

REVIEW ARTICLE

Systemic Review on the Concept of Hridroga in Ayurveda w.s.r to Ischemic Heart Diseases (IHD)**Gulhane Chetan*¹, Prasanth D², Gulhane Deepali³, Thakar Anup⁴**¹PhD Scholar, Department of Panchakarma, I.P.G.T. & R.A., G.A.U., Jamnagar, India²PhD Scholar, Department of Panchakarma, I.P.G.T. & R.A., G.A.U., Jamnagar, India³MD Scholar, Department of Basic principles, Ayurved Mahavidyalaya & Seth V. M. Charitable Hospital Sion, Mumbai, India⁴Associate professor and Head, Department of Panchakarma I.P.G.T. & R.A., G.A.U., Jamnagar, India

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ABSTRACT

Hridroga is a disease of *Marma* (vital organ), which is the seat of many vital activities. In *Ayurveda* all the painful heart diseases comes under the broad classification of *Hridroga*. In modern science Myocardial Ischemia is one of the worst painful conditions among the heart diseases. Myocardial Ischemia develops when coronary blood supply to the myocardium is reduced, either in terms of absolute flow rate (low-flow or no-flow ischemia) or relative to increased tissue demand (demand ischemia). As of 2012, it is the most common cause of death in the world and a major cause of hospital admissions. *Ayurvedic* concept of *Hridroga* is somewhat difficult to understand in relevance with modern pathology and aetiology, but *Ayurvedic* treatment of *Hridroga* is much effective and preventive. Here in, an effort is put forward to compile and analyse the various studies conducted on *Hridroga* from the year 1980 to 2012 at the Department of *Kayachikitsa* and *Panchakarma* in the Institute of Post Graduate Studies & Research in *Ayurveda*, Jamnagar, Gujarat.

Key words: *Hridroga*, *Hritshula*, Ischemic heart diseases (IHD).**INTRODUCTION**

Hridroga existed among the human beings since the prehistoric times. Identity of *Hrid Roga* was established from the Vedic period (2400 B.C). As the name indicates *Hrida Roga* is the disease of *Hridaya* which is considered to be heart in this context. Definition of heart diseases, aetiology, pathogenesis and management has been described in *Charak Samhita* [1,2]. According to *Sushruta* any condition which produces disturbances in the heart is called as *Hridroga*. [3] *Sushruta* has devoted a separate chapter to deal with the disease. *Acharya Jejjat* interprets the word *Badha* [4] as different characteristic of pain i.e. *Navavidha Peeda*. Pain is predominant symptom of *Hridroga*. *Hritshoola* has been described separately in the 42nd chapter of *Sushruta Uttara Tantra* entitled *Gulma Pratishedadyaya*. *Hridaya* is the one of the place for *Gulma* also [5] similarly the diseases/syndromes marked by severe pain appear to have been described under *Hritshula*. In

Ayurvedic classic 5 types of *Hridrogas* are mentioned *Vataja*, *Pittaja*, *Kaphaja*, *Sannipataja* and *Krmija*. [6] *Acharya Sushruta* has maintained different type of *Ruja* (pain) according to *Doshik* involvement. in *Krimija Hrid Roga* acute type of pain of different intensities which may threaten the life (*Maha rujam*) [7] of patients has been described. In *Vataja Hridroga* characteristic of pain is *Ayamyate* (Drawing pain), *Tudyate* (Pricking Pain), *Nirmathyate* (Piercing Pain), *Diryyate* (Cracking Pain), *Patyate* (Pain like cutting by saw), *Bhidyate* (Stabbing pain) and *Uttama Rujam* (Severe pain) [8] in *Kaphaja* symptoms *Hridaya Suptata* (Numbness in Cardiac region) *Hridaya Stimitata* (Stiffness), *Hridaya Bharikata* (Heaviness in cardiac region) *Ashmavrta Hridaya* (As stone is kept over heart) and the type pain seems to be dull in nature. *Pittaja Hridroga* symptoms are associated with Gastric disturbances like *Hrida daha* (Heart burn),

Hridayo Klamah (Sense of heaviness of heart), *Amla Pittasya* (Sour taste), *Chardanam* (Vomiting) *Sweda* (Perspiration), and *Daha* (Burning pain), in *Sannipatika* type of heart disease have clinical features of all three types of *Hrida Roga*. In *Krimij Hridroga* patient gets acute pain, pricking pain and itching characteristic of pain is *Suchibhirivatoda* (Pain like piercing by needles) *Chidyamanam Yatha Shasthairjatam* (As heart cut by weapon) it is more severe type of condition among all types of Hridroga^[9]. In modern science Ischemic Heart Diseases is one of the worst painful conditions among the heart diseases and it can be correlated with 5 types of *Hrid Rogas* on the basis of similarity in signs and symptoms.

MATERIALS AND METHODS

Clinical works carried-out in the department of *Kayachikitsa* and *Panchakarma*, I.P.G.T and R.A., Gujarat Ayurved University Jamnagar, during 1980-2012 were screened and compiled to revalidate the concept of Hridroga.

Clinical Trials conducted in I.P.G.T and R.A, G.A.U, on Hridroga are being evaluated in this paper.

Tapankumar M, (1987)^[10]: In PG level thesis work 10 patients of pain dominating Heart Disease were selected for study and the effect of *Yakuti Gutti* (Table 1) 120mg twice daily and *Hritshoolaghanasava* (Table 2) 20ml twice daily was studied for 1 month. Results shows that 72.7% relief was found in *Hritshoola* ($p < 0.001$), 75%, 62.5% 100% and 60% of relief was found in *Vestana* (Feeling of being covered), *Deenata* (fatigueness), *Hridgaurava* (heaviness in cardiac region) and *Hriddravata* (palpitation) respectively. In series 50% patients were found cured, 40 % patients were markedly improved. The follow up study shows that there was no recurrence of *Hritshoola* after stopping the medicine for 3 months. Scholar concluded that treatment can be recommended for mild and moderate type of pain dominating *Hridroga*.

Pandey B R, (1988)^[11]: In this study, 10 patients suffering from Rheumatic Mitral Stenosis were selected. All patients were subjected to *Abyhanga* (massage) and *Swedana* (fomentation) followed by *Sadyo Virechana* (purgation therapy). *Virechana* drugs contained 20ml *Trivrita Operculina turpethum* (L.) decoction with 10 ml of *Erand taila* (castor oil) after *Virechana* patients were administered *Hridrogharari Vati* (Table 3) 4gm/day and *Hridroghara kashaya* (Table 4) 20

ml twice a day both drugs administered simultaneously orally for 45 days. Highly significant result was found in *Ayasa Swasa* (Dyspnoea) 76.92%, *Hridrava* (palpitation) 62.96%, *Sadana* (Fatigue) 90%, *Hridvedana* (chest pain) 85.5% were found. Marked improvement was found in 90% patients and 10 % patients improved moderately scholar correlate the symptoms of *Vatik Hridroga* with Valvular Heart Disease.

Chaudhary K K, (1989)^[12]: In this study 11 patients of Ischemic Heart Disease were selected for study and divided in two groups. In group A, 6 patients diagnosed as Acute Coronary Insufficiency except one diagnosed as mild attack of M.I. In Group B, 5 patients of M.I Except two who were admitted in hospital under the condition of acute attack suspecting M.I clinically. In both groups same drugs were given but in second group along with modern medicine *Jaharamoharadi Guggulu* (Table 5) 250mg T.D.S, With lukewarm water and *Hridyasava* (Table 6) 40 ml/day B.d with equal quantity of water were given. In group A - 77.33%, 85.33%, 93.2%, 84.33% and 57.93% relief was found in *Hritshoola* (chest pain), *Shvasa* (Dyspnoea), *Hridrava* (palpitation), *Klama* (Fatigue) and *Sveda* (hyperhydrosis) respectively. Highly significant result were found in *Hritshoola* (chest pain), *Shvasa* (Dyspnoea), *Klama* (Fatigue) and *Sveda* (hyperhydrosis) $p < 0.001$. In group B - 75%, 81.81%, 90.9%, 53.83% and 57.14% relief was found in *Hritshoola* (chest pain), *Shvasa* (Dyspnoea), *Hridrava* (palpitation), *Klama* (Fatigue) and *Sveda* (hyperhydrosis) respectively. Significant results were found in *Hridrava* (palpitation), $p < 0.001$, *Shvasa* (Dyspnoea) ($p < 0.01$), *Hritshoola* (chest pain) ($p < 0.05$), *klama* (Fatigue) ($p < 0.05$), and *Sveda* (hyperhydrosis) ($p < 0.05$). After treatment 50 % patients were markedly improved and 33.33 % moderately improved. In group B -100% patients were improved. Scholar correlated *Sannipatika Hridroga* with IHD. Treatments have provided overall better cure and marked relief in Coronary Insufficiency patients in comparison to Myocardial Infarction patients.

Sharma S (1993)^[13]: In this clinical trail 16 patients of IHD were selected for study. Patients were randomly divided in two groups. In first group *Jaharmohra Khatai* (Table 7) group (J group) total 8 patients were registered and in second group *Jaharmohra Khatai* & *Arjun* (*Terminalia arjuna*) *Ksheerapak* (Table 8) (JA

Group) 8 patients were registered. *Jaharmohra Khatai* was given 500mg T.D.S and 100ml of *Arjun Ksheerpaka* twice a day. Duration of treatment for both groups was 1 month. In J group 63.02%, 62.5%, 38.70%, and 40% relief was found in *Hritshoola* (chest pain), *Shvasa* (Dyspnoea), *Hridrava* (palpitation) and *Shrama* (Fatigue) respectively. Statistically significant result was found in *Hritshoola* (chest pain) and *Hridrava* (palpitation) $p < 0.01$. In group JA 66.67%, 57.98% and 56.25% relief was found in *Hritshoola* (chest pain), *Shvasa* (Dyspnoea) and *Hridrava* (palpitation), Statistically significant result was found in *Shvasa* (Dyspnoea), *Hridrava* (palpitation) $p < 0.01$ and Statistically highly significant result was found in *Hritshoola* (chest pain) $p < 0.001$. Better results was found in JA group, Chest pain being the chief symptom in IHD showed highly significant results in JA, against significant relief in J.

Rasala V A (1999) [14]: In this clinical trail 23 patients of I.H.D were selected for study and grouped into 2 groups A and B. In group A, 4gms of *Arjuna (Terminalia arjuna) Ksheerapaka* was administered orally two times per day for 60 days

and in group B 6gms of *Abhradi Vati* (Table 9) in two divided doses with lukewarm water was given for 60 days. In Chest pain 29.03% relief was found group A ($p < 0.02$) and 38.46% relief ($p < 0.01$) in group B. In Breathlessness 57.1% ($p < 0.001$) relief was found group A and 60.0% ($p < 0.001$) in Group B. Fatigue 59.1% ($p < 0.001$) relief was found group A and 76.9% ($P < 0.001$) in group B. In Palpitation 73.33% ($p > 0.05$) relief was found group A and 76.25 ($p < 0.01$) in group B. *Arjuna ksheerapaka* showed marked improvement in 11.11% and 22.22% moderately improved, 44.44% and 22.22% unchanged. Whereas *Abhradi Vati* showed 10% marked improvement, 80% moderately improved results and 10 % mild improved results. The experimental study on albino rats was also carried out. For that an internationally adopted method has been used (L-180-PROTERNOL HCL MODEL FOR M.I). *Abhradi vati* showed better results in this study too. Scholar correlated I.H.D with *Krimija Hridroga* on the basis of severity of pain. He concluded that *Abhradi vati* gave better relief than *Arjuna ksheerapaka*.

Table 1: Yakuti Gutti : (Siddhayoga Samgraha)

1	<i>Manikya pisti</i>	2part	9	<i>Suvarna patra</i>	2part
2	<i>Panna pisti</i>	2part	10	<i>Keshara</i>	2part
3	<i>Mukta pisti</i>	2part	11	<i>Behman Rakta</i>	1 part
4	<i>Praval pisti</i>	2part	12	<i>Behman sveta</i>	1 part
5	<i>Kaherba pisti</i>	2part	13	<i>Jatifala</i>	1 part
6	<i>Chandrodaya pisti</i>	2part	14	<i>Lavanga</i>	1 part
7	<i>Amber</i>	2part	15	<i>Sveta Maricha</i>	1 part
8	<i>Ab Resham</i>	2part	16	<i>Ark-e- Gulab</i>	SoS

Procedure : first make the fine powders of drug and triturated with 21 times of *Gulab Ark-e- Gulab*, milk etc are added at last the pills are prepared out of it each of on *Ratti* (i.e. 125 mgs)

Table 2: Hritshoolaghanasava: list of drugs had been selected irrespective of its direct references in the text *Asava* is prepared by as per classics

Drugs for decoction		Drugs for <i>Prakshepa</i>		Drugs for fermentation
1. <i>Arjuna</i>	4 part	1. <i>pippalimoola</i>	1part	1. <i>Dhataki pushpa</i>
2. <i>Pushkarmoola</i>	4 part	2. <i>Yavani</i>	1part	2. <i>Guda</i>
3. <i>Indrayava</i>	4 part	3. <i>Jiraka</i>	1part	
4. <i>Guduchi</i>	1part	4. <i>Shunthi</i>	1part	
5. <i>Nagbala</i>	1part	5. <i>Jatamansi</i>	1part	
6. <i>Shankhapushpi</i>	1part	6. <i>Mustaka</i>	1part	
7. <i>Yasti Madhu</i>	1part	7. <i>Brahmi</i>	1part	
8. <i>Kulinjana</i>	1part			

Table 3: Hridrogharari Vati

Hridrogharari Vati (formulated yoga) : *Tamra Bhasma, Vanga Bhasma, Abhraka Bhasma, Suvarna Makshika Bhasma, Jarahara Mohara, Pravala, Rasa Sindura, Shringa Bhasma, Shudda Hingu, Pippali Moola, Brahmi, Shati, Guggulu, Arjuna And Triphala.*

Table 4: Hridrogahara Kashaya

Hridrogahara Kashaya (formulated yoga) – *Arjuna, Pushkarmoola, Shalparni, Punarnava, Gokshura, Katuki, Haritaki, Bhringaraja, Yashtimadhu, Erandamoola, Ashwagandha, Kantakari, Bilwapatra & Shunthi.*

Table 5: Jaharamoharadi Guggulu: all the drugs having *Hridya* property had been selected

1	<i>Jaharamohara</i> (serpentine)	4parts	8	<i>.paraseeka Yavani (Hyocyamus albus)</i>	1 part
2	<i>Abarehma (bombyx morie)</i>	-1 part	9	<i>laghuEla(Elattaria cardimomum)</i>	1part
3	<i>Swarnamakshika(copper pyrite)</i>	2 parts	10	<i>Hingu (Ferula narthex)</i>	1part
4	<i>Abhraka (mica)</i>	-1 part	11	<i>.Shilajita (Black bitumen)</i>	1part

5	<i>Kharpaara</i> (zink)	1 part	12	<i>Guggulu</i> (<i>Commiphora mukul</i>)	16 part
6	<i>Sarpagandha</i> (serpentine)	1 part	13	<i>Ankola</i> (<i>Alangium lamarki</i>)	1 part
7	<i>Pippali moola</i> (<i>piper longum root</i>)	1 part	14	<i>Ark- E- Gulab</i>	1 part

Method of preparation: all the herbs and minerals powders were mixed together. *Shilajit* and *Guggulu* were added last. Then 7 *Bhavanas* of *Ark-E-Gulab* was given and converted in a *Vati* form (250 mg).

Table 6: Hridyasava : Drugs were selected having effect on symptoms of Hridroga

1	<i>Indrayava</i> (<i>Holarrhena antidysentrica</i>)	4 parts	11	<i>Brahmi</i> (<i>Bacopa monnieri</i>)	1 part
2	<i>Arjuna</i> (<i>Terminalia arjuna</i>)	4 parts	12	<i>Kakmachi</i> (<i>Solanum nigrum</i>)	1 part
3	<i>Pushkarmoola</i> (<i>Inula racemosa</i>)	4 parts	13	<i>Vidanga</i> (<i>Emblica ribes</i>)	1 part
4	<i>Tulasi</i> (<i>Ocimum sanctum</i>)	4 parts	14	<i>Dariyai Narikela</i> (<i>Lodiocaseychallarm</i>)	1 part
5	<i>Amlaki</i> (<i>Emblica officinalis</i>)	4 parts	15	<i>Teja patra</i> (<i>Cinamomum Tamala</i>)	1 part
6	<i>Jatamansi</i> (<i>Nordastachys jatamansi</i>)	2 parts	16	<i>Gojihva</i> (<i>Onosma bracteatum</i>)	1 part
7	<i>Ashvagandha</i> (<i>Withenia somnifera</i>)	1 part	17	<i>Jala</i>	290 part
8	<i>Rasona</i> (<i>Alium sativum</i>)	1 part	18	<i>Guda</i>	29parts
9	<i>Palandu</i> (<i>Alium cepa</i>)	1 part	19	<i>Dhataki Pushapa</i> (<i>woodfordiya fruticosa</i>)	6 parts
10	<i>Yastimadhu</i> (<i>Glycerhiza glabra</i>)	1 part			

Method of preparation: A coarse powder is prepared then decoction was made. After filtration *Guda* and *Dhataki Pushpa* were added to it and it was kept in a jar with closed lid for fermentation for one month. After one month it was filtered and stored in bottles for use.

Table 7: Jaharmohra khatai (Rasa Chikitsa Vimarsha)

Jaharmohra khatai/ serpentine (H4Mg3Si2O9)) pishti : Pisti was prepared by giving 7 <i>Bhavana</i> of <i>Gulab Ark</i> to the powder of jaharmohra.

Table 8: Arjun(Terminalia arjuna) Ksheerpaka

<i>Arjun(Terminalia arjuna) Ksheerpaka</i> – It is prepared by adding 5gm of <i>Arjuna</i> Bark powder in 200 ml milk and 1lit of water then it is heated and reduced up to 200 ml.
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Table 9: Abhradi vati

<i>Abhraka</i> (<i>mica</i>) <i>bhasma</i>	1 part
<i>Suvarna Makshika</i> (<i>copper pyrite</i>) <i>Bhasma</i>	1part
<i>Yashada</i> (zink) <i>Bhasma</i>	3 parts
<i>Shanka pushpin</i> (<i>Convolvulus pluricaulis</i>) <i>choorna</i>	60parts
<i>Pushkara Moola</i> (<i>Inula racemosa</i>) <i>Choorna</i>	60 parts

Method of preparation: All drugs were mixed and Seven *Bhavanas* of *Arjuna kwatha*, *Rasonaswarasa* and *Bijapura swarasa* was given and tablet was formed.

DISCUSSION

Cardiovascular diseases are major causes of mortality and disease in the Indian subcontinent, causing more than 25% of deaths.¹⁵ Relevant studies were identified by systematic searches of the scientific literature for all reported observational studies on associations with I.H.D. Ischemic Heart Diseases is one of the worst painful conditions among the heart diseases. According to similarity in causative factors, signs and symptoms it can be correlated with different types of *Hridroga* in *Ayurveda*.

1) Hrid-Roga (Heart-diseases) caused by the following factors:

Ischemic heart disease is a condition of recurring chest pain or discomfort that occurs when a part of the heart does not receive enough blood.¹⁶ Ayurvedic texts distinctly explain the etiological factor of *Hridroga*, More extensive description of *Hrid Roga* is present in *Charaka Samhita*. A detail description of etiological factors like excessive exercise, excessive use of articles having *Tiksna* (sharp) attributes, administration of purgation and

emetic therapies, and enema in excess, excessive worry, fear and stress, Improper treatment of diseases, emesis, *Ama* (product of improper digestion and metabolism), and suppression of the manifested natural urges, emaciation, trauma (physical and mental).¹⁷ Modern science proves that most of causes mentioned by *Acharya Charaka* have direct or indirect role in pathogenesis of I.H.D. Precipitation of cardiac symptoms including Myocardial Infarction are very much under the influence of psychological stress^[18].

2) Common symptoms of Hridroga in Ayurveda:

General symptomatology of *Hridrogas* has been mentioned only by *Charaka*. In the 26th chapter of *Chikitsa*, The common symptoms of *Hridroga* are discoloration of the skin, fainting, fever, cough, hiccup, asthma, bad taste in the mouth, morbid thirst, unconsciousness, vomiting, nausea, pain, anorexia and such other ailments are manifested in a patient suffering from heart-disease.^[19]

According to Modern science symptoms are chest pain, typically on the left side of the body, Shortness of breath, which may occur with or before chest discomfort, may accompanied by pale or blue lips, Clammy skin, Nausea (feeling sick to your stomach), vomiting, light-headedness or fainting, or breaking out in a cold sweat, Sleep problems, fatigue (tiredness), or lack of energy^[20] most of symptoms mentions by Acharya Charaka have similarity with symptoms of I.H.D.

3) Treatment of Hridroga:

Acharya Charaka mentioned use of *Siddha Taila* (oils), *Ghrita* (ghee) , *kwatha* (decoctions), *Churna* (powder), *Leha Kalpana* (semisolid preparations) along with *Snehana* (oleation), *Swedana* (fomentation), *Vamana* (emetic therapy), *Virechana* (purgation therapy) and *Rasayan therapy* (rejuvenation therapy) in the management of *Hridroga*. Most of the *Yogas* (therapeutic formulations) used in the clinical trials for treatment of *Hridroga* contains *Rasna* (*Pluchea lanceolata* DC.), *Haritaki* (*Terminalia chebula* Retz.) *Pippli* (*Piper longum* Linn.), *Shati* (*Hedychium spicatum* Ham-ex-Smith) *Pushkarmula* (*Inula racemosa* Hook. f.) *Matulunga* (*Citrus medica* L. var. *limonum*) *Arjuna* (*Terminalia arjuna* Roxb.) *Jaharamohara* (serpentine), *Guggulu* (*Commiphora mukul*), *Hingu* (*Ferula narthex*) and *Saindhava* (rock salt). These drugs commonly possess properties like *Vatahara*, *Strotoshodhana* (purification of micro-channels), *Vedanastpana* (analgesic), *Anulomana* (Aperients a purging medicine; stimulates evacuation of the bowels), *Balya* (provide strength) and *Hridya* (cardiotonic). Since the *Hridaya* is the main seat of kapha the primary aim is to do *Langhana* (fasting) therapy followed by allevation of all three *Doshas* on basis of their predominance^[21].

Also *Panchakarma* modalities like *Vamana* (emetic therapy) *Virechana* (purgation therapy) and *Basti* (medicated enema therapy) is also indicated by Acharya Sushruta^[22] , Acharya Charaka emphasises on *Virechana karma* based on the various kinds of pain occurring during the different stages of digestion.^[23] But, special care should be taken while administering these *Panchakarma* therapies to avoid complications.

CONCLUSION

Across the *Samhitas* we get various references of *Hridroga* explained with the diverse nature of pain it produces. In modern parallels I.H.D is the most common painful cardiac condition. Due to its similarities in pain, they can be co-related to

each other. Systemic review revealed that clinical trials carried out had significant effects in the management of I.H.D, *Hritshoolaghanasava* can be recommended for mild and moderate type of pain dominating *Hridroga*. *Abyhanga* and *Swedana*, *Virechana* followed by administration of *Hridroghara vati* and *Hridrogaghna Asava* also proved statistically significant results in the signs and symptoms of Rheumatic Mitral Stenosis. Also treatment with *Jaharamoharadi Guggulu* have provided overall better cure in coronary insufficiency patients.

Even though all the studies proved to have significant results in the management of I.H.D, they severely lacked in the number of samples included. To establish the efficacy and revalidate the promising role of *Ayurvedic* management in the management of I.H.D, they should be carried out in a larger sample with the inclusion of latest parameters and Bio markers. Role of *Ayurvedic* treatment, especially *Panchakarma* in the prevention of Cardiac disorders should also be evaluated, as always it is well said Prevention is better than cure.

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