

**HRIDAYARNAV RAS IN CORONARY ARTERY DISEASE****Dr. Dhanashree Ghotkar<sup>1\*</sup>, Dr. Ajay Kumar Sharma<sup>2</sup> and Dr. Avdhesh Bhatt<sup>3</sup>**P.G. Scholar<sup>1</sup>, Associate Professor<sup>2</sup>, HOD<sup>3</sup>Rasshastra & Bhaishajya Kalpana Dept. M.M.M. Govt. Ayurved College, Udaipur  
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**ABSTRACT**

According to *Ayurvedic Sharir Rachana* heart is a *Sadhya Pranhar Marma* so any structural or functional deformity can change into fatal condition. Coronary artery disease popularly known as heart blockages occurs due to formation of plaque which occludes the coronary arteries supplying oxygen rich blood to heart muscle. Sometimes this plaque becomes mobilise and forms an embolism which worsens the condition. This leads to variety of symptoms ranging from chest pain (angina pectoris), shortness of breath, ischaemia or infarction. In *Ayurvedic* literature, this condition is described in *Kaphaj Hridrog* which takes place due to formation of *Ama. Ras Shastra* is a branch of *Ayurveda* which deals with formation of herbo-mineral drugs. In

*Kaphaj Hridrog* there is a drug mentioned as *Hridayarnav Ras*. It consists of *Parad, Gandhak and Tamra Bhasma* processed with *Kakmachifal Swaras* and *Triphala Swaras*. Triturition of *Parad & Gandhak* is done to make *Kajjali*. This *Kajjali* performs the function of catalyst. While *Tamra Bhasma* acts as scraping agent which performs the function of *Lekhana*. The present article reveals the pharmacodynamics and pharmacokinetics of *Hridayarnav Ras* with special reference to coronary artery disease.

**KEYWORDS:** *Ras Shastra*, pharmacodynamics, pharmacokinetics, *Hridayarnav Ras*, coronary artery disease, *Kaphaj Hridrog*, *Kajjali*, *Marma*.

**INTRODUCTION**

According to *Ayurveda*, heart is a *Matrij Avayav* and *Moolsthan* of *Rasvaha* and *Pranvaha Strotas*. In heart, there lies *Pran Vayu*, *Vyan Vayu*, *Sadhak Pitta*, and *Avalambak Kapha*. It is also a place said for *Man* and *Oja*. So any heart disease being *Marmashrit* and *Madhyam*

*Margaj Vyadhi*, it is very essential to understand every structural and functional deformity of heart in early stage.<sup>[1]</sup>

Due to unhealthy lifestyle and dietary ignorance CAD is becoming an essential problem in cardiology. CAD occurs due to formation of plaque in coronary arteries. A plaque is a substance made from fat, cholesterol, calcium and other substances present in the blood. This plaque accumulates in the lumen of coronary arteries and narrows it. This hampers the blood supply of muscles of heart.

Heart receives oxygen rich blood supply from one coronary artery on right side while two arteries on left side naming left anterior descending(LAD) and left circumflex. Any occlusion in left sided arteries causes critical blockages, hence it is known as Widow maker.<sup>[2]</sup>

CAD is classified into 3 types.

1) MILD

Up to 40% blockage.

There is no reduction to blood supply. Due to cholesterol, blood pressure, diabetes and smoking the condition progresses.

It is normally treated with exercise weight loss and diet modification.

2) MODERATE:- Up to 40%-70%

It does not cause significant limitations to blood flow and does not cause symptoms.

It is treated in same way as mild disease, focusing on risk factors, medications and healthy lifestyle.

3) SEVERE

Greater than 70%

This causes significantly reduced blood flow to heart muscle and produces chest pain and shortness of breath. Sometimes it results into chronic total occlusion (CTO).It is treated with placement of stent and sometimes bypasses surgery in multiple severe blockages.

So in all these conditions or more specifically in chronic condition *Hridayarnav Ras* is the most potent and most powerful option.

**Nidanpanchak of Hridrog is described in following steps.**

<i>Nidan</i>	<i>Chhardivegvidharan, Atichinta, Abhighat, Adhyashan</i>
<i>Doshdushti</i>	<i>Margavrodhjanya Vatprakop</i>
<i>Strotas</i>	<i>Ras, Rakta, Mansa, Medovaha</i>
<i>Udbhavsthan</i>	<i>Raktavahi Dhamni</i>
<i>Adhishthan</i>	<i>Hriday</i>
<i>Bheda</i>	<i>Vataj Pittaj Kaphaj Sannipatik Krimij</i>
<i>Vyadhi Marg</i>	<i>Madhyam</i>
<i>Strotodushti</i>	<i>Sang</i>

## MATERIAL AND METHOD

According to *Rasendra Sar Sangraha*, *Hridayarnav Ras* is prepared as- *Shuddha sutam samam gandham mrittamram tayoho samam/ Mardayet triphala kwathaehi kakmachidravairdinam// Chanmatram vatim khadedrasoyam hridayarnavaha/ Kakmachiphalam karshe triphalaphalsanyutam// Dwatrinsttolakam toyam kwathamashavasheshitam / Anupanam pibechchatra hridroge cha kaphothhite*<sup>[3]</sup>

*Rasendra Sar Sangraha*(*hridrogadhikar1-3*)

- Shuddh Parad* - 1part
- Shuddha Gandhak* - 1part
- Tamra Bhasma* - 2part

*Sutarko gandakam kwathe varaya mardayeddinam/ Kakmachya vatim kritva chanmatrachcha bhakshayet/ Hridayarnanamayam hridrogadanalo rasaha// Bhaishajya Ratnavali*(*Hridrogchikitsa 2*)<sup>[4]</sup>

In a mortar, firstly 1 part of *Parad* and 1 part of *Gandhak* is taken. Triturate until it becomes a black coloured *Kajjali*. Then add 2 parts of *Tamra Bhasma* into it. Then add *Kakmachi Phal Swaras* (*Solanum nigrum*) and *Triphala Swaras* and grinding is done until it becomes solid. Then tablets are made resembling to size of black gram. Ideally it should be taken in a dose of 125mg-250mg in morning and evening after meal with 1 *Pal* decoction of *Kamkamachi* and *Triphala*.

It can also be taken with *Arjunarishta* as indicated in *Kaphaj Hridrog*.

## Contra-indications

- As it is a herbo-mineral drug, it should be taken from reliable source.
- It should be prescribed from *Ayurvedic* medical practitioner.

- 3) Do not consume overdose.
- 4) It should be avoided in pregnancy, lactation and in children.

### OBSERVATIONS<sup>[6]</sup>

1. *Varna* - *Krishna* (black)
2. *Ras* - *Kashay* (astringent)
3. *Sparsh* - *Masrun* (nitidus)
4. *Gandha* - *Kashayanvayi Aspashtha*

### RESULT

In vivo –study was conducted for toxicological study of *Hridayarnav Ras* by L.D 50 method in swiss albino mice at pharmacy college, Jamnagar. Acute oral toxicity study was carried out according to OECD 423 guidelines. Results showed that *Hridayarnav Ras* is safe at acute toxicity study and at all dose levels that is 300mg/kg, 2000mg/kg, 5000mg/kg doses also. It is safe for therapeutic use.<sup>[7]</sup>

### Pre-cautions

As it is containing *Tamra Bhasma*, it should be well prepared. Improper *Marit Tamra Bhasma* or only *Jarit Tamra Bhasma* creates *Ashta Dosha* like *Bhrama*, *Murchchha*, *Vidah*, *Sweda*, *Cleda*, *Vanti*, *Aruchi*, *Chittasantap*.

### DISCUSSION

As the purified *Parad* and purified *Gandhak* are continuously triturated under pressure at atmospheric temperature it plays a definite role in pharmacodynamics properties of *Kajjali*. It acts as gastrointestinal stimulant and neuro chemical irritant for intestinal mucosa. It acts as catalyst so better absorption of remaining pharmacological molecules is augmented. It is helpful in reducing the dosage of compound. Due to continuous triturating *Gandhak* molecules gets packed in between layers of *Parad* molecules, therefore after oral administration of *Kajjali* in a specific *Yog*, the sustained release of active molecules takes place.

When the plasma concentration of effective drug declines acceleration of release of active drug takes place through bio feed mechanism. The inert drug *Kajjali* stimulates local Membrano-enzymatic axis.

It has larger stay in intestinal mucosa and produces sustained rejuvenating effect and better crossing of blood intestinal barrier (BIB). Due to long stay more utilization of active drug results in less or no drug loss.<sup>[8]</sup>

On the other hand, *Tamra Bhasma* rejuvenate the damaged tissue of heart muscle. It acts as a tonic to heart- lung apparatus. *Tamra Bhasma* being a scraping agent it reduces untoward unuseful or damaged parts. It clears micro-channel openings of coronaries. Due to scraping properties, it reduces thrombolytic atherosclerotic changes. It is helpful in hypercholesteremia and dislipidamia.<sup>[9]</sup>

Grinding with *Triphala Swaras* provides *Anulomak Gati to Vat Dosha* responsible for arrhythmia and chest pain. *Kakmachi* is a liver tonic. According to *Ayurveda*, formation of heart and liver takes place at the same time so any liver tonic will also boosts heart actions also. In practice also hepatomegaly is seen in cardiac patients.

Action of herbal drugs used in *Hridayarnava Ras* discussed below

1) ***Kakmachi***:-<sup>[10]</sup>

Latin name:- *Solanum nigrum*

Family:-*Solanaceae*

***Raspanchaka***

*Guna* : *Laghu, Snigdha*

*Ras* : *Tikta*

*Vipak* : *Katu*

*Virya* : *Anushna*

*Satmikaran* : *Hridya, Raktashodhak, Shothhar, Raktabharshamak, Tridoshaghna.*

2) ***Amalaki***<sup>[11]</sup>

Latin name:-*Embelica officinale* Family:-*Euphorbiaceae*

***Raspanchaka***

*Guna* : *Guru, Ruksha, Sheet*

*Ras* : *Lavanrahit Pancharas, Aamlapradhan*

*Vipak* : *Madhur*

*Virya* : *Sheeta*

*Satmikaran* : *Hridya, Pittaghna (sheetvat) Rasayana*

3) *Haritaki*<sup>[12]</sup>

**Latin name:-***Terminalia chebula*      **Family:-***Combrataceae*

**Raspanchaka**

*Guna: Laghu, Ruksha*

*Ras : Lavanvarjit Pancharas Kashaypradhan*

*Vipak : Madhur*

*Virya: Ushna*

*Prabhav : Tridoshaghna, Vatnashak Hridya*

4) *Bibhitak*<sup>[13]</sup>

**Latin name:-***Terminalia belerica*      **Family:-***Combrataceae*

**Raspanchak**

*Guna: Ruksha, Laghu*

*Ras : Kashay*

*Vipak : Madhur*

*Virya: Ushna*

*Satmikaran : works specifically on Ras, Rakta, Mansa, Meda, Kaphavatvikarnut*

*Anupana of Arjunarishta* acts as carrier and also *Arjun* is a cardiac tonic. *Hridayarnav Ras* reduces increased heart rate and gives strength to cardiac muscles.

**CONCLUSION**

Though *Hridayarnav Ras* is a very effective drug in heart disease, it should not be the first line of treatment. It is more effective in chronic or complicated conditions.

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