Understanding Cardiovascular Disorders - An Ayurvedic Approach

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ABSTRACT

The morbidity and mortality due to Cardiovascular disorders is increasing globally. Conventional approaches are efficient in the management of critical conditions like myocardial infarction etc. But the established therapeutic approach of the conditions like hyperlipidemia, hypertension, Coronary Artery disease etc. is not cost effective. So, need of the hour is to understand the basic pathophysiology of cardiovascular disorders on Ayurvedic parlance. Heart is made of essence of Rakta and Kapha. So, vitiated Rakta and Kapha plays an important role in the pathophysiology of different heart diseases.

Key words: Cardiovascular disorders, Ayurveda.

INTRODUCTION

With urbanization and relative affluence, dyslipidaemia and cardiovascular diseases have emerged as an epidemic. The global burden of disease study reported almost 25% out of total annual deaths due to cardiovascular diseases. It is estimated that by the year 2020 there would be a 111% increase in cardiovascular death in India. According to World Health Organization (WHO), 80% of World population is dependent on their Traditional system of Medicine for their primary health care needs. Ayurveda is a rich heritage and vast scientific system. Cardiovascular problems have been dealt in detail in Ayurveda, which describes Hrudaya (heart) as a body organ governing emotions and circulating blood to keep a person alive and healthy.

Today’s Ayurveda sector seems to be trapped in copying modern medicine protocols, many times without understanding the contrasting epistemologies and the principles of the respective systems. So, the need of the hour is to understand disease pathology according to Ayurvedic parlance.

Terminology - Hrudaya?

In Ayurveda, disease nomenclature primarily focuses upon presenting system. The term Hrudaya itself has been controversial since ages and continues to be even today. The term hrudaya is coined for the two major organs viz. - Heart and brain. Hrudayadushti is mentioned in Hrudayaroga and Apasmara pathology. So, question arises how to solve this controversy?

Whenever there is vitiation of Buddhi (memory), Mana (mind), Chetana (sensory function) etc. then, the term Hrudaya indicates the organ Brain. Whenever there is a reference of Rasa – Rakta Samvahana (blood circulation), Vyana Vayu etc., then the term Hrudaya indicates the organ Heart.

Formation of Hrudaya

Hrudaya is formed from the superior essence part of Rakta Dhatu and Kapha. So, pathological changes in
Rakta and Kapha ultimately affects the physiology of the Heart.

Development of Hrudaya

According to Ayurveda, Hrudaya starts its functioning in the 4th month of intrauterine life.\(^{11}\) Hrudaya is a Matrija (maternal) organ.\(^{12}\) It is the first organ to start its functioning in utero, last to stop only at death.

Anatomical aspect of Hrudaya

Heart along with the umbilicus is mentioned as a landmark to demarcate the areas of three Doshas (humors) and also to demarcate the selective regions of some diseases.\(^{13}\) In shape and size and also in color and appearance, Hrudaya resembles the lotus bud \(^{14}\) (Pundarika Sadrusham) hanging from a bent stem with its tip pointing downwards (Adhomukham). Its interior resembles a mesh work and is full of blood.\(^{15}\) The heart is also compared with a root of tree (Mahamool) and its main trunks and big vessels are compared with the trunk and branches of a tree.\(^{16}\)

New approach towards the pathology of heart disease according to Ayurveda

As embryologically heart is developed from the essence part of Kapha and the Rakta Dhatu; heart diseases can be classified as – Raktadushtijanya, Kaphadushtijanya, Vyan Vayu Vikrutijanya and Manovikrutijanya Hrudroga.

Raktadhatu Dushtijanya Hrudroga (Heart disease caused by the vitiation of blood)

Yakrut (liver) and Pleeha (spleen) are the Srotomula of the Raktavha Srotas.\(^{17}\) Rakta Dhatu is having following properties\(^{18}\) – Visrata, Dravata, Raga, Spandhan and Laghuta.

1. **Visrata** - Visrata means having specific odor. This property is due to presence of Pruthvi Mahabuta in the blood.

2. **Dravata** (fluidity) - Normally because of this property, Rakta Dhatu is Pravahi (flowing) in nature. This property is due to presence of Aap (Jala) Mahabhuta in the blood. When pathologically, this Dravata increases, it ultimately increases blood volume. This increased blood volume causes increase in cardiac output and finally increased blood pressure.\(^{19}\) So, hypertension caused by increased blood volume can be understood as a pathology caused by increased Dravata in blood. When this Dravata in the blood decreases, it causes dehydration.

3. **Raga (redness)** - Rakta is having its specific red colour.\(^{20}\) This property is due to the presence of Teja Mahabutha in the Rakta. In the conditions like polycythemia vera, this Raga property is pathologically increased; while in the disease like Pandu (anemia) this coloration property of blood is pathologically decreased.

4. **Spandhan** - “Spandh” means pulsation. This property is due to presence of Vayu Mahabhuta in the blood. When this Spandh (pulsation) in the Rakta Dhatu is increased it causes Trachycardia and when this Spandh in the Rakta is decreased it causes bradycardia. Hence, trachycardia can be understood as a result of provocation of Vayu in the Rakta (Raktagat Vata).

5. **Laghuta** - Laghuta is Aakashiya Guna.\(^{21}\) For the normal physiological functioning of the heart this Laghuta Guna in blood is also essential. Specific gravity of the blood depends upon plasma content\(^{22}\) it contains protein and fatty material. This fatty content includes serum lipids and serum cholesterol. These can be correlated with Meda Dhatu. So, when Laghuta in Rakta Dhatu is diminished and Guruta in Rakta Dhatu is increased; it may produce conditions like Hyperlipedemia, dyslipedemia etc. So, to treat hyperlipedemia, we have to reduce abnormal Guruta in the blood and have to increase Laghuta in the blood.

So, the pathology of cardiovascular disorders can be easily understood on the basis of extent of Rakta Dhatu is vitiated. Conditions like coronary thrombosis, coronary insufficiency, hypertension, hypotension etc can be considered as a Rakta Dhatu Dushtijanya Hrudroga.
**Kaphadushtijanya Hrudroga**

Here, *Kapha* means *Avalambaka Kapha*. *Avalambaka Kapha* is essential for the structural integrity of the cardiac muscle.[23] So, when this *Avalambaka Kapha* is vitiated it causes mostly structural deformities of the heart e.g. Ventricular hypertrophy, Valular heart disease etc. These deformities are mostly chronic in nature as compared with *Raktadhatudushtijanya Hrudroga*.

Furthermore, these *Kaphadushtijanya Hridroga* can be divided into;

1. **Sajwar Hrudrog** - Heart disease associated with fever as seen in rheumatic heart disease.
2. **Hrudaya Visruti** - Hypertrophy, cardiomegaly etc.

**Vyanavayu Dushtijanya Hrudroga**

*Vyan Vayu* is responsible for the normal contraction-relaxation of the heart muscle.[24] Because of the *Vyan Vayu*, normal and continuous circulation of the *Rasa - Rakta* occurs.[25] So, the conditions like Trachycardia, bradycardia, extrasystole, Articular fibrillation etc. can be incorporated in the *Vyan Vayu Dusthijanya Hrudroga*.

**Manovikrutijanya Hrudroga**

Psychological factors like stress, anxiety plays important role in the manifestation of the heart disease.[26] According to Ayurveda, *Sadhaka Pitta* is responsible for the normal functioning of the mind.[27] So, while dealing with the patients of cardiovascular disorders, there is due consideration of the factors like vitiation of *Sadhaka Pitta*.

**General Symptoms of Heart disease**

*Acharya Charaka* mentioned the various signs and symptoms occurring in heart disease.[28] These are,

1. **Vaivarnya (discoloration)** – Proper physiological *Varnya* (color) depends upon two factors;
   a. *Bhrajaka Pitta* - which resides in the skin.[29]
   b. *Asrukdhara Kala*[30] – Blood circulation occurs through *Asrukdhara Kala*. On modern parlance, it can be correlated with peripheral circulation.

Psychological factors like fear, stress and anxiety vitiate this peripheral circulation.[31] Because of the contraction and relaxation of the *Asrukdhara Kala*, there fainting occurs in extreme fear condition and flushing occurs in extreme anger condition.

2. **Murchha** - This can be correlated with syncope. Syncope is due to a temporary reduction in the blood flow and therefore a shortage of oxygen to the brain.[32]

3. **Jwara (fever)** - In endocarditis, pericarditis like conditions there is febrile illness associated with cardiac anomaly.[33]

4. **Shwasa, Kasa, Hiccha (dyspnea)** - *Hrudaya* is the *Srotomul* of *Pranvaha Srotas*. [34] Blood purification occurs in *Pranvaha Srotas*. That’s why, dyspnea on exertion occurs in different cardiac anomalies. Generally, in the last stage of *Hrudayroga*, there is a *Chinna Shwasa*[35] which can be correlated with chyne-stoke respiration.[36]

5. **Ruja (pain)** - Generally, in the *Raktadushtijanya Hrydayavikara*, there is a cardiac pain.

**Congenital Heart Disease and Ayurveda**

*Acharya Shushruta* described *Janmabal Pravrutta Vyadhi* (congenital disorders).[37] These disorders can be divided into, a) *Rasakrut*  b) *Dauruhad Apavhar Krut*. Congenital heart disease can be considered as a *Raskrut Janmabal Pravrutt Vyadhi*.

**Interpretation of “Amla Hrudyanam”**

*Acharya Charaka* quoted that *Amla Rasa* is best for the *Hrudaya*.[38] Here question may arise why *Acharya* mentioned *Amla Rasa* as *Hrudyam* and not the other *Rasa*?

*Udavarta* is one of the main causes of *Hrudroga*. [39] Therefore, in *Charaka Samhita* after the description of the *Udavarta*, there is a description of *Hrudroga*. [40] In *Udavarta*, there is *Pratilom Gati* of *Vayu*.[41] So, to treat *Udavartijanya Hrudrog*, *Vatanuloma* is essential. *Amla Rasa* is called *Mudvatanuloma*. [42] *Amla Rasa* is useful for the *Anuloma Gati Vayu*. This is special quality possessing only *Amla Rasa* and not
others. Hence, Amla Rasa is useful in Udavartjanya Hrudroga.

**CONCLUSION**

Morbidity due to cardiovascular disorders is increasing day by day. Ayurveda is traditional and most commonly practiced medicine in India. The need of hour is to understand the entire notion of cardiovascular disorders according to Ayurvedic epistemology. This article gives broad pathophysiological concept about different cardiovascular pathologies on Ayurvedic parlance. Understanding cardiovascular pathology on Ayurvedic parlance, will definitely find in future promising therapeutic solutions of cardiovascular morbidity. Quality of life and therapeutic efficacy in the cardiovascular disorders can be enhanced by adopting Ayurveda treatment protocols.

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