

CONCEPTUAL STUDY OF NIDANA AND SAMPRAPTI OF HRIDROGA (HEART DISEASES) IN AYURVEDA

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Abstract: Hridroga is a disease of marma (vital organ), which is the seat of many vital activities. Hridroga is among those diseases mentioned in Ayurveda where in the description are quite brief and the Ayurvedic view point needs clarification. In view of the increasing evidence of cardiac disorders in the present times this aspect assumes added importance. In the presence of limited available literature which is too scattered and highly diffuse, the Ayurvedic concept of Hridroga needs to be analyzed critically to verify whether it stands the test of times.

The present review article encompasses the concept of hridroga (heart diseases) in Ayurveda i.e., understanding the term *hridroga* in Ayurveda; along with its *bheda* (classification), *nidan* (etiology) and *samprapti* (pathogenesis) with modern insights where ever relevance is there.

Index Terms : *Hridroga, nidan, samprapti, ayurveda.*

INTRODUCTION:

Life style diseases are defined as diseases linked with the way people live their life. Diet and lifestyle are major factors thought to influence susceptibility to many diseases. The World Health Organization identifies drug abuse, tobacco smoking and alcohol drinking, as well as a lack of or too much exercise as major risk factors for NCDs. Commonest NCDs in India that has an impact of faulty lifestyle are obesity, mental illnesses, cancer, heart diseases, respiratory diseases, hormonal disorders and food allergies.²

The human heart is responsible for providing tissues with vital nutrients, and facilitating waste excretion. Consequently, cardiac dysfunction causes devastating physiologic consequences. Disruption of any element of the heart – myocardium, valves, conduction system, and coronary vasculature, can adversely affect pumping efficiency thus leading to morbidity and mortality.¹ Cardiovascular diseases (including coronary artery diseases) is number one cause of worldwide mortality, with about 80% of the burden occurring in developing countries.²

In Ayurvedic classics heart is the “*Urastha Hridaya*”.³ It is considered one among the three organs (trimarma) which needs constant vigilance and a keen eye on lifestyle and gastronomy, in order to avoid diseases with poor prognosis.⁴ 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. According to Sushruta any condition which produces disturbances in the *Hridaya* (heart) is called as Hridroga.⁵ Other than the hugely diffuse literature regarding various ailments related to hridaya, hridroga are broadly classified into five groups: ailments due disturbed activities of vata, ailments due to malfunctioning of pitta, ailments due to malfunctioning of kapha, ailments due to parasitic infestation and ailments caused by mal-activities of all the three doshas at the same time (sannipattik).⁶

HISTORY:

Hridroga existed among the human beings since the prehistoric times. Identity of Hrid Roga was established from the Vedic period (2400 B.C). The terms Hridyata, Hridroga, Hridayamaya and Hridaya Sula have been used in Vedas.⁷

The earliest detailed description of Hridrogas is available In Charak Samhita (Ca. Su. 17, Ca. Ci 26, Ca. Si 9) - much of the description in, Bhela samhita being extant) followed by Susruta (Ut. Ta. 43) and Vagbhata (As.Hri. Ni-5 & Chi-6). Definition of heart diseases, aetiology, pathogenesis and management has been described in Charak Samhita.¹⁴⁴ According to Sushruta any condition which produces disturbances in the heart is called as Hridroga.⁵

While Caraka and Vagbhata describe Hridroga as a part of some other Chapter, Susruta has devoted a separate chapter to deal with the disease. Besides, Hritshoola has been described separately in the 42nd chapter of Uttara Tantra (Susruta) entitled Gulma Pratishedadhyaya. Various types of acute pains have been described which occur either as complications of Gulma⁹ or appear independently. Hritshoola has been put under the latter category of shulas.

NIRUKTI

The word “hridaya” in Ayurveda is a synonymous for the word heart. “Hridaya” is derived from three verbs (as per satpathbrahman and brihadaranyak). “Hrun” which means to abduct, “dad” which means to donate and “in gatou” self generated rhythmicity for contraction and relaxation.⁷ The hridaya thus means an organ which draws fluid including blood from all over the body and then supplies it to all the parts of the body.¹⁰ The hridaya is a vital organ and if affected, may cause instantaneous death.¹¹

According to Sushruta any condition which produces disturbances in the *Hridaya* (heart) is called as ‘*Hridroga*’.⁵

HRIDROGA BHEDA**CLASSIFICATION OF HEART DISEASES:**

The general classification of diseases in Ayurveda is given below.¹²

Heart disease is classified as :

- ❖ Adibalapravrutta (congenital etiologies eg. chromosomal defects, infections or deficiencies)
- ❖ Janmabalapravrutta (hereditary/familial, most maternal gene pool is responsible)
- ❖ Doshabalapravrutta (derangement of vata, pitta, and/or kapha in any combination and permutation, due to faulty diet and regimen)
- ❖ Sanghatabalapravrutta (traumatic, accidental, poisoning, due to electrocution etc.)
- ❖ Kalabalapravrutta (seasonal causes, climatic causes, causes associated with biological clocks)
- ❖ Swabhavabalakruta (natural causes of degeneration; aging)
- ❖ Daivalakruta (psychological causes, idiopathic causes)

Other classifications:¹³

1. Nija
2. Agantuja (abhigataja, abhichar karma, abhishap and abhisang) ¹⁴

According to aetiological factors and clinical manifestations, heart diseases are classified as ¹⁵:

- Vataja
- Pittaja
- Kaphaja
- Tridoshaja (susruta has considered krimija and sannipaittika to be same)¹⁶
- Krimija

DISEASES RELATED TO HRIDAYA-TERMS

➤ Hrid-ruk	:	vataja jwara ¹⁷
➤ Hridi-vyatha	:	sannitpaittik jwara ¹⁸
➤ Hridi-ruja	:	dhatu pak lakshan ¹⁹
➤ Hridi:vedana	:	kamaja-jwara ²⁰
➤ Hrid-utklesh, guruta	:	rasa-dhatugata jwara ²¹
➤ Hridya-ashudhya	:	amaja-jwara ²²
➤ Hridi-sanghata-shulawan	:	asadhya jwara ²³
➤ Hrid-toda	:	atisara-purvarupa ²⁴
➤ Hrid-pida, hrid-roga	:	vatic grahani ²⁵
➤ Hrid-daah	:	paittik grahani ²⁶
➤ Hridaya-stimita	:	slaishmik grahani ²⁷
➤ Hrid-graha	:	vata-arsha ²⁸
➤ Hrid-shula	:	asadhya arsha ²⁹
➤ Hridaya-gaurava	:	ama-ajirna ³⁰
➤ Hridaye-ruja	:	visuchika ³¹
➤ Hrid-roga	:	abhyantara krimi ³²
➤ Hridtulya-pida	:	rakta-pitta upadrava ³³
➤ Hrid-pida	:	swasa purvarupa ³⁴
➤ Hrid-pida	:	vattik chhardi ³⁵
➤ Krimija-hidroga-tulyen	:	krimija chhardi ³⁶
➤ Hidroga	:	chhardi upadrava ³⁷
➤ Hrid-shula	:	amaja trishna ³⁸
➤ Hrid-pida	:	murchha purvarupa ³⁹
➤ Prapida-hridayasya	:	vattik murchha ⁴⁰
➤ Hrid-toda	:	pana-vibhram ⁴¹
➤ Hrid-avarodha	:	vikshepa,madatyaya upadrava ⁴²
➤ Hrid-kampa	:	apasmar purva rupa ⁴³
➤ Hidroga	:	prakupita vayu ⁴⁴
➤ Pidayan hridayam	:	aakshepa ⁴⁵
➤ Hridayasya-gauravam	:	aam vata ⁴⁶
➤ Hrid-graham	:	aam vata, pravridhdha avastha ⁴⁷
➤ Hrid-shulam	:	vattik shula ⁴⁸
➤ Hridaya, pristha shula	:	vata-kaphaja shula ⁴⁹
➤ Hridi-vyatha	:	trishna vega dharan ⁵⁰
➤ Hidroga	:	swasa nigraha ⁵¹
➤ Hidroga	:	pratishyaya nigraha ⁵²
➤ Hrid-shula	:	vataja udavarta ⁵³
➤ Hrid-ruja	:	vattik gulma ⁵⁴
➤ Hrid-graha	:	vatic prameha upadrava ⁵⁵
➤ Hrid-vidradhi	:	antah vidradhi sthan ⁵⁶
➤ Hrid-shula	:	kostha bheda ⁵⁷
➤ Hrid-stambho	:	Amaja anah ⁵⁸
➤ Hidroga	:	Sarvanga vata ⁵⁹
➤ Hridaya pida	:	pandu ⁶⁰
➤ Hridaya vedana	:	sannipattik jwar ⁶¹
➤ Marma graham	:	vatarakta ⁶²

HRUDROGA NIDANA

The various causes of heart disease can be classified into:

- I. Causes directly acting on heart.
- II. Causes affecting the basic elements important for maintaining physiological function of heart

- as mentioned in the previous chapter.
- III. Heart disease as a complication of other disease.

Aetiological factors directly acting on hridaya:

Various factors directly acting on hridaya can be classified into:^{63, 64, 65}

- Psychological factors
- Dietetic factors
- Physical activity
- Excessive indulgence in sexual activities
- Suppression of natural urges
- Alcoholism
- Bacteria, viruses, parasite, worms and their toxins
- Iatrogenic
- Toxic effect of drugs
- Improper managements of diseases
- Abnormal or excessive use of emetics, purgatives or enemas.
- Trauma to heart
- Complications of other diseases

General etiological factors:

CHARAK ⁶⁴	SUSRUTA ⁶³	VAGBHATA ⁶⁶
Ati-vyayam	Vega- dharan	Person emanciated because of jwar, chhardi, atisara or excessive use of vaman etc therapy consumes vatakarak ahar and practices vata karak vihar.
Tikshna-ahar ati sevan	Ushna-anna ati sevan	Person emanciated (karshito) because of excessive hunger or mal nutrition (bubhukshito) when consumes shita ambu.
Ati-vireka	Ruksha anna ati sevan	Person who immediatly after consuming a meal indulges in physical activities excessively.
Ati-basti	Viruddhasan	Person who forcefully vomits.
Cinta	Ajirna	Sandharan
Bhaya	Asatmaya bhojan	Undergoes shodhan therapies without proper snehan and swedan
Trasa	Adhyasan	After proper sanshodhan karma donot follow samsarjan krama and indulges in bidahi and abhisyandi ahar.
Gada-atichara	Ati-prasange	
Chhardyam		
Aama		
Sandharan		
Karshanani		
Abhighata		

Specific aetiological factors as per charaka:

DOSHA	VISHISHTA NIDAN
Vata-janya: ⁶⁷	shoka (grief), upavasa (anorexia), vyayam (excessive physical exertion), ruksha-sushka-alpa-bhojan (dry, devoid of any oil and very little amount of food consumption).

<u>Pitta-janya:</u> ⁶⁸	ushna-amla-lavan-kshara-katu-ajirna-bhojane (excessive and improper intake of hot in temperature, sour, salty, alkaline and hot food and consumption of food when suffering from indigestion), madya (alcoholism), krodha (excessive anger), atapa (excessive exposure to sun , hot environment).
<u>Kapha-janya:</u> ⁶⁹	atyadana (excessive intake of food), guru-snigdham (excessive intake of heavy, calorie rich and oily food), achintam (unstressful living), achestanam (lack of physical activity, sedentary life style), nidra-sukham –adhikam (excessive sleep)
<u>Tri-dosha janya:</u> ⁷⁰	all the nidanas of tri-dosajanaya hrid-roga.
<u>Krimi-janya</u> ⁷¹	when a person is suffering from tri-dosha janya hrid-roga but continues to consume sesame, jaggary ,milk products etc., swelling (granthi) occurs in parts of hridaya.

Hridaya And Primary Dhatus

Any of the eight basic elements viz. rasa, rakta, muscular tissue, Oja, prana vayu, vyana-vayu, sadhaka pitta and avalambaka kapha when affected, can disturb the function of the hridaya and cause hridroga.⁷² On the other hand these elements in hridaya are affected and form Hridroga owing to other causes or diseases of other organs in the body.

PRANA:

Causes of pranavaha srota dusti:

Depletion of body tissues, suppression of natural urges, excessive intake of dehydrating substances, excessive physical excersion in empty stomach.⁷³

Symptoms of prana vaha srota dusti:

Dyspnoea, increased or decrease in respiration rate, abnormal respiration with different type of noises, very shallow respiration, anxiety, abnormal body postures, vertigo, delirium, tremor and death.^{74, 75}

RASA:

Causes Of Rasa Vaha Srotas Dusti:

Intake of heavy, calorie rich, cold, and excessive oily excessively or in excessive amount, excessive mental stress and anxiety.⁷⁶

Symptoms Of ‘Rasadushti’:

Lack of desire to eat, loss of appetite, tastelessness of mouth, disability to taste, nausea, heaviness of body, lethargy, body ache, febrile illness, black outs, pandu , obstructions of various channels, reproductive disability, laxity of body, atrophy of body parts, diminished metabolism, untimely wrinkles and graying of hair.^{77,78}

‘Rasa-vridhhi’ Lakshana:

Nausea, excessive secretion of kapha, salivation and symptoms like that of kapha vridhhi.⁷⁹

‘Rasa-kshaya’ Lakshana:

Dryness, dyspnoea, emaciation, intolerance to noise, thirst, pain in hridayam.⁸⁰

RAKTA

Rakta-vaha-srota-dusti Causes:

Consuming thermogenic food items, oily, spicy and liquid diet excessively, excessive exposure to heat, fire or sun.⁸¹

Rakta-vaha-srota-dusti Symptoms:

skin ailments, cellulitis, raktapitta, menorrhagia, icteric ailments, abdominal growth, different types of skin eruptions and pigmentations, cyanosis, febrile ailments, burning sensation al over the body, pallor, haemohagic diseases, conjunctival illness.⁸²

Rakta-vridhhi Lakshana:

Redness of eyes and skin, engorgement of blood vessels, diseases like visarpa (erysipelas), vidradhi (abscess), kustha (chronic skin disorders), vata-rakta (gout), gulma (mediastinal tumors), upakusha, kamala (icteric diseases) and moha (syncope) etc.^{83, 84}

Rakta-kshaya Lakshana:

Craving for sour food, cold food, collapsing vein, dryness of skin, diminished body metabolism and vata prakopa (neurological and deficiency disorders).^{85, 86}

MAMSA:**Causes Of Mamsa Dusti:**

Living a sedentary life, sleeping in day hours, excessive consumption of fatty and calorie rich diet, eating excessively or in large quantity and consuming heavy food which donot get digested easily and blocks channels (abhishyandi).⁸⁷

Mamsa Dusti Lakshana:

Adhimamsa (muscle tissue hypertrophy), arbuda (various kinds of tumors and hyperplasia), kshawathu (inflammation), mamsasosha (muscle atrophy), sira granthi (growth in channels, vessels etc.) and maranam (sudden death).^{88, 89}

OJA:**Symptoms Of Oja Visramsa:**

The impairment of the distribution of oja to the dhatu, due to its leakage from the dhatauvava srota, causes looseness of joints or various junctions, inertness of the extremities, displacement of the dosha from their respective locations, impairment of the functions of body, speech and mind.⁹⁰

Symptoms Of Ojavyapad:

Mal transformation of the natural properties of oja, under the influence of vitiated dosha, Causes innertness and heaviness of the body, oedema, anasarca, discoloration of the skin, change in complexion, fatigue of the senses, drowsiness, and sleepiness.⁹⁰

Symptoms Of Oja Kshaya:

Results due to loss and wasting of oja and causes loss of consciousness, muscle wasting, fainting, delerium, death.⁹⁰

The etiological factors causing various disorders of oja, ranges from trauma (both physical and microbial) to psychological stresses, along with malnutrition, wasting diseases and chronic ailments in between.⁹¹

Doshas and heart:

PRAN VAYU¹²³

VYANAVAYU^{124,125}

SADHAKA PITTA¹²⁶

AVALAMBAKA KAPHA¹²⁷

Aetiological factors affecting various dushyas and doshas of hridaya:

Rasa, rakta, mamsa, oja, pranavayu, vyana vayu, shadhaka pitta and avalambaka kapha are the eight basic elements which maintains the integrity of the cellular structure and various functions of heart. Various factors which affects these basic elements can lead to heart disease.⁷²

Hriroga as upadrava of other diseases:

- Pandu⁶⁰
- Sannipataja jwara⁹²
- Vatarakta⁶²
- Vataja prameha⁵⁵
- Chhardi³⁷
- Raktapitta³³

- ❑ Pana-ajirna³⁵
- ❑ Dhatu-visha⁹³
- ❑ Abhyantara Krimiroga³²
- ❑ Avrita vata⁹⁴
- ❑ Vatik grahani²⁵
- ❑ Krimija chhardi³⁶
- ❑ Sarvanga vata⁵⁹

Other general aetiologies:

- Mandango (weaker metabolism)⁹⁵
- Due to the obstruction of the srotamsi;
- As a result of a deficiency of nutrients of raktadi dhatus;
- Lowered functioning of dhatushmas (dhatwagnis) and apachaya (catabolic events)
- The food ingested, which when subjected to the process of digestion in the koshta is changed into malas (become degraded).
- Little of nutrition is available for the production of oja, consequently.⁹⁶
- Causes of ajirna⁹⁷: consuming frequent meals and before complete digestion of previous meal, consuming hot and cold food, heavy and light food at the same time, consuming food at different timings every day.
- Etiology of abhyantar krimi⁹⁸: person who consumes food before digestion of previous meal, regularly consumes Madura and amla rasa food in excessive amount, consumes liquids excessively, consumes of food made of powdered grain and jiggery (cakes, cookies etc.), doesn't do any physical work (sedentary life style) and sleeps in day time.
- Dhatupaka⁹⁹

HRIDROGA LINGA

General symptoms of hrid roga:

(CHARAK)¹⁰⁰

- Change in complexion, pallor, cyanosis (vaivarna)
- Syncope (murchha)
- Fever (jwara)
- Cough (kaas)
- Hiccup (hikka)
- Dyspnoea (swasa)
- Tastelessness or bad taste (asya-vairasya)
- Excessive thirst (trisha)
- Drowsiness (pramoha)
- Vomiting (chhardi)
- Excessive salivation (kaphotklesha)
- Chest pain (ruja)
- Loss of appetite (aruchi)
- Along with many others (vividha anye)

(KASHYAP)¹⁰¹

- Heart failure (hridaya shosha)
- Liver failure (yakrit sosha)
- Spleen failure (pleeha sosha)
- Pulmonary failure (phupphusa sosha)

SYMPTOMS OF VATAJA HRID ROGA

CHARAK ¹⁰²	SUSRUTA ¹⁰³	VAGBHATA ¹⁰⁴
hrid-shunya-bhava (blank or dull feeling in chest	aamyate (strenuous feeling)	: shulen-ati (severe spasmodic pain)
Stabdhata (Blockage, bradycardia)	hridayam tudyate (piercing pain in heart)	tudyate (piercing pain)
drava (tachycardia, flutters, fibrillations)	nirmathyate (turbulence like feeling in heart)	sphutiva (bursting pain)
shosha (emaciation or weakness)	diryate (stabbing pain)	bhidyate (stabbing pain)
bheda (breaking pain)	sphotayate (bursting pain)	shushyati (heart getting weaker)
, stambha (feeling of certain obstruction in chest, blocks, arrhythmias)	patayate (breaking pain)	stabdham (blockage, obstruction)
moha (fainting)		hridayam shunyata (blankness, bradycardia)
vepathu(tremors)		drava (tachycardia, arrhythmias)
vestanam (squeezing pain)		akasmad-dinata (sudden depression, inferiority complex)
dar (dardarika, murmur)		shoka (grief)
pain in hridaya increases after digestion of food		bhaya (fear, phobia)
		, shabda-asahisnuta (unbearable to bear noise)
		vepathu (tremor)
		vestanam (spasticity)
		moha (fainting)
		swasa-rodho (dyspnoea, disrupted breathing)
		alpa nidrata (insomnia, disturbed sleep)

SYMPTOMS OF PITTAJA HRIDROGA

CHARAK ¹⁰⁵	SUSRUTA ¹⁰⁶	VAGBHATA ¹⁰⁷
tama (black outs)	trishna (excessive thirst)	trishna (excessive thirst)
duyana (burning pain in chest)	ushma (hot feeling in the body)	bhrama (vertigo)
daah (burning sensation)	daah (burning sensation)	murchha (syncope)
moha (fainting)	chosha (acute burning pain)	daah (burning sensation)
santras (severe anxiety)	hridaya-klama (easy fatigability of heart, exertional dyspnoea)	swada (excessive sweating)
santapa (hyper-thermia)	dhumayan (burning erructations)	amalak (sour erructation)
jwara (fever)	murcha (syncope)	klama (easy fatigability)
pitabhava (yellowish discoloration)	sweda (excessive sweating)	chhardam-amla pittasya (vomiting, vomitus containing sour substances)
trishna (thirst)	shosho-mukhasya (lack of lusture of face, dryness of mouth)	dhumak (burning erructations)
bhrama (vertigo)		pitata (yellowish discoloration)
murcha (syncope)		jwara (fever)
tikta-vakre (bitterness in mouth)		
tikta-amlodgiran (bitter-sour erructation)		
klama (easy fatigability)		
sweda (excessive perspiration).		

SYMPTOMS OF KAPHAJA HRIDROGA

CHARAK ¹⁰⁸	SUSRUTA ¹⁰⁹	VAGBHATA ¹¹⁰
stabdha (blockage)	gourava (heaviness)	hridayam stabdham (blockage, bradycardia, blocks)
guru (heaviness)	kapha shrava (excessive kapha secretion, salivation,))	bharikam (heaviness, increase in wt.)
stimitam (covered with a wet clothe like feeling in the chest)	aruchi (loss of appetite)	asma-garbhat (feeling of heaviness, lethargy)
praseka (excessive salivation)	stambho (obstruction)	kaas (cough)
jwara (fever)	agni-mardavam (weak metabolism)	agnisaada (weaker metabolism)
kaas (cough)	madhuryam-cha-asya (sweetness of mouth)	nisthiva (excessive salivation)
tandra (drowsiness)		nidra (excessive sleep)
suptam (desire to sleep)		alasya (lazyness, depressive lifestyle)
bharikam (obesity)		aruchi (lack of appetite)
aruchi (loss of appetite)		jwara (fever)
asma-vrittam (feeling of heaviness, lethargy)		

SYMPTOMS OF KRIMIJA HRIDROGA

CHARAK ¹¹¹	SUSRUTA ¹¹²	VAGBHATA ¹¹³
tivra-rati (severe pain)	utkleda (excessive formation of kleda, salivation)	shyava netrata (blackish discoloration in eyes, cyanosis)
toda (piercing pain)	sthivana (excessive salivation, splitting)	tama-pravesho (black out)
Kandu (itching)	toda (piercing pain)	hrillas (nausea)
	shula (spasmodic pain)	shosa (emanciation)
	hrillas (nausea)	kandu (itching)

	tama (black outs)	kapha-shruti (excessive secretion of kapha, salivation)
	aruchi (loss of appetite)	hridayam pratatam (strain at heart)
	shyava-netrata (blackish discoloration in eyes, cyanosis)	krakacha-daryate (severe excruciating pain)
	Shotha (oedema)	amayam ghoram (severe form of the disease, should be tackled immediately)

SYMPTOMS OF SANNIPATAJA HRIDROGA

- CHARAKA: all the lakshanas of tridoshas are present.⁷⁰
- SUSHRUTA: all tridoshaja hridroga are krimija hrid roga too.¹⁶
- VAGBHATA: all the lakshanas of tridoshas are present.¹¹⁴

Signs and symptoms in abhigataja hridroga:

Cough (kasa), breathlessness (dyspnoea), dry sensation in mouth and throat (kantha sosha, mukha talu sosha), protrusion of tongue (jivhanirgam), loss of strength (balakshaya), delirium, (unmaad), unconsciousness and convulsions (apasmara, chittanasha) are the symptoms seen in hridroga caused by various abhigataja nidana.¹¹⁷

Also, severe pain in heart (hrit-shula) and flanks (parshwa shula).⁵⁷

Hridaya-vidradhi-signs and symptoms:⁵⁶

- Sarvanga-shula (pain all over the body)
- Kaas (cough)
- Pain in chest (ruk)
-

Signs that child is having HRID-ROGA¹¹⁶

The infant while being fed at breast sucks for a while, leaves the breast, and starts sucking again. The baby gets exhausted while sucking and leaves the breast. Cough and noisy breathing are also seen. These symptoms are seen in congenital heart disease.

Clinical manifestations due to anomaly of basic elements:

Rasa, rakta (blood), mansa (muscular tissue), oja, pranavayu, vyanavayu, sadhaka pitta and avalambaka kapha are the basic elements which maintain structural integrity and physiological functions of heart.¹¹⁷

Anomaly in any of these elements can lead to heart disease.

HRIDROGA UPADRAVA¹¹⁸

The complications of hridroga are-

- Klama (lethargy without physical exertion)
- Saada (depressive metabolism, body activities)
- Bhrama (delirium, vertigo)
- Shotha (oedema)

HRIDROGA SAMPRAPTI

Samanya samprapti:

Vata, pita and kapha vitiated by respective causes, vitiates rasa and along with its circulation reach hridaya and get lodged in it producing different kinds of derangement in its function, thus causes hrid roga.¹¹⁹ Hence samprapti following diseases can be studied under this heading:

- ❖ Angina pectoris
- ❖ Heart failure (transient and chronic)
- ❖ Rhythm disturbances (arrhythmias and conduction disturbances)
- ❖ Syncope
- ❖ Cardiogenic shock

Vishista samprapti

Samprapti of krimija hrid-roga:¹²⁰

When a person is suffering from sannipataja hrid roga, due to excessive consumption of sesame seeds, dairy products, juggery etc. as he is unable to control his senses and greed to indulge into these dietary causes; which result into formation of swellings at hridaya. At that site rasa dhatu in presence of tridosha vikriti forms kleda. From that kleda krimi appears and causes krimija hridroga in hridaya marma. Gradually these krimi infests all over the hridaya and slowly destroys the entire heart.¹²⁰

This elaborate description of pathogenesis of krimija hridroga can be correlated to that of pathogenesis of RHD. Krimija hridroga is considered extremely serious ailment and can result into sudden death and hence such patients should be treated immediately.¹²⁰

Samprapti of sannipataja hridroga:

In a person who is having very weak metabolism and immunity (*kshina bala*), when neglecting his illness indulges in the various etiologies of hridroga, all the three doshas i.e. vata, pitta and kapha gets aggravated and get lodged in hridaya to cause grave disease which seldom gets cured, sannipattik hridroga, and presents all the signs and systems of vataja, pittaja and kaphaja hridroga.⁷⁰

Cardiac ailments resulted due to chronic causes can be correlated with sannipataja hridroga. This group of hridroga occurs because of gradual degradation of resistance against disease causing elements. Probably any one or more pathologies of the following can be causing the depletion in the disease resistance: debilitating chronic ailment⁷³, dhatupaka⁹⁹, various pshychological causes like shoka⁷³ (grief, depression), kopa⁷³ (anxiety, anger), dhyana⁷³(stress), trauma⁷³ and other causes of oja kshaya¹²⁰ like:

- ❖ Due to the obstruction of the srotamsi (gradual atherosclerotic changes, chronic hypertensive changes in coronary arteries, conduction blockage etc.)
- ❖ As a result of a deficiency of nutrients of raktadi dhatus (chronic anemia, dyslipidaemia, good cholesterol esp. HDL)
- ❖ Lowered functioning of dhatushmas (hypothyroidism, hypokalemia, hypocalcemia etc.) and apachaya (hyperthyroidism, hyperkalemia etc.)
- ❖ The food ingested, which when subjected to the process of digestion in the koshta is changed into malas (chronic diabetes mellitus, tuberculosis).

Samprapti of hridroga in infants:¹⁰¹

Deformed or weak heart of an infant (mostly due to adibalakrita, janmabalakrita, and daivabalakrita) causes grave anomalies in hridaya function (shoshitwat hridayam) because of which cause yakrita sophajayate (jayate hridayat yakrit). As yakrit is gravely inflamed and malfunctioning it causes pleeha to perish the consequences (yakritat jayate pleeha). A malfunctioning and weak pleeha causes anomalies in normal function of phupphusa (pleeham phupphusam jayate). This way, the hridroga in infants is presented a multiple organ failure disease (paraspara nibandhani sarwani).

This detailed description of pathogenesis of hridroga in infants by Kashyap is the very pathogenesis of congenital heart diseases. Failure of both yakrit and pleeha; which are the moolasthanas of rakta dhatu, along with failure of phupphusa (the maha-srota) and hridaya, which are the moolasthanas of prana; signifies the beginning of the disease is from previously malformed or failed hridaya (may be resulted by vata vitiation during gestational period) which vitiated prana followed by vitiated rakta (as rakta is carrying the vitiated parana) in a new born. Therefore, various cyanotic heart diseases can be rightly studied under this concept of samprapti of hridroga in infants.

Samprapti of hridaya vidradhi:¹²⁰

Due to various dietary causes like consumption of guru ahara (calorie dense and heavy food), incompatible food (including addictions), viruddhahara, dried food and contaminated food, and vidaha janaka food (deep fried food items, spicy food etc.); and faulty lifestyle causes like excessive indulgence in sexual activities, forcefully stopping natural urges, excessive physical exertion etc.), all the doshas i. e. vata, pitta, and kapha got vitiated primarily, at the same time and forms a small gulmarupi (small tumor like swelling) or elevated balmikiwat (like that of ant hill) vidradhi (abscess or aneurysm) in heart.

Gulmarupi hridaya vidradhi can be correlated with abscess in myocardium of the heart and balmikiwat hridaya vidradhi can be correlated with aortic aneurysm.

DISCUSSION:

Heart disease has been defined as “impairment of heart function”. It is similar to that of concept of “hridi-badha” in causation of hridroga, in Ayurveda Classics. Vitiation or any disturbance of function, quality and quantity of Vata, pitta and kapha present in the hridaya and/or body is responsible for causing Hridroga, however this could happen only after consumption of other etiologies like faulty diet and regimen, physical or psychological stress, trauma, aging, or due other chronic ailments. Krimija hridroga however has a specific etiology of infection and parasite infestation when a person was suffering from tridoshaja hridroga from before and do not follow nidana parivarjanam. Hence it also considered to be “nidana arthakara roga”.

Heart diseases are so vastly affecting the entire systems in the body that it is impossible to classify them on the basis of a single criteria. Heart diseases classification as per **1994 New York Heart Association** is the most accepted categorization of heart disease in the world today, as it comprises all possible heart anomalies in it. However, Ayurveda has always given more importance to that of etiological factors of a disease and hence like classification of most of the diseases, hridroga classification is also done on etiological and etiopathological basis.

Most of the Hridrogas are chronic in nature. This could be better understood by the number of diseases associated, where some form of hridi badha is observed, also some of them when become chronic, cause heart disease. Most of these diseases are metabolic disorders where hridroga roga appears as a paratantra vyadhi. This paratantra or nidana arthakara relation between these diseases and hridroga can be well correlated with heart diseases seen in chronic cases of anaemia, diabetes, hypothyroidism, thyrotoxicosis, hypertension, uremia, obesity and alcoholism.

The difference between hridaya roga and heart disease:

The complications of hridroga are *klama* (lethargy without physical exertion), *Saada* (depressive metabolism, body activities), *Bhrama* (delirium, vertigo), *Sotha* (oedema). This signifies that whenever there is any change in histology of cardio vascular system (*srota dusti*) to such an extent that it hampers basic function of heart, *upadrava lakshana* of hridroga develops. However, this is the stage where a Heart disease is diagnosed.

The Signs and symptoms in traumatic heart disease: Cough (*kasa*), breathlessness (*swasa*), dry sensation in mouth and throat (*kantha sosha*, *mukha talu sosha*), protrusion of tongue (*jivhanirgam*), loss of strength (*balakshaya*), delirium (*unmaad*), unconsciousness and convulsions (*apasmara*, *chittanasha*). A patient of heart disease showing these signs and symptoms is well understood to be at lower side of a GCS scale and is considered to be at an advanced stage of the disease. Therefore term “abhigataja” not only mean external trauma but cases of chronic heart disease, heart disease with faulty treatment or received no treatment which eventually produce organic lesion in the heart are also considered.

Specific Lakshanas Of Different Types Of Hridroga:

Major signs and symptoms for each type of hridroga can be discussed as follows:

VATAJA HRIDROGA:

1. Different kinds of pain and in different intensities (amyate, tudyate, bhidyate etc.)
2. Anomaly of conduction system (dravata, stambha, sushyati)
3. Heart murmurs (dar)
4. Dyspnoea (swas)
5. Other features are: fainting (moha), tremors (fainting) lack of sleep (alpa nidrata)

6. Other psychological features like grief, anxiety, fear, depression etc.

PITTAJA HRIDROGA

1. Syncope (moha)
2. Burning pain (dahyate, dhumayan)
3. Thirst and fever (trishna, santapa, jwara)
4. Easy fatigability (klama)
5. Other features are: Amla Chhardi, bitter or sour taste in mouth, excessive perspiration.

KAPHAJA HRIDROGA

1. Conduction blockage, brady cardia (stambha)
2. Heaviness, gain in weight, obesity (gaurava, guru, bharikam, stimitam, ama garbhavat)
3. Slow metabolism (agni-mardavam, agnisada) and loss of appetite
4. Increased sleep, lethargy, stupor
5. Other features are: fever, cough, excessive salivation, breathlessness.

KRIMIJA HRIDROGA

1. Spasmodic pain, piercing pain
2. Excessive nausea and loss of appetite (utkleda Hrillas)
3. Fainting (tamo pravesh)
4. Itching
5. Severe form of diseases
6. Other features are : cyanosis (shyava netrata), oedema (sotha), Peri cardial effusion (kaphaja sruti)

SANNIPATAJA HRIDROGA:

1. Comprised of a number of signs and symptoms that of vataja, pittaja and kaphaja at the same time.
2. Most of these patients suffer from a chronic ailment.

CONCLUSION:

1. Samanya lakshana of hridroga not only signifies the signs and symptoms of various heart diseases but also various pathological conditions which affect cardio vascular system in any manner.
2. Most of the hrid roga are chronic in nature.
3. On the basis of etiopathology and symptomology, following heart diseases are similar to that of their respective type of hridroga:

Diabetic cardiomyopathy, disease with conductiondefect, Athersclerosis.malignant hypertension	Vataja hridroga
Coronary heart disease, infectious carditis, hyperthyroidism	Pittaja hridroga
Dyslipidaemia, hypothyroidism, COPD,	Kaphaja hridroga
RHD, severe anaemia,	Krimija hrid roga
Chronic hypertensive heart disease , CCF	Sannipataja hridroga

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