



Review Article

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A REVIEW ON THE CONCEPT OF HRIDAYA AS BRAIN OR HEART

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ABSTRACT

In Ayurveda, multiple meanings attributed to a single term have been found for examples like Nidaana means cause of disease, Panchanidana (five diagnostic method) and Rasa means the six Rasas of the food, the Aahara Rasa (the final product of digestion of food), the Rasadhaatu (the first tissue formed from the Ahararasa i.e. essence of food), the metal mercury, similarly Hridaya means both the heart and the brain. Hridaya included in Trimarma, described as a Chetanasthana. It is a site of Paraojus, Moola of Rasa and Pranavaha Srotas and the hold of Trigunas. Among Dasha Pranayatana Hridaya is mentioned. After collecting information from various ancient texts and detailed dissection on cadaver, the structures present at the site of Hridaya can be understood as heart and its related structures. It comes under the variety of Sadhya Pranahara Marma resulting in death of the patient which reveals its importance. The concept of Hridaya is mentioned in Ayurveda but not about the brain. Recent research reveals that there are two brains, one in cranial cavity and other in Heart itself. Study of Hridaya which is described under "Arthe Dash Mahamuliy Adhyaya", and Trimarmiya Adhyaya of Charaka Samhita and Hridaya in Garbh-vyakaran Shariropkramniya Adhyaya (Chapters on embryology) of Sushruta Sharir Sthan (Anatomy by Sushruta) and whether it has same meaning indicating similarity with brain and heart or different meaning and its broader aspect with respect to brain in line with modern research.

Keywords: Brain, Chetanamarma, Heart, Hriday

INTRODUCTION

The anatomical term "Hridaya" itself has been controversial since ages and continues to be so even today. The term Hridaya is formed by applying *Kayana* to *Hri Dhatu*. Hridaya is formed from 3 letters *Hri Dhatu* is used for taking something. 'Da' means to give and 'Ya' means that which always keeps functioning. So it is meant that Hridaya is an organ that takes and gives something¹. By deep observation and study of *Samhita*, it can be said that at least two organs equally claim to put themselves synonymous with the term "Hridaya". At the end of the scale it is the belief that Hridaya is "Brain". At the other extreme end it is said to be Hridaya as "Heart". The fact that there are firm evidences to support both these views makes the matter still more controversial. In large scale, taking to a compromise, two Hridaya have been accepted, namely *Urohridaya* and *Shirohridaya*. The anatomical interpretation to be bases strictly on the contact refers to the seat of *Buddhi*, *Mana*, *Chetana* and *Indriyas Urohridaya* is to be accepted whenever the references are related to seat of circulation of *Rasa*, *Rakta* etc. *Yogvashishtha* mentions that there are two Hridaya one is thoracic and other is in head region

Hridaya: The Divine Centre of Chetna

According to *Acharya Sushruta*, Hridayais considered as the centre of *Chetna*.² In *Ayurveda*, *Shira* is considered as the centre for all 'Indriyas' whereas the centre for *Atma* and *Manas* is Hridaya. As due to the centre for all *Indriyas* 'Mana' can also be considered as a unique and ideal 'Indriya' and as making this fact as the basis, 'Shira' can also is considered as its place.³

Manas have two characteristic *Gunas*: 1.Ekatva 2.*Anutva*⁴. These two *Gunas* of *Mana* can take it any where whether it is heart or brain. The entire messages which *Manovaha Srotas*

conveys to *Mana*, keeping in touch with all the *Indriyas* and *Sharir*, *Mana* delivers it to the *Atma* which is situated in the heart.

Some References Regarding Hridaya as Heart

Acharya Charaka has included Hridaya in *Dasha Pranayatana*.⁵ Hridaya is originated from the essence of *Shonita* and *Kapha*.⁶ Below and to the left side of Hridaya, *Pleeha* and *Phupphusa* are present and to the right side *Yakrit* and *Kloma* are present.⁷ Hridaya is located between the breasts in thorax⁸ and the same type of references is quoted by *Sharangardhar*. The *Moola* of *Pranavaha* and *Rasavaha Srotas* are Hridaya⁹. *Acharaya Charaka* has included Hridaya one among 15 *Koshtang as* which means that it is the organ that is close to the *Kostha* (alimentary canal).¹⁰ In *Trimarmeeya Adhyaaya*, *Charaka* has described three *Marmas* viz. *Hridaya Shira* and *Vasti*.¹¹ Here *Shira* is already mentioned so by Hridaya it is considered as heart. *Acharya Vagbhatt* has considered Hridaya as *Moola* of *Siras*.¹² *Charaka* has considered it as centre of *Ojah*.¹³ *Acharya Charaka* has considered it as *Dashamahamoola*.¹⁴ This verse indicates Hridaya is a muscular heart which is found in thoracic region.

Some References Regarding Hridaya as Brain:

The vitiated *Doshas* moving upwards, gets lodged in the *Indriyaayatana Hridaya* and produces *Kama*, *Bhaya*, *Lobha*, *Moha*, *Harsha*, *Shoka*, *Chinta*.¹⁵ In modern aspect these all senses are produced by brain. *Anjana*, *Nasya*, and *Avpeedana Karmas* are used for the removal of *Krimi* from Hridaya.¹⁶ According to *Vagbhatta*, the centre for *Sadhaka Pitta* is heart but the entire functions of *Sadhaka Pitta Buddhi*, *Medha*, and *Abhimana* etc, ¹⁷ operates through brain. Hence, heart is considered as brain Firstly, as we all know that

Vyan Vayu is known as the king for all its vital functions like *Gati*, *Upshepana*, *Utkshepana*, *Ummeshana*¹⁸. Considering the fact that all these functions of Vyan Vayu are much related with the nervous system, there are many chances to consider heart as brain.

Hridaya has resemblance with lotus in *Adhomukha* position. According to shape some scholar consider it with heart but its function of sleep is the subject of brain not heart, when *Tamoguna* overtakes and envelops it, the individual goes to sleep, moreover brain with spinal cord seems like *Adhomukh Pundarika* that is why *Hridaya* can be taken as brain¹⁹. *Hridaya* described as the seat of knowledge, mind, thoughts, *Oja*, intellect, memory, life, five sense organ and their objects clearly indicates the function of brain and not that of heart.

DISCUSSION

Both organs have downwards direction, resembling *Adhomukha Pundrika*, spinal cord and descending aorta resembles the stem or stalk of lotus. *Hridaya* performs and regulate the functions of nervous system and circulatory system. In cerebro-vascular accident both organs are affected. The DNA in brain cell and heart cell is completely identical. Both types of cell have common origin from stem cells, and therefore contain the same genetic material. The only difference between brain and heart cells is how they use that DNA code²⁰. Moreover the brain and heart have excitable cells. The excitable cells are those that can best emulate to create a tiny electric current. Muscle fibers and nerve cells (neurons) are excitable²¹.

Recent study reveals that Heart and brain interact in a dynamic relationship that regulates many aspects of cognition and emotional experience. The propagation of information is more from the heart to the brain than the other way around, and this information influences regions in the brain that affect decision making, creativity and especially emotions.

CONCLUSION

The term *Hridaya* is formed by applying *Kayana* to *Hri Dhatu*. *Hridaya* is formed from 3 letters *Hri Dhatu* is used for taking something. 'Da' means to give and 'Ya' means that which always functioning. *Hridaya* can be a heart for taking and giving impure and pure blood and uninterrupted functioning by its own conducting system where as brain by its sensation and motor action and functioning of knowledge and intelligence.

From above references *Hridaya*, can functionally be considered as a brain as the seat of knowledge, mind, thoughts, *Oja*, intellect, memory, life, five sense organ and their objects and anatomically as heart as per its location reference described in the context of *Marma*. *Ayurveda* physician should consider both as *Hridaya* to diagnose and treat any diseases.

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