AN AYURVEDIC REVIEW OF CARDIOVASCULAR DISEASES

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ABSTRACT

Presently world is facing many severe health disorders, Hridroga is one of them. It can be correlated to cardiovascular disease which is now one of the most common causes of mortality. It accounts for approximately 30% of deaths worldwide. Cardio Vascular Disease comprises the most prevalent serious and a rapidly growing problem in developing nations like India. According to the World Health Organization, cardiovascular disease causes 12 million deaths in the world each year. It appears from this fact that there is still great scope to improve upon the concept as well as the practice of medicine in this area. Ayurvedic system of medicine can be of great help for controlling the heart disease, as the system is a votary of holistic approach. It is considered that many such diseases have multiple aetiology; hence a multipronged approach is more suitable for their management. A detailed description about Hridroga is present in ancient Ayurvedic texts with symptomatology, their curative and preventive measures. Symptoms of heart disease are also found in the disorders of other systems and due to which heart diseases have vast correlation with other systems of the body like digestive system, respiratory system etc. This article explains how Ayurvedic symptomatology resembles with symptoms of modern cardiovascular diseases and how the concepts of Ayurveda can help to prevent heart disease and how the care of heart should be taken through holistic way.

Keywords: Hridroga, Heart Disease, udavarta, cardiovascular diseases.

INTRODUCTION:

Hridroga is one of major problem of world health. It can be correlated to cardiovascular disorder which is now one of the most common causes of mortality. It accounts for approximately 30% of deaths worldwide. CVD comprises the most prevalent serious and a rapidly growing problem in developing countries like India. According to the World Health Organization, cardiovascular disease causes 12 million deaths in the world each year. Ayurvedic system of medicine can create great hope for controlling the heart disease. It is considered that many such diseases have multiple aetiology, hence a multipronged approach is more suitable for their management. A detailed description about Hridroga is present in ancient Ayurvedic texts with symptomatology, their curative and preventive measures.

Aetiological Factors Of Hridroga: As per modern science, etiological factors which are responsible for the origin of CVD are certain infections, genetic disorders, standard of living, dietetic irregularities, physical inactivity, obesity, addiction, alcohol intake, radiation and heat stroke, adverse physiological factors like stress and emotional upheavals and some diseases.
Ayurveda emphasizes on multiple causative factors for Hridroga as Over exertion, excessive exercise, excess administration of purgation, enema and emetic therapies, emaciation, certain psychological factors like excessive worry, fear and stress, trauma (physical and mental), Improper treatment of disease, emesis, Ama, Suppression of natural urges like thirst, tears, Shrama Shwasa(exertional dyspnoea), AdhoVata and cough.¹

Ayurveda does not only considers physical inactivity as causative factor but also emphasizes on the factors which are responsible for wasting of sharir dhatus which aggravates Vata dosha and affects an important marma like heart. According to modern researches stress is considered a contributing risk factor for heart disease because little is known about its effects. Researchers have identified several reasons why stress may affect heart. Stressful situations raise heart rate and blood pressure, increasing the heart's need for oxygen. This need for oxygen can bring on angina pectoris, or chest pain, in people who already have heart disease. During times of stress, the nervous system releases extra hormones (most often adrenaline). These hormones raise blood pressure, which can injure the lining of the arteries.

When the arteries heal, the walls may harden or thicken, making it easier for plaque to build up. Stress may also contribute to other risk factors like people who are stressed may overeat for comfort, start smoking, or smoke more than they normally would.² Ama which is defined as vitiated rasa Dhatu, incompletely metabolized product of digestion deserves specific attention. The condition like hyperlipidemia can be correlated to Rasadhatugata Ama. Snigdha, madhura ahara, sedentary lifestyle causes dhatugata Ama due to dhatvagnimandya. This condition is clearly mentioned in pathogenesis of Hridroga as the vitiated rasa (Amarasa) takes opposite course and obstructs at heart resulting in Hridroga.³

The suppression of natural urges cause Udavarta disease which itself is a causative factor for Hridroga. Concept of udavarta is a specific and unique concept where Apana when habitually disturbed, disturbs the function of prana in return, which ultimately affects the function of heart. Disturbance of the functions of heart is encountered in the Rasakshaya, Pandu and Grahani. Madya i.e. alcohol is the potent cause of disturbing the normal function of the heart. In excess, it disturbs all doshas and destroys the inherent Ojas and as heart is the seat of Ojas, it badly affects heart. According to Ayurveda the heart and GIT are interrelated and interdependent as ‘ tatra pranavahanam srotasam hriday mulam mahasrotasashcha’ means heart and GIT are the roots of Pranavaha Srotas and also heart is the root of Rasavaha Srotas. So they are interrelated and rasavaha and pranavaha srotodushti ultimately results in heart disease or may be responsible for heart attack.⁴ Thus the pathological condition of one system affects the other also, so for prevention of CVD, stability of digestive tract is important.

Udavarta as etiological factor for Hridroga

According to Ayurveda, suppression of some natural urges is very important cause for Hridroga like suppression of
defecation, micturition, belching, thirst, cough, exertional breath, weeping and ejaculation of semen are said to be etiological factors of Hridroga. Suppression of natural urges cause aggravation of Vata dosha. Heart is amongst the trimarmas and all these trimarmas are under high risk of aggravated Vata dosha, because it can vitiate the other two doshas and can take them along, at the site of srotovaigunya i.e. Hridaya to cause Hridroga.

According to Carakacharya, Udavarta vyadhi is also an etiological factor for the Hridroga. In the context of udavarta disease, Carakacharya mentions that due to excess intake of Vata aggravating factor, indulgence in sex without taking appropriate food and because of suppression of natural urges like urination and defecation, the apana vayu gets strongly aggravated obstructing the downward moving channels like anus and urinary passage, resulting in gradual obstruction in movement of stool, urine and flatus giving rise to udavarta. In symptoms of Udavarta some symptoms can be seen in one and another form of heart disease from which it can be said that Udavarta has some role in the manifestation of Heart disease.

### Comparison Between Symptoms Of Udavarta And Heart Disease:

<table>
<thead>
<tr>
<th>Manifestations of Udavarta</th>
<th>Cardinal Manifestations of Heart Attack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent pain in heart, abdomen and pelvis</td>
<td>Chest pain or pressure (heaviness) chest discomfort</td>
</tr>
<tr>
<td>Excruciating pain in backside of chest</td>
<td>Back pain or upper abdominal pain</td>
</tr>
<tr>
<td>Flatulence, nausea, pricking pain and indigestion</td>
<td>Heartburn or feeling of indigestion</td>
</tr>
<tr>
<td>Obstruction to voiding stool and appearance of boils in the abdomen</td>
<td>Unexplained sweating</td>
</tr>
<tr>
<td>diseases can manifest like fever, dysentery, cardiac ailments, vomiting, burning sensation of head, anorexia, cough, dyspnoea, facial paralysis, disease in the sides of chest etc</td>
<td>Jaw pain, or extension of pain into the arms or shoulder</td>
</tr>
<tr>
<td></td>
<td>Nausea, vomiting</td>
</tr>
<tr>
<td></td>
<td>Shortness of breath</td>
</tr>
<tr>
<td></td>
<td>General lethargy or listlessness (malaise)</td>
</tr>
</tbody>
</table>

### Pathogenesis of Hridroga:

According to Sushrutacharya, suppression of some natural urges, ingestion of food having hot potency and dry properties in excess quantities, use of incompatible foods, more quantity of food often, uncooked, unaccustomed food in more quantity causes aggravation of Vata, pittadi dosas which vitiate the rasa dhatu and go towards the heart and give rise to pain in the heart resulting in Hridroga.

According to modern science, over the course of lifetime starting from early childhood to the adulthood, due to ones bad food habits like eating fatty foods, junk foods, fried, spicy, fatty food items, arteries whose inner lining is normally smooth get slowly become clogged with clumps of fats, cholesterol and other material, called atherosclerotic plaques. This causes hardening or narrowing of the arteries. These plaques suddenly get ruptured and a blood clot forms around the ruptured plaque. As a result, the supply of blood with its oxygen and nutrients going to the heart muscle is choked off (myocardial ischemia). As there is reduced blood supply to the heart, it can't function normally, and one
experiences the physical symptoms like chest pain, dyspnoea etc. resulting in one and the other form of Heart disease.  Looking at the pathology of both streams, there is a fair similarity like hardening or narrowing of arteries supplying blood to the heart can be considered as Sthanavaigunya at Hridaya Marma and the rest of pathology can be explained with the following quotation of Sushrutacharya, which means that vitiated doshas in the body (which may be the blood clot around the plaque) get clogged at the site of Srotovaigunya and cause the disease at the same site.

Myocardial infarction and Krimija Hridroga: Myocardial infarction is a clinical condition resulting from sudden curtailment of myocardial blood supply. Severe and prolonged cardiac pain and other symptoms and signs of cardiac damage characterize it. As per Ayurveda, in Krimija Hridroga person suffering from tridoshaja type of Hridroga if starts consuming excessive food substances like dairy(cheese and butter), jaggery, sesame seeds and oil etc. his rasa dhatu gets affected more with excessive formation of kleda. Rasa becomes sticky in some parts of heart causing nodules in the heart. This all result in krimija Hridroga which is characterized by feeling as if heart is being pierced by needles or being cut in to pieces by weapons with itching and pain in the heart. Similar symptoms can be seen in patients with myocardial infarction and also in other cases of heart diseases.

General symptoms of Hridroga:

These are the general symptoms of Hridroga as per Charak Samhita. These symptoms can also be seen in various forms of cardiac manifestations like pallor, cyanosis and malar flush (kapolarunya) can be included.
under discoloration (vaivarnya), Murchha(stupor) is the cardinal feature of cardiac asthma, jwara(fever) is seen in septic endocarditis, Kasa(cough), Hikka and Shwasa(dyspnoea) are the pressure symptoms found in mitral regurgitation and mitral stenosis, Chhardi(vomiting), Aruchi(anorexia) are found in coronary thrombosis.

**Comparative table of symptomatology of Hridroga and Heart disease:**

<table>
<thead>
<tr>
<th>Symptoms of Ayurvedic Hridroga</th>
<th>Symptoms of Angina and other Heart Disease</th>
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</thead>
<tbody>
<tr>
<td><strong>Vataja Hridroga</strong> – Tremors, cardiac cramps, pauses in cardiac beats, stupor, sensation of voidance in cardiac region, dyspnoea, Tachycardia, exceedingly sever pricking, twisting, tearing, exploding and splitting pain on completion of digestion</td>
<td>Chest pain, pressure (occurs usually after exercise in cardiomyopathy) cramping, heaviness, Palpitations (irregular heartbeats or a “flip-flop” feeling in chest), Fainting, Fullness, tightening, shortness of breath, squeezing, burning, Rapid heartbeats, aching across the chest, particularly behind the breastbone, This pain often radiates to the neck, jaw, arms, back, or even the teeth,</td>
</tr>
<tr>
<td><strong>Pitaja Hridroga</strong> – Thirst, fainting, giddiness, perspiration, dryness of mouth, exhaustion,</td>
<td>Heartburn, weakness, Swelling, nausea, Dizziness</td>
</tr>
<tr>
<td><strong>Kaphaja Hridroga</strong> – numbness, stiffness, lassitude, Heart block, heaviness in cardiac region,</td>
<td>malaise, fatigue and generalized weakness, Chest discomfort, Shoulder or back ache, feeling of weight in chest(in heart valve disease when going out in cold air),</td>
</tr>
<tr>
<td>anorexia, sweet taste in mouth, Fever, cough</td>
<td>Productive cough (in heart failure)</td>
</tr>
</tbody>
</table>

From the above similarities, it can be said that the description of Hridroga and its various forms largely coincides with today’s heart disease and that’s why the preventive and curative measures prescribed by Acharyas of Ayurveda thousands of years ago will definitely be useful to reduce the death percentage from CVDs, if used in proper way and with thorough study of...
doshas and Avasthas (state of Dosha) of disease as depicted by Acharyas in Samhita.

**Importance of Vata dosha in Hridroga:**

A 2004 study at Tokyo Women’s Medical University showed that many workers have heart attacks in the early morning hours and especially on Monday morning. This may probably happen due to the excessive consumption of fast foods and junk foods on weekends which results in rasavaha srotodushti, creating Ama dosha and repetition of the same at every weekend causes shhana vaigunya at Hridaya. The early morning time i.e. last phase of night is the time of predominance of Vata dosha naturally which is most harmful for Hridaya marma and any vitiation of Vata dosha along with shhana vaigunya, Hridaya becomes the strong cause for Heart Attacks. So these all factors might be responsible for the incidences of ischemic attacks on Monday morning.

**Preventive Cardiology according to Ayurveda and Curative measures:**

In the context of prevention, an important view has been put forward by the learned Susrutacharya, that the ‘nidan parivargjana’ (to control the causative factors) is the best method of prevention. For prevention of CVD, it is better to avoid all sorts of stress and trauma, rashness of behavior and to follow the principles of hygiene and health, periodic purification of body, mental tranquility and balanced thought. Judicious use of purgation and other purifications to eliminate the morbid matter through stool, urine and gases is necessary. To create calm peaceful and pleasant state of mind, excitement in any form should be avoided.

**Principles of Treatment:**

For the cure of heart disease, the treatment should be done after considering the causative factors like Ama formation, Rasavaha Srotodushti, Ojas kshaya, Udavarta and most important consideration should be the proper treatment.
of Vata, which is aggravated due to varied reasons because Vata is the most hazardous factor in the treatment of heart disease as heart is amongst the trimarmas and all three marmas are always under the threat from Vata dosha.

Vatanulomana is very essential in Hridroga and should be done as mentioned in Udavarta Chikitsa. The direction of prana and apana vayu i.e. urdhwa(upward) and Adho(downward) direction gets disturbed in heart disease due to udavarta and it should be rectified. The curative measures of udavarta should be followed by massage with Agurvadi taila and fomentation therapy for the detachment of adherent doshas. Further administration of vartti of syama, trivritta, sauvarchal, hinga, shunthi, pippali, maricha etc in oileated anus for the downward movement of Vata and cure of retention of stool, flatus and urine is indicated.

Role Of Panchkarma: Panchkarma therapy plays important role for vatanulomana. If the above said procedures fail to produce desired result, then patient should be given oleation and fomentation therapies followed by niruha type of medicated enema to relieve the retention of urine, stool and flatus and promote the normal functioning of GIT.\textsuperscript{xix} Habitual suppression of natural urges of urination, flatus and defecation leads to vitiation of vayu and udavarta disease. This vitiated Vata is harmful for vital marma like heart and Vata at times may provoke the aggravation of pitta and Kapha dosha as stated earlier. Therefore to control over Vata dosha, niruha basti followed by anuvasana basti is to prevent excess of dryness in intestines (koshtha).

\textbf{Ojakshaya (Decrease Of Ojas):} Heart is the seat of Ashtabindvatmaka Ojas and any decrease or vitiation of this Ojas produces deleterious effects on heart and even death also. Some factors like drinking alcohol in excess is very harmful for heart as alcohol has exactly opposite qualities to Ojas due to which alcohol makes significant decrease in Ojas and may become responsible factor for Hridroga. Ojas also get decreased by anger, hunger, too much worry, grief, exertion and others. Due to this decrease, the person affected becomes frightened, weakened, worries very much without reason, his sensory organs become uncomfortable and distressed, complexion becomes affected badly, mind acts badly and body becomes dry and also lean\textsuperscript{xxi}. Ultimately the decrease of Ojas from the body causes decreased immunity and body get prone for diseases.

\textbf{Charakacharya says, to prevent Ojas and to keep heart and the vessels attached to it, in good condition, the factors that may lead to unhappiness, mental worries should be avoided. Diets and drugs which are conductive to heart, ojas and channels of circulation should be taken.\textsuperscript{xii} Ayurveda describes a very large number of Rasayanas and Ojovardhaka remedies like Ashvagandha, Shilajatu, Tulsi, Amalaki, Punarnava and medicines from jivaniya group like Kakoli, Kshirkakoli, Jivanti, Yashtimadhu etc which will be helpful in preventing Hridroga by increasing Ojas. Hridroga Chikitsa according to Susruta:
According to Susruta, Hridaya is the seat of Kapha dosha and in treatment of any disease, the treatment of the sthanic(local) dosha of that site should be treated first followed by the treatment of respective aggravated dosha. The best treatment for the aggravated Kapha dosha is vamana, that’s why Susruta has prescribed vamana therapy following oleation by drinking decoction of drugs of dashamula added with fats and salts, in the treatment of Vataja Hridroga.

Similarly with other forms of drugs, he has prescribed vamana therapy in Pittaja and Kaphaja Hridroga. But in case of krimija Hridroga, he has prescribed virechana therapy after consuming utkleshakar ahara. One should examine the disease thoroughly considering the factors like dosha, desha, kala, vaya, bala of both patient and vyadhi and avastha of the disease before applying the above purificatory measures. Based on susruta’s point of view, it can be concluded that accumulation of doshas and Ama at the site of sthanavaigunya and the process of srotodushti of Rasavaha and Pranavaha srotas can be definitely avoided through the periodic purification of body. Purification of body through vamana, virechana and basti therapies as described in ritucharya should be done to protect this vital organ particularly in the patients which are at high risk.

Vatopahata Marma chikitsa: Heart when affected by Vata dosha which is mainly responsible for heart disease, the patient should be given a potion consisting of powdered Asafoetida mixed with powder of any salt in the juice of any acid or cordial liquid(Hridya Peya) and the decoction of penta radices of the tick-trefoil (laghu panchamula) group as beverage mixed with sugar. In this way, such prescription told by our ancient acharyas after examining and experiencing them on number of patients, should be used by Ayurvedic physicians of today and should experience their result to boost up the confidence on our ancient Indian medicine.

Ayurvedic medications for Hridroga:

Physical and mental rest is essential for the heart patients. The patient must eliminate all strain and worry otherwise treatment will be less effective. Following are the drugs to be used in heart disease according to state of dosha and disease.

- In Ischaemic attack Mrigashringa Bhasma 2-4 ratti with ghritil honey and ginger every ten minutes till the pain is relieved.
- Jatamansi and bramhi powder 500 mg at night for their demolescent and soothing action that calms the nerves and heart muscles.
- Vataja Hridroga-Brihata Vata Chintamani Rasa 50 mg per day
- Pushkarmula Powder 2 to 3 gms per day
- Pittaja Hridroga-Suvarna Sutashekhar Rasa 20mg per day-Suvarna Makshika Bhasma 20 mg BD
- Kaphaja Hridroga-Hemagarbha Rasa 10 mg BD with Arjunarishta - Arogyavardhini +Prabhakar vati. The effect of Arogyavardhini + Prabhakar vati has shown highly significant reduction in lipid levels. It reduces harmful lipids in the body and cause significant increase in HDL with significant relief in chest pain. Along with these measures, local application of Hridbasti with Sahachara- Bala taila makes


significant relief in patients with heart disease by strengthening heart muscles directly through Balya property of the above taila.xxv

Some research works on Ayurvedic medicines useful in CVD:

**Pushkar guggulu:** Pushkar guggulu has some significant results in cases of heart disease. Researchers have shown that after six months treatment with pushkar guggulu, there is significant reduction in serum lipid levels and pericardial pain and dyspnoea on effort.xxvi

**Inula racemosa:** Studies have been conducted to find the efficacy of Inula compared to nitroglycerin for the prevention of angina symptoms in patients with chest pain and ECG ST-segment depression (indicative of myocardial ischemia) on exertion. Pre-treatment with Inula (2 grams root powder 90 minutes prior to testing) or nitroglycerin showed improvement in ST-segment depression on ECG, with greater improvements seen after Inula treatment.xxxvii

In another study Inula was studied in combination with Commiphora mukul (a 1:1 mixture) in patients with ischemic heart disease showing the symptoms like dyspnoea and chest pain, with ST-segment and T-wave changes on electrocardiogram (ECG), suggestive of myocardial ischemia. Commiphora is known for its lipid lowering qualities, hence decrease in total cholesterol, triglycerides, and total blood lipids were observed. In addition, at the end of the six-month study period there is a complete restoration of normal ECG in some cases. Significant improvement in subjects having chest pain and dyspnoea was also observed.xxviii

**Arjuna:** Arjuna improves function of cardiac muscle and subsequently improves pumping activity of the heart. It is thought that the saponin glycosides might be responsible for the inotropic effects of Terminalia, while the flavonoids provide free radical antioxidant activity and vascular strengthening.xxxix

**Clinical Studies on Terminalia:** An open study on effects of Terminalia on stable and unstable angina revealed a 50 percent reduction of anginal episodes in patients with stable angina after three months treatment and significant reduction was also noted in systolic blood pressure in these patients and an improvement in exercise tolerance. The unstable angina patients in this study did not experience significant reductions in angina or systolic blood pressure. Evaluating the overall clinical condition, treadmill testing, and ejection fraction, 66 percent of the stable angina patients and 20 percent of the unstable angina patients improved during three months of therapy.xxxi

Animal studies suggest that Terminalia can reduce blood lipids. The animals given Terminalia had a significant, dose related decrease in total and LDL cholesterol, compared to placebo xxxi. In a similar study, rats fed with cholesterol alone or with Terminalia bark powder for 30 days. Terminalia feeding caused a smaller increase in blood lipids and an increase in HDL cholesterol compared to the cholesterol-only group. The study’s authors hypothesized that Terminalia’s lipid-lowering effects were caused by inhibition of hepatic cholesterol biosynthesis, increased faecal bile acid excretion, and stimulation of receptor-mediated catabolism of LDL cholesterol.xxxii
It suggests that these drugs can be safely used for preventive purpose in high risk group of individuals, but along with these researched drugs, other drugs and therapies like Hridbasti, Niruha Basti etc. mentioned earlier should also be used and their effect should be studied on scientific level.

CONCLUSION: The researches and the concepts of Ayurveda mentioned for prevention and cure of Heart disease show that Ayurvedic medications have definitely a significant role in controlling the heart conditions. Panchkarma therapy plays very important role in prevention and management of CVD. The periodic purification of body through vaman, virechan and most essentially through Basti Chikitsa is the need of time for prevention of such wide spreading disease. Further researches should be conducted on other various measures depicted in Brihatrayi’s of Ayurveda to gain confidence over the treatment of heart disease. In all over India, various vaidyas treat and gain drastic results in diseases like heart and other more difficult entities, but their work remains unnoticed. The problem behind that might be the way of treatment through Ayurveda is not similar in all patients having same disease as Ayurveda considers individual parameters like prakriti, sara etc. Thus the treatment of Heart disease can be done successfully through holistic principles of Ayurveda.

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Source of support:Nil
Conflict of interest:None
Declared