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Conceptual Study of Visha Karma on Hrudaya and Ghrita as Hrudayavarna

	
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ABSTRACT

Ayurveda is the branch of science in which we can find out all the current scenario of emerging diseases and their remedies. *Agada Tantra* is one among the eight branches which deals with the concept of toxicity, its treatment. *Agada Tantra* well mentioned all the *Sthavara* (~Plant origin), *Jangama* (~Animal origin) and *Krithrima* (~Artificial) *Visha* (~poison), its Symptoms and Management. *Charaka Samhita* mainly adopted the *Chaturvimsadi Upakrama* (~Twenty-four treatment modalities) for the management of *Vishas*. *Hrudayavarana*(~Protection of Heart) is one among the Twenty-four treatment modalities used as a preventive, curative and emergency management in toxic conditions. *Visha*(~poison) having properties opposite to that of *Ojas*, whereas *Ojas* helps to sustain life in the body. When *Visha* (~poison) enters the *Hrudaya* (~Heart) it hampers *Ojas*, leads to cardiac disease Similar concept is explained in contemporary science about action of poison in Heart. This article is an extensive review mainly focussed on the action of poison on Cardiac system and the treatment of *Hridayavarana*.

INTRODUCTION:

Agada Tantra is the branch that deals with the unique concept of *Visha* (~poison) and its management. *Visha* is a substance that cause *Vishada* (~Sadness) to the world¹. *Visha* includes all the *Sthavara* (~vegetable & mineral) and *Jangama* (~Animal origin) *visha*. *Visha* enters into the body and it imbalances all the normal functions.

Hrudayavarana is a unique and effective treatment modality mentioned in *Charaka Samhita* under the heading of *Chaturvimsadi Upakramas*². *Hrudayavarana* mainly focusing on protection of *Hrudaya* (~Heart). *Hrudaya* is the site of *ojas* which helps to sustain life in the body. *Hrudayavarana* treatment mainly include administration of *Ghrita* (~Ghee) with *Agada yogas* (~Formulations used in toxicology) as a remedial measure to protect *Hrudaya*.

Aims & objectives

- To Know the Action of poison in Heart in relation with contemporary view.
- To know the methods of protection of Heart.

The word *Hrudaya* is derived from Sanskrit Word as HARAN + DANA + AYANA which means Receiving + Givingaway + Moving or maintaining a continuous activity of two earlier functions³. The organs doing these functions can be included in the term *Hrudaya*. Since life is sustained in the body mainly by means of circulation, respiration and nervous system, during toxicity these systems are mainly affected and need to be protected, which can be done by means of *Hrudayavarana*. *Hrudaya* is mainly made up of the *Prasadabhaga* (~Essence) of *Raktha* and *Kapha* in the fourth month of pregnancy⁴. *Hrudaya* abides *ojas*⁵ and *Mana* (~mind)⁶ *Hrudaya* said to be the seat of *Atma*, *Vyana* *Vayu*, *Sadhaka* *Pitta*, *Avalambaka* *Kapha*, and *Rasa* and *Prana* *Vaha* *Srotas*⁷. *Hrudaya* is *Marma* (~Vital organ)⁸

Action of *Visha* on *Hrudaya*:

Visha is the substance that produce *Vishada* and has the ability to destruct the whole world. *Visha* possess *Teekshna* (~Penetrate), *Ushna* (~Hot), *Ruksha* (~Dry), *Vishada* (~Non-unctous), *Vyavayi* (~Spreading all over the body), *Ashukari* (Quick acting), *Laghu* (~Light), *Vikasi* (~Debilitate the tissue), *Sookshma* (~Entering the minute pores), *Avyaktha rasa* (~No taste) and *Apaki* (~Undigestible) properties⁹. The *Visha* is mainly classified into *Sthavara*, *Jangama*, *Krithrima* *Visha*¹⁰. The pathogenesis of all the *Visha* is same as that it vitiates the *Raktha* *Dhatu* initially, then the *Tridoshas* and their *Ashrayas* finally it destructs the *Hrudaya*

and causes death of the patient¹¹. In the symptoms of toxicity, disarrangement of physiological and psychological changes happens in the body. All the *Visha* have the properties just opposite to the qualities of *Ojas*, causes the vitiation of *Vatapitta Dosha* and *Sadyopranahara* (~immediate death) in nature. The manifestations of *Visha* is mentioned in terms of *Vegas*(~Stages). *Vega* is defined as the transmission of *Visha* from one dhatu/kala (tissue) to another¹². The principle of *Vishachikista* is explained by *Charaka samhitha* in *Vishapratisheda Adhyaya*. *Ojas* is an important essence which is necessary to maintain health, fight against various diseases and to improve the health status. *Ojas* is formed from the essence of all the dhatu and it is the *bala* (Strength) of the body¹³. *Ojas* is of two types: *Para ojas* & *Apara ojas*. *Para ojas* is the one which is responsible for *Jeeva Dharana* (~Maintaining life in the body) and it is situated in *Hrudaya* in *Ashtabindhupramana* (~Quantity of eight drops). *Apara Ojas* circulates throughout the body and have a quantity of *Ardhanjalipramana*¹⁴. The *Kshaya*(~depletion) of *Para Ojas* leads to death and *Kshaya* of *Apara Ojas* results in malfunctioning of the body. Because of the aforementioned reasons it is imperative that *Ojas* should be well preserved to maintain life in the body. *Ojas* can be correlated with CSF in the brain. *Ojovardhaka* drugs help to cross the blood brain barrier. Hence it can prove that *Hridayavarana* not only protecting heart but also central nervous system.

Action of poison on Hrudaya:

Contemporary view¹⁵

Venoms are complex concentrates of biologically highly active molecules known as toxins, and they exist mainly as peptides and proteins. Several natural toxins are produced by plants, bacteria, insects, fungi and animals. In nature, toxins have two main functions: to capture their preferred prey (e.g. spiders, snakes, scorpions, etc.) or to serve as defence (e.g. bee sting, frog poison, etc.) They can disturb electrical (producing arrhythmias) and mechanical activity of the heart affecting pumping or leading to cardiac arrest.

Sodium channels¹⁵

Voltage-gated sodium channels are an essential part of excitable membranes and enable fast depolarisation, which is responsible for action potential (AP) generation in cardiomyocytes and in the some parts of the conduction system of the heart. Their density is very low in some parts of the heart's conductive system, e.g. sinoatrial node and atrioventricular node cells, and

the highest in Purkinje cells and cardiomyocytes. Hence, they are targeted by several neurotoxins from plants and animals that use these molecules for defence and protection. even to cardiac arrest.

Calcium channels¹⁵

Different types of Ca²⁺-permeable channels have been described in the plasma membrane of heart cells: the L- and T-type channels, both voltage activated, and a background channel . Inward current through L-type high voltage-gated calcium channels is responsible for prolonged AP in cardiac muscle cells and cardiac muscle contraction. L-type voltage-gated Ca²⁺-channels are especially target for some bacterial (saxitoxin) and animal toxins (atrotxin, maitotoxin, -conotoxin, crotoxin).

Potassium channels¹⁵

The role of potassium channels is to repolarize the membrane during the AP or to maintain hyperpolarizing potential. They are involved in the regulation of duration of the AP. Therefore, changes in the function of potassium channels may cause life-threatening arrhythmias. Important potassium channels that can be the target of natural toxins are calcium-activated potassium channels and voltage-gated potassium channels.

Importance of *Ghrita* (~Ghee) ¹⁶

Ghrita is said to be *VataPitta shamana*, *Rakta Shodhaka*, having the following qualities which pacifies the effect of *Visha*(~Poison) like

<i>Madhura</i>	Sweet
<i>Saumya</i>	Mild
<i>Mridu</i>	Soft
<i>Shitaviryya</i>	Cold
<i>Snehana</i>	Capacity to produce oiliness
<i>Ojavardhaka</i>	Increases vitality
<i>Balakara</i>	Increases strength
<i>Ayushya</i>	Increases longevity
<i>Vrishya</i>	Increases potency
<i>Vayahsthapana</i>	Stabilizes life
<i>Visha hara</i>	Anti-Poisonous
<i>Rakshoghna</i>	Anti-bacterial, Anti-Fungal
<i>Chakshushya</i>	Beneficial for Eyes
<i>Unmadanashaka</i>	Capacity to cure Insanity

- *Swarnachurna* (~Gold powder)¹⁶, *Amrutha Ghrita*¹⁷, *Ajeya Ghrita*¹⁷ can be given to protect heart in cardiac posion, The modern classics of Toxicology also mention ghee to protect heart in the treatment of poisoning. Among the mechanical (physical) antidotes fats, oils, milk and egg albumin are mentioned. Ghee being an animal fat comes under this group of antidote.
- This group of substance delays the absorption of poison. They basically form a coating over heart and prevent the absorption of the poison.

MATERIALS AND METHODS:

The study being a literary review, the sources of data are collected from *Brihatriyis (Charaka Samhita, Sushruta Samhita, Ashtanga Sangraha/Hridaya)*, contemporary text books, relevant journals, and websites.

DISCUSSION:

when *Visha* enters into the body, it initially vitiates the *Raktha Dhatu* and further vitiates all the *Dhatus, Tridosha*, finally it stays in *Hrudaya* which is both *Sthana* of *Manas* and *Ojus* and cause death. In contemporary science also explains cardiac poison occurs because of impairment in functioning of sodium, potassium, calcium channels and leads to cardiac arrhythmia. In emergency management *Hrudayavarana* is the treatment modality used to slow down the spread of *Visha* from one *Dhatu* to other *Dhatu*. It also increases the time duration of *Visha* to reach the heart. *Hrudayavarana agadayogas* with *Ghrita* or *Ghrita* alone, makes the heart as a protective covering to save the life. Properties of ghee also have important role in pacifying *Vata pitta Raktha Dosha*. *Ghrita* is not only having *Ojovardhaka* (enhancing *Ojas*) and but also impart *Rasayana* effect in the body.

CONCLUSION:

The word *Hrudaya* is not only for Heart, but it is the presence of various dosha, dhatu, *manas, aatma*. The drugs used in *Hrudayavarana* are *ojowardaka* and *Pitta shamaka*. *Charaka* mention the factor that increases the spreading of poison in pitta prakruti. The *ushnaguna* of *Pitta* and poison are same, hence spreading of poison in pitta prakruti patient is very fast. Also, *Hrudaya* is the seat of *Sadhaka Pitta*. All *Aacharya*'s were aware of importance of vital organs and their protection in case of poisoning. *Ghrita* is the most important *chikitsa* as it acts on protection of all vital organs in the body in case of poisoning.

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