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Evalution of *Hridya Mahakashaya* of *Charak Samhita* in CVS :- A Literary Review

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ABSTRACT:

Hridya Mahakashaya denotes group of ten medicines, Which act on cardiovascular diseases . *Hridya Mahakashaya* is the 10th gana of the 50 Mahakashaya gana described in fourth chapter of Sutra Sthana of Charak Samhita and includes Amra, Amratak , Lakuch , Karmarda , Virkshamla, Amlavetas, Kuval, Badar, Dadim , Matulunga ten ingredients. These 10 plants are work together and give enhanced effect . They are also effective individually . All ten drugs are Amla Rasa pradhana { sour in test } and rich source of vitamin c. Vitamin c is proved to be a potent Antioxidant as well as a good stress buster. These plants having Amla , Madhura Ras , Guru , Ruksha guna , Ushana Virya , Amla Vipaka and Tridoshaghan properties.

Keywords- Hridya Mahakashaya, cardiovascular disease, Amla Rasa, Antioxidant.

INTRODUCTION

Hridya mahakashaya is group of 10 dravyas which act on CVS[cardiovascular diseases]. Cardiovascular diseases pose an alarming threat to global health. According to *Ayurveda, Hriday* is the best place of *Chetnayata* (consciousness) and *oja*. *Charak* has stated that heart is the seat of *Pranavaha srotas* and *Rasavaha srotas*.¹ *Rasavaha srotas* is responsible for converting the *Aahar Rasa* to *Rasa Dhatu* and providing nourishment to all other body constituents and *Pranvaha* srotas is responsible for uninterrupted supply of the *Ambarapeeyush* (oxygen) through breathing. *Rasa Dhatu* is the first tissue emerging out of the nutritive fluid *Aahar Rasa. Rakta* circulates with Rasa all over the body and is responsible for *Jeevan Karma*, sustaining the life processes by supplying *Prana* to all body constituents. *Rasa-rakta*

complex is essential for the continuation of life. The human body is nourished by *Shuddha Rakta* circulated by *Hridaya* with the help of *vyanavayu*.²*Acharya Charak*, classified the drugs based on their pharmacological action in fifty *Mahakashaya* (class). One of them is *Hridya mahakashaya* the group of ten drugs which are beneficial for heart.

Table 1:- *Hridya Mahakashaya Dravya*- ³ Table 2 :- Properties & action of *Hridya Mahakashaya*⁴

These 10 dravys [drugs] comprising Hridya Mahakashaya majorly has Madhura, Amla, Kashay rasa, Ruksha-Laghu guna, Ushana Veerya, Madhura- Amla Vipaka and Tridosh shamak Properties responsible in Sampraptio Vighatana [break the etiopathogenesis] of CVS. These Hridya drugs works by virtue of their 'Rasa'. Amla rasa is also claimed



to nourish the heart . It is proven that certain phytoconstituents present in these herbs help to maintain a healthy state of blood vessels including coronary arteries. These drugs are beneficial to heart as well as mind and helps in reducing the stress. These drugs are useful in maintaining cardiac health. The Critical analysis of these drugs in the treatment of *Hridyroga* indicates they have a crucial role in the management of cardiac as well as CVS.

MATERIAL & METHODS

Conceptual study of *Hridya Mahakashaya* was taken from an *Ayurvedic* texts, *Samhitas* and *Nighantus*, different text books of *Dravyaguna*.

Researchers' studies on these herbs' pharmacological effects have also been 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.

1. Dietetic factors – Usna(hot), Guru(heavy), Ruksha, Kashaya, Tikta, Madhura, Amla rasa sevana (consuming astringent and bitter food) Aahar sevana.

2. Somatic factors - *Srama* (Physical exertion), *Vegadharana* (Suppression of urges), *Abhighata* (Injury), *Ativirechana* (Excessive purgation) *Vihar sevana*.⁵

3.Psychological factors -*Chinta* (Anxiety), *Bhaya* (fear), *Shoka* ,*Kroda* (angry), *Mada* (Pschye).

✓ Vagbhata states the etiological factors of Hridroga are similar to that of Gulma roga.⁶

Pathogenesis -

According to Ayurveda – The vitiate 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 srotas. As Hridaya is the seat of Rasavaha srotas, Doshas reach Hridaya by Rasavaha Srotas and produce Hridroga.

According to Medical Science - Common causes of heart diseases are Food containing a large amount of fat, cigarette smoking, stress, hypertension, diabetes, obesity and sedentary lifestyle. The most important behavioural risk factors of heart disease and stroke are unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. The effects of behavioural risk factors may show up in individuals as raised blood pressure, raised blood glucose, raised blood lipids, and overweight and obesity. These "intermediate risks factors" can be measured in primary care facilities and indicate an increased risk of heart attack, stroke, heart failure and other complications like Cardiovascular disease. 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.⁷

Sign & Symptoms of CVS-

1) Abnormal heart rhythms may include –

- a) Pounding or racing heart
- b) Chest pain
- c) Sweating
- d) Lightheadedness
- e) Shortness of breath
- 2) Heart valve disease may include -
- a) Dizziness
- b) Tiredness
- c) Chest pain
- d) Heart murmur
- e) Shortness of breath
- 3) Heart Pumping difficulties include -
- a) Swelling in your lower body
- b) Exhaustion
- c) Shortness of breath

Table 3 : Shows chemical constituents and pharmacological properties $-^{8.9}$

DISCUSSION

The medication indicated in the drug review for HRIDYA MAHAKSHAY is a known rich source of antioxidants. The results are consistent with the *hridaya* property, which our ancient acharyas stated protected and promoted heart health. The necessity of the hour is to conduct research on drugs like these that primarily target organs while having less deleterious side effects. Since oxidative stress is the primary cause of CVDs, the majority of them, including Amra, Dadima, Amalvetas etc., are inexpensive and easily accessible nutritional fruits that can play a significant part in the treatment of *hridaya roga* in a preventive manner. Numerous investigations have shown that the majority of them have hemodynamic, anti-apoptotic, anti-apoptotic, antioxidant, and anti-inflammatory characteristics. Thus, it has been demonstrated that the mechanism of these fruits, which acts as a free radical scavenger in antioxidative stress, prevents and reverses CVD.¹⁰

CONCLUSION

Cardiovascular disease-related mortality and morbidity is now a global problem. Through preventive and curative measures, Ayurveda provides effective management solutions for CVD. Organ targeting research and medications with reduced harmful effects are urgently needed. Vitamin C is abundant in Hridva Mahakashaya medicines. Vitamin C reduces artery inflammation, decreases cholesterol, strengthens the immune system, and lowers blood pressure. These drugs contain phytochemicals such as alkaloids, polyphenols, glycosides, triterpenoids, tannins, flavonoids, and beta carotene, which act as potent antioxidants, anti-inflammatory agents, immune-modulatory, antidiabetic, anxiolytic, and antimicrobial agents, reducing oxidative stress and inflammation, which is a major cause 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 hridya roga.¹¹ Even in today's world, the majority of medications are readily available. After studying the aforesaid facts, the efficacy of Hridya Mahakashaya in hridroga has been proven on the basis of both Ayurvedic and modern fundamentals.

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Table 1:- Hridya Mahakashaya Dravya-

S. no.	Name	Botanical name	Family	English name	Useful part
1.	Aam	Mangifera indica Linn.	Anacardiaceae	Mango	Bark , stem , fruit Flower,
					Beejmajja
2.	Amratak	Spondias mangifera Willd	Anacardiaceae	Wild Mango	Fruit, Beejmajja
3.	Lakoocha	Artocarpus lakoocha Roxb.	Moraceae	Monkey jack	Fruit, flower, stem, Leaves
4.	Karamarda (Karonda)	Carissa carandas Linn.	Apocynaceae	Carandas plum	Fruit
5.	Vrikshamla	Garcinia indica chois	Guttiferae	Kokam butter tree	Fruit, Root bark
6.	Amlavetas	Garcinia pedunculata Roxb.	Guttiferae	Bor- Thekera	Fruit
7.	Kuval	Zizyphus jujuba Lam.	Rhamnaceae	Plum[Chinese Jujube]	Fruit
8.	Badar	Zizyphus Sativa Gaertn	Rhamnaceae	Jujube Red date	Fruit
9.	Dadim(Anar)	Punica granatum Linn.	Lythraceae	Pomegranate	Fruit, Fruit Bark, Root Bark
10.	Matulung(Bijora)	Citrus medica Linn.	Rutaceae	Citron	Fruit

Sr.no.	Sanskrit	Guna	Rasa	Veerya	Vipaka	Doshkarma	Main karma
	name						
1.	Amra	Laghu,Ruksha	Kashay	Sheet	Katu	Kapha-pitta	Mutrasangrahniya
						Shamaka	
2.	Amratak	Guru	Amla,	Ushana	Madhura	Vata-shamaka	Tarpana, Vrushya
			Kashaya				
3.	Lakoocha	Guru, Ruksha	Madhura,	Ushana	Amla	Tridoshpropaka	Raktapitta kara
			Kashay,				
			Amla				
		~ ~ ~ ~					
4.	Karamarda	Guru, Ushana	Amla,	Ushana	Amla	Vata-shamaka	Raktapitta kara
			Tikta				
5.	Vrikshamla	Laghu,Ruksha	Amla	Ushana	Amla	Kapha-Vata shamaka	Grahi
6.	Amlavetas	Laghu, Ruksha,	Amla	Ushana	Amla	Kapha-Vata shamaka	Rochan
		Tikshna					
7.	Kuval	Guru	Madhura,	Sheet	Madhura	Pitta-Shamaka	Bhedana,
			Amla				Shukrala
8.	Badar	Guru	Madhura,	Ushana	Madhura	Vata-Shamak	Ruchyam,
			Amla				Shukrala
9.	Dadim		Madhura,	Anushna	Madhura	Tridosha-shamak	Rochan
		Laghu,Snigdha	Amla,				
			Kashay				
10.	Matulung	Laghu,Snigdha	Madhura,	Ushana	Madhura,	Kapha-Vata shamaka	Rochan
			Amla		Amla		

Table 2 :- P	roperties &	action	of <i>Hridva</i>	Mahakashaya
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		cal constituents and pharmacol		
Sr. No.	Dravya name	Chemical constituents	Extract / Active chemicals	Mode of action
1.	Amra	carbohydrates, lipid and fatty acids, protein and amino acids, and organic acids, phenolic compounds, flavonoids , chlorophyll, carotenoids, and volatile compounds	Extract of <i>Mangifera</i> <i>indica</i> leaves have been shown to have a wide range of pharmacological activities	anti-acne properties, antioxidant properties, Anti fungal, analgesic, neuroprotective Immunomodulatory , The ethanolic fractions showed antibacterial activities against <i>Propionibacterium acnes</i> .
2.	Amratak	β -amyrin, oleanolic acid and amino acids—glycine, cystine, serine, alanine and leucine, daucosterol, cycloartanone 24- methylene and lignoceric acid, ellagitannins, galloylgeranin, lignoseric acid and β –carotein	The ulcer protective activity, antioxidant ,Cytotoxic , Hepatoprotective , photoprotective , anti- Inflammatory , Antiarthritic , Analgesic & Antipyretic activity of Spondias mangifera methanolic bark extract.	anti-acne properties, antioxidant properties, Anti fungal, analgesic, neuroprotective Immunomodulatory , The ethanolic fractions showed antibacterial activities against <i>Propionibacterium acnes</i> .
3.	Lakoocha	rutin, pyrogallol, gallic acid, resorcinol, quercetin, catechin and caffeic acid	Artocarpus Lakoocha ethanolic extract exhibited anti-inflammatory properties.	Antibacterial, anti-tubercular, anti- viral, anti-fungal, anti-platelets, anti-arthritic, tyrosinase inhibitory, cytotoxicity and H2O2 scavenging activity
4.	Karamarda	Ursolic acid, cholest , β -sitosterol, lupeol , oleanolic acid, α -amyrin	The crude extract of the roots has been reported to cure digestive disorders, blood pressure, intestinal worms, stomach ache, itches, ulcer, and also has hepatoprotective properties	anti-cancer, anti-oxidant, analgesic, anti-inflammatory, anti-ulcer, anthelmintic activity, cardiovascular, anti-diabetic, antipyretic, hepatoprotective, neuropharmacological, and diuretic activities, antimicrobial activities and cytotoxic potentials, DNA damage inhibition, constipation and diarrheal activities.
5.	Vrikshamla	D- Leucine , Garcinol, isogarcinol , Xanthochymol, Isoxanthochymol, Anthocyanin, Glucose, xylose, Camboginol, Citric acid, Oxalic acid	Garcinol , Hydroxycitric acid and Anthocyanin pigment respectively. Xanthones, flavonoids, benzophenones , lactones and phenolic acids.	Antioxidant, Anti-Obesity, Anti- Arthritic Anti-Inflammatory, Antidepressant and Anxiolytic, Antibacterial, Hepatoprotective, Cardioprotective Activities

Table 3 : Shows chemical constituents and pharmacological properties –

6.	Amlavetas	D- Leucine , Garcinol,	Carainal Understation	Antiovidant Anti Ohasita Anti
0.	Amiavetas	isogarcinol , Xanthochymol,	Garcinol , Hydroxycitric acid and Anthocyanin	Antioxidant, Anti-Obesity, Anti- Arthritic
		Isoxanthochymol,	pigment respectively.	Anti-Inflammatory, Antidepressant
		Anthocyanin, Glucose, xylose,	Xanthones, flavonoids,	and Anxiolytic, Antibacterial,
			benzophenones, lactones	Hepatoprotective, Cardioprotective
		Camboginol, Citric acid, Oxalic acid	-	Activities
7	V I		and phenolic acids.	
7.	Kuval	Linoleic acid, Carvonic acid,	Ethanol, flavoniods,	Anti-inflammation, antidiarrhoeal,
		Palatinol A, Ethyl palmitate,	phenolic compounds	antibacterial, antioxidative,
		flavonoids, cerebrosides,	present in extract of	anticancer, immune-modulating
		alkaloids, glycosides, saponins,	zizyphus sativa fruits.	hematopoietic function and
		terpenoids, phenolic		beneficial effects on cardiovascular
0		compounds		systems.
8.	Badar	Linoleic acid, Carvonic acid,	22 compounds were	Anti-inflammation, anti-ulcer, anti-
		Palatinol A, Ethyl palmitate,	identified in the ethanol	fungal, antibacterial, antioxidative,
		flavonoids, cerebrosides,	extract of zizyphus jujube	anticancer, immune-modulating,
		alkaloids, glycosides, saponins,	fruits. Several type of	anti-stress and sedative
		terpenoids, phenolic	components including	
		compounds	flavonoids, cerebrosides,	
			amino acid, phenolic acids	
			microelements, vitamins.	
9.	Dadim	Flavonoids,	The bark of this plant is an	Antioxidant, anti-inflammatory,
		ellagitannin,punicalagin,	important source of	analgesic, anti-fungal, anti-obesity,
		Ellagic acid, minerals, tannins,	antioxidants, it contains	anti-diarrheal, anti-bacterial, anti-
		polyphenols, anthocyanins,	phenolic compounds,	viral, anti-plasmodium, photo-
		lipoic acid	ellagic acid, catechins,	protection, anti-microbial activity
			epicatechins, Luteolin,	
			naringin and punicalagin,	
			quercetin, kaempeferol,	
			hydroxycinnamic acids	
10.	Matulung	Iso-limonene, citral,	Citrus medica fruit	anti-bacterial, anti-fungal, anti-
		limonene, phenolics,	methanol extract against	microbial, anti- ulcer, diuretic,
		flavonones, vitamin C, pectin,	carbofuran induced	antioxidant, analgesic,
		linalool, decanal and nonanal	toxicity	cardioprotective,
				antihyperglycemic, anti-
				hypertensive, anti-catarrhal,
				capillary protector, beneficial effect
				of CVS