

HRIDROGA – A DIAGNOSTIC APPROACH

[Kavya Krishnan C](#)¹, [Geetha B Markande](#)², [Prashanth Jain](#)³

¹II Year P G Scholar, ²Associate Professor, ³HOD, Professor
Dept. of P G Studies in Roganidana Evam Vikriti Vigyan, Alva's Ayurveda Medical College, Moodbidri,
Karnataka, India

Corresponding Author: kavyakrishnan986@gmail.com

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ABSTRACT

"*Hridorogo Hridrogaha*" means the impairment in the function of the heart is known as *Hridroga*. Cardiovascular diseases are the most common diseases which affect the circulatory system including the heart and its vasculature. *Darshana*, *Sparshana* and *Prashna Pariksha* holds relevance in the current clinical methods like history taking, general examination and systemic examination. *Trividha pariksha* helps to attain an appropriate knowledge regarding the *Roga* and *Rogavastha* more accurately in *Hridroga*. The prevailing diagnostic techniques like haematological, biochemical, invasive, and non-invasive methods aids up in the early diagnosis of cardiovascular diseases. The diagnostic approach in a cardiac patient assists to improve the effectiveness of treatment and avoiding long term complications. These examinations help to obtain knowledge regarding life span, the intensity of morbidity and mortality.

Keywords: *Hridroga*, Cardiovascular diseases, *Trividha Pariksha*, Diagnostic techniques

INTRODUCTION

Hridroga is a condition that causes discomfort in the heart by the vitiation of *Rasadhatu*¹. Cardiovascular disease represents the leading non-communicable cause of death, worldwide. The incidence of

cardiovascular diseases is increasing at an alarming rate in our society due to the absolute change in diet and lifestyle as an impact of adopting western culture and modern civilization. Different diagnostic methods

have been described in various Ayurvedic texts, out of which *Trividha Pariksha* ie; *Darshana*, *Sparshana*, *Prashna Pariksha* forms the basis for the diagnosis of a disease as well as for adopting proper treatment. All the other diagnostic methods explained in Ayurveda as well as in modern science can be categorized under these *Trividha Pariksha* by considering it as inspection (*Darshana*), Palpation and Percussion (*Sparshana*) and History taking or Questionnaire (*Prashna*). Evaluation of a patient with cardiovascular disease is mainly based on proper history, clinical examination, radiological examination of the chest, electrocardiogram, biochemical and haematological tests. Also, various investigations like echocardiogram, angiogram, treadmill test, cardiac catheterization, etc. All these examinations can be designated into Haematological, Biochemical, Noninvasive and Invasive methods. Although at times these advanced investigations play a very crucial role in establishing the exact diagnosis of a cardiac patient². Here, an attempt is made to explain the importance of *Trividha Pariksha* and various current diagnostic techniques in the diagnosis and for adopting a better treatment modality in the management of the cardiovascular disease.

Materials and Methods:

Hridroga: Ayurveda explained that *Hridaya* is one of the *Trimarma* and is said to be a *Koshthaavayava*, and also *Matrija Avayava*³. *Hridroga* may be acquired or congenital, these may disturb the functions of the heart and burden physically. Various diseases of the heart occur as a result of the entry of vitiated *Rasa* into *Hridaya*, and aggravation of *Doshas* due to *Nidanasevana*⁴. The general clinical features of *Hridroga* include *Vaivarnya*, *Murchha*, *Jwara*, *Kasa*, *Hikka*, *Swasa*, *Mukhavairasya*, *Trishna*, *Moha*, *Chardi*, *Kaphotklesha*, *Ruja* and *Aruchi*⁵.

Cardiovascular disease: Cardiovascular system includes the heart, vessels, and blood circulation⁶. Cardiovascular diseases are a group of disorders of the heart and blood vessels including coronary artery disease, cerebrovascular disease, peripheral arterial disease, congenital heart disease, etc. The risk factors which lead to this condition are tobacco use, unhealthy diet, obesity, physical inactivity, harmful use of

alcohol, hypertension, diabetes and hyperlipidaemia. These intermediate-risk factors indicate an increased risk of developing a heart attack, heart failure and other complications. The major symptoms of heart diseases include pain or discomfort in the chest, arms, the left shoulder, elbow, jaw or upper back, numbness on the face, arm or leg, difficulty in breathing, speaking, walking, fainting or unconsciousness. Many patients with heart disease may also be asymptomatic, both at rest and during exertion, but may present an abnormal physical finding, such as a heart murmur, elevated arterial pressure, or an abnormality in Electrocardiogram. In some asymptomatic patients, there may be sudden death, acute myocardial infarction or stroke⁷.

Trividha Pariksha: *Darshana*, *Sparshana* and *Prashna Pariksha* has been described by *Vagbhata-carya* in *Ashtanga Hridaya Sutrasthana*⁸. This *Trividha Pariksha* helps us with the proper diagnosis of a disease and for planning the actual treatment. In *Hridroga* also these *Trividha Pariksha* is having prime importance by the proper examination and history taking. *Trividha Pariksha* comprises both *Roga* and *Rogi Pariksha*.

1. *Darshana Pariksha* (Inspection)
2. *Sparshana Pariksha* (Palpation, Percussion)
3. *Prashna Pariksha* (Questionnaire/history taking)

1. *Darshana Pariksha:*

The thing identified by direct observation of the patient directly is called *Darshana Pariksha*. It helps to detect the changes in colour, structure, size, shape, deformities, etc in *Hridroga*.

- A. *Vaivarnya* (Cyanosis): There will be *Nilasyavatha* and *Syava Netrata* in *Krimija Hridroga*. Here the *Nilasyavatha* is considered as *Vaikarika*⁹. It can be considered as cyanosis; there will be central and peripheral cyanosis.
- B. *Murccha* (Syncope): as a symptom in *Pittaja Hridroga*.
- C. *Kasa* (Cough): seen in *Kaphaja Hridroga* and in *Hridaya Vidradhi*.
- D. *Hikka* (Hiccup): in *Mahahikka*, the *Pranavayu* obstruct the channels of circulation and vital parts as well as the heart of the patient.

- E. *Swasa* (Dyspnoea): it can be seen in *Hridaya Vidradhi*.
- F. *Chardi* (Vomiting): seen in *Pittaja Hridroga*
- G. *Kaphotklesha* (Expectoration): in *Kaphaja Hridroga*

Other symptoms like: -

1. Oedema: It is the cardinal feature of heart failure, when the heart weakens and pumps blood less effectively, fluid can slowly build up creating oedema. There will be pulmonary oedema and peripheral oedema.
2. Increases jugular venous pressure: Increased pulsation in the right side of the neck.
3. Clubbing of fingers and toes: mostly associated with cyanosis is found in certain congenital heart defects.
4. Icterus: very rarely seen. Ischaemic hepatitis from acute circulatory impairment.
5. Osler's node: these are painful raised erythematous lesions found on the pads of fingers and toes (a rare condition).
6. Rheumatic nodules: mostly occurs in the case of rheumatoid arthritis and it is an uncommon condition¹⁰.
7. Janeway lesions: painless red spots on palms and soles.
8. Malar flush: reddish discolouration on cheeks.
9. Xanthelasma near eyes and rarely seen in knee¹¹.
2. **Sparshana Pariksha:** *Sparshana Pariksha* is the palpatory method that helps to understand coldness, hotness, palpitations, coarseness, smoothness, etc. Both palpation and percussion examination can be included under this *Sparshana Pariksha*¹².
 1. *Jwara*: seen in *Pittaja* and *Krimija Hridroga*
 2. Pulse examination (rate, rhythm and volume) and Blood pressure
 3. Palpation of apex beat of heart and boundaries of heart and Percussion on heart region.
 4. Presence of palpitation: palpitation can be seen in mitral and aortic incompetence or arrhythmias¹³.
 5. Thrills: present in incompetent heart valve¹⁴.
 6. Pallor: can be seen in congestive heart failure.

3. Prashna Pariksha:

Prashna Pariksha is helpful to know about aggravating and relieving factors of disease like *Ruja* etc along with other symptoms like *Mukhavairasya*, *Trishna*, *Moha*, *Chardi*, *Kaphotklesha*, *Aruchi*¹⁵. *Manasika Nidanans* like *Chinta*, *Bhaya* and *Trasa*¹⁶. History of other systemic disorders like urinary system, respiratory system, gastrointestinal system, etc. For example, the relation between cardiovascular diseases and chronic kidney diseases - symptoms like oliguria, nocturia can be seen in heart diseases. The heart and kidneys work closely together. By this interrogation with the patient is having more important to know the triggering factor or the risk factor which causes the cardiovascular disease and get worsen.

Diagnostic Techniques used in cardiovascular diseases

Cardiovascular diseases are mainly diagnosed by using an array of laboratory investigations and various imaging techniques. The current diagnostic techniques are having a major role in the management of cardiovascular diseases. However, if a definitive diagnosis is not made on the basis of these history taking and examinations, further sophisticated investigations may be needed for a specific diagnosis. It is not essential to undergo all investigations in every patient, considering the need of the patient, one can select this advanced techniques¹⁷. There are mainly 4 classifications in the diagnostic methods: -

1. Haematological examination
2. Biochemical examination
3. Non-invasive methods
4. Invasive methods

1. Haematological Examination:

Screening for risk of cardiovascular disease, cardiac risk testing is performed to screen asymptomatic people to help determine their risk of developing coronary heart disease. A cardiac risk assessment is a group of tests and health factors that have been proven to indicate the chance of having a cardiovascular event such as a heart attack or stroke. The factors considered include age, family history of heart disease, diet, physical activity and blood pressure. The haematological examinations include: -

- A. Hb%
- B. Total leucocyte count
- C. Differential count
- D. Erythrocyte count
- E. Serum electrolytes¹⁸ like potassium (Hypokalaemia), magnesium (Hypermagnesemia), etc.
- F. Serum enzymes like lactate dehydrogenase (LDH), creatine kinase myocardial band (CKMB), Troponin. These are also called cardiac markers. They are the proteins which are released from the heart muscles when it is damaged. Markers can detect easily and rapidly measurable. Cardiac troponin I & T is popular as definitive marker because troponin is more sensitive, and it helps to diagnose whether it is a heart attack or any other heart-related conditions more effectively.

2. Biochemical examination:

In biochemical examination mainly one can go for glucose estimation and lipid profile¹⁹. In chronic diabetic conditions, there will be a chance to get heart disease by increasing the blood pressure or by high cholesterol. Diabetic patients will have chronic kidney disease, retinopathy, hypertension, etc. Lipid profile also helps us to screen for suspected heart disease like coronary artery disease or stroke. Dyslipidaemia is an important risk factor for atherosclerosis and coronary artery disease. High levels of LDL and low levels of HDL are associated with myocardial infarction and stroke. Other biochemical examinations like serum uric acid, serum creatinine, blood urea nitrogen, etc can also be done in later stage.

3. Non-invasive methods:

The most commonly used non-invasive methods are ECG, echocardiogram, Holter monitoring and chest x-ray²⁰. **ECG:** An ECG records the electrical activity of the heart at rest. It provides information about heart rate, rhythm and shows if there is an enlargement of the heart due to high blood pressure or evidence of a previous heart attack (myocardial infarction). **Echocardiogram:** To study blood flow, the structure of the heart, movement of valves and cardiac muscles. It helps to detect pericardial effusion, aortic stenosis and regurgitation²¹. **Holter monitoring:** this monitoring may detect transient episodes of Arrhythmias or

Ischaemia. It also helps to detect myocardial infarction. **Chest X-ray:** the size of heart, chamber enlargement, valvular, other calcifications, aortic abnormalities, congenital abnormalities of heart, etc²².

Other non-invasive methods are carotid ultrasound, treadmill test, CT, MRI, PET scan

4. Invasive Methods:

These are a type of medical procedure by using instruments that cut skin or that are inserted into the body. They help to confirm that a heart attack has occurred and determine the extent of heart damage. Mainly used invasive methods are Angiogram and Cardiac catheterization. **Angiogram:** it is a visualization by X-ray of contrast material injection into arteries, veins or heart chambers to define anatomy, disease or direction of blood flow. Indicated in coronary artery stenosis, congenital heart disease, chest injury and valvular heart disease. **Cardiac catheterization:** to visualize the heart chambers, valves and great vessels for the diagnosis of coronary artery diseases and valvular diseases.

Other invasive techniques are coronary stenting, thrombectomy, defibrillator insertion, atrial appendage closure and pericardial aspiration.

DISCUSSION

A patient may be asymptomatic and unaware of his underlying cardiac disorder. *Trividha Pariksha* gives proper knowledge about the symptoms that can be seen on the patient while inspection, any abnormalities in the heart region by palpation and percussion and good communication with the patient by history taking. Along with this, current diagnostic techniques also help us to know about the underlying cause which leads to heart disease. Advanced methods like ECG, echocardiogram, angiogram, haematological and biochemical examination provides the exact cause of the heart-related problem. All these examinations give an actual knowledge about the final diagnosis and for planning new treatment modalities to save a life.

CONCLUSION

Many patients with cardiovascular disease may be asymptomatic at resting and during exertion but may present with some abnormal physical findings such as heart murmurs, elevated arterial pressure, etc²³. The early detection of cardiovascular diseases can be the difference between life and death. A correct complete diagnosis is possible with history and clinical examination. Clinical examination supplemented with ECG, cardiac markers, echo and occasionally invasive methods like cardiac catheterization should be opted as per the necessity. Ancient diagnostic tools like *Darshana*, *Sparshana* and *Prashna Pariksha* still holds good as the clinical examination remains the basis for diagnosing a wide variety of cardiac diseases. Cardiovascular diseases remain the main cause of morbidity, mortality and consequently, early diagnosis is of paramount importance.

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