guru	Usna	Madhura	Vata-shamaka
9	Dadima	<i>Punica granatum</i> Linn.	Madhura Kashaya, Amla	Laghu, Snigdha	Anusna	Madhura	Tridosha-shamaka
10	Matulunga	<i>Citrus medica</i> Linn.	Madhura, Amla	Laghu, Snigdha	Ushna	Amla	Kaphavata-shamaka

Guna, Karma of Amla rasa

Amla rasa is the one among Shadrasas which consists of Agni and Prithvi Mahabhutas (according to Charaka) in it. Amla rasa is having Gunas like Laghu, Usna, Snigdha and Karmas like Agni dipana (Appetizer), Mano bodhana (Sharpens mind), Indriyadhikaraka (Energise sense organs), Rochana (improves taste), Brumhana (produces stoutness), Tarpana (satisfaction), preenana (nourishment), Kledana (moistness), Balavardhaka (Gives strength), Hridaya tarpaka (Gives strength to heart), Jarayati (Digests the food), Urjakara (Gives energy), Anulomana (brings vata to its normal direction) etc (10)

Specific actions on doshas like Vatahara (pacifies vata), Pitta Slesmakara (increases pitta and slesma) and Raktakrut (increases Rakta)

Pharmacological review of Hridaya Mahakashaya:

As said earlier Ama dosha, rasa dusti, obstruction of vata is a causative factor for Hridroga. Amla rasa is composed of Agni and prithvi, due to this agneya guna and deepana karma of amla rasa digests ama and by means of Ushna, Snigdha gunas and vatanuloma property, amla rasa brings vata in normal state and breakdowns the pathophysiology of Hridroga. Hridaya is also one of the sight of Mana(mind). Amla rasa does Hridaya tarpana so it satisfies the mind and improves mental strength.

As all of these are Amlarasa Pradhana drugs the Guna karma of amla rasa could be expected in all these drugs. The properties like Agni deepti (Stimulates Digestion), Hrudyaa, Pachana, Rochana, Prenana, Bhedana, laghu, Vatanulomana are applicable to these drugs exception being Amra (ripe) which is bruhmana type of Hrudyaa drug, which is predominantly Madhura rasa.

Most of the Dravyas used here are of Ushna veerya, Madhura vipaka and kapha - vata samaka properties, which help in alleviating vitiated doshas and in maintaining equilibrium.(12, 13)

Apart from cardio protective activity, they were also reported for their antioxidant, anti-stress, diuretic,

anti-hyperlipidemic and antimicrobial activities which are the key factors in treating cardiac diseases.

Vitamin C for heart disease prevention:

Vitamin C not only protects your heart it also increase your immune system and it builds collagen. Elevated cholesterol is not the cause of heart diseases. Coronary artery disease is caused by inflammation in the coronary arteries and that inflammation is due to some underlying causes like toxins in the environment, things that we eat, breath and drink. These contain Petrochemical products and those chemicals due to their toxic effect they cause inflammation in the coronary arteries. When the arteries become inflamed and begin to deteriorate. The primary mechanism for healing the arteries is collagen. It is the protein made by the body to glue the inflamed skin layers. When arteries are inflamed the body produces collagen to heal the arteries. Vitamin C has that ability to make a collage but if your body does not have Vitamin C body cannot produce collagen. At this point, the body has a natural backup mechanism to heal the arteries by producing a lipoprotein called cholesterol. This cholesterol acts as a bandage on the inflamed arteries and starts building plaque. This plaque absorbs calcium from the body and gives rigidity to the arteries to protect from breakdown. This arterial calcification is called atherosclerosis. So you need high levels of Vitamin C to make collagen to prevent from atherosclerosis and thus preventing heart attack.

Vitamin C cuts down inflammation helps to heal inflammation in the arteries, helps to make collagen, lower your blood pressure, lowers cholesterol, built-up immune system and helps with adrenal function. Vitamin C also plays an important role in the synthesis of the neurotransmitter serotonin and carnitine which are critical to brain function and are known to effect mood. Vitamin C is a potent antioxidant in addition to good stress buster.(14)

Most of the CVD is due to free radicle. antioxidants are the agents responsible for scavenging free radicals. Oxidative stress is responsible for many of

today's disease. Above mentioned ten drugs are a rich source of Vitamin C and potent antioxidants in addition to good stress busters. These herbs help to repair the body tissues particularly CVS against the harmful damage caused by stress.(15, 16)

Conclusion

Hridya Mahakashaya drugs are rich source of Vitamin C. Vitamin C cuts down inflammation in the arteries, lowers cholesterol, builds immune system and also lowers blood pressure. The phyto chemicals like alkaloids, polyphenols, glycosides, triterpenoids, tannins, flavonoids and beta carotene present in these drugs acts as potent antioxidants, anti-inflammatory agents, Immunomodulatory, antidiabetic, anxiolytic and anti-microbial agents there by decreasing the oxidative stress and inflammation which is the main pathogenesis of CVDs. According to Ayurveda *Amla rasa* perform the function of *deepana*, *Pachana* and *Vatanuloma* and brings the vitiated *doshas* to normal state by breaking the pathophysiology of *hridroga*.

Most of the drugs are easily available even in today's era.

On the basis of *Ayurvedic* as well as modern fundamentals, after analyzing the above facts efficacy of *Hridya Mahakashaya* in *hridroga* has been proved.

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