

ROLE OF RASAVAHA STROTAS IN ANXIETY RELATED CARDIOVASCULAR HEALTH

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ABSTRACT

Cardiovascular disease is the leading cause of death globally. According to WHO (World Health Organization) estimated 17.9 million people died from cardiovascular disease in 2019, representing 32% of all global deaths. India has one of the highest burdens of cardiovascular disease worldwide. Ayurveda has emphasized on mental and physical wellbeing which is described under the umbrella term "Swasthya"(health). Ayurveda proclaims that main purpose of human's balance health is to maintain balance of **Dosha** (bio energies), **Dhatu** (seven tissues) **and Mala** (seven products). To achieve this all, one need to remain healthy and happy by body and mind as these are inter related and interdependent to each other. Any factor which may lead to ill health leads to stress (**chinta**) which aggravates *raja* and *tam dosha* and leads to vitiation of *vata dosha* and thus leads to *rasavaha srotas dushti*. By balancing the *Rasa dhatu* axis, an individual can

potentially reduce the impact of stress and other mental and emotional risk factors on cardiovascular health. This article review introduces the concept of *Rasa dhatu* axis in promoting cardiovascular health through body and mind has been explored under the lens of ayurveda and modern medicine.

KEYWORDS: *Rasa dhatu* axis, mind-body connection, stress, cardiovascular health, neurohormonal system, neuroendocrinology.

INTRODUCTION

The relationship between the mind and heart has been extensively explored in both Ayurveda and modern medicine. In Ayurveda, the mental attributes *Sattva* (harmony), *Rajas* (activity) and *Tamas* (ignorance) play a crucial role in regulating emotions and ensuring mental and cardiovascular well-being. Imbalances in these qualities can contribute to psychological disturbances such as stress and anxiety.^[1] According to World Health Organisation (WHO), stress is defined as a state of mental tension or worry resulting from challenging circumstances leading a stress free life is essential for maintaining both physical and mental health.^[2]

In Ayurveda, Stress and anxiety are termed as “*Chinta*” which literally means overthinking. Persistent overthinking can trigger anxiety and stress disturbing the balance of the *Tridoshas*, and affecting the digestion and metabolism of the first bodily tissue *Rasa Dhatu*.^[3] This tissue is responsible for circulation and nourishment (*Preenanam*), and its imbalance can contribute to conditions such as hypertension, atherosclerosis, and stress- induced cardiac dysfunction. As *Rasa Dhatu* nourishes both body and mind, it is highly sensitive to mental states.^{[4] [5] [6]} The *Tridoshas*, along with the qualities of *Rajas* and *Tamas*, play a significant role in psychosomatic disturbances. Factors such as overthinking, rage, fear, grief, greed, inappropriate dietary habits, restraint of urges – all these lead to vitiation of *Vata*, *Pitta Dosh* as well as *Manovaha Srotas*.^[7]

All the negative emotions intensify *Rajas Guna*, leading to significant imbalances in the *Vata*, *Pitta* and *Kapha Dosh*as. This disruption can manifest as anxiety, further disturbing the *Tridoshas* manifesting - indigestion - which causes derangement in the physiological properties of *Rasa Dhatu* adversely affecting roots of Channel of *Rasa Dhatu*, eventually affecting channels of *Rasavaha Srotas* (channels that carry nourishment) - Heart and Blood vessels leading to stress^{[8] [9]} induced hypertension, arrhythmias. Additionally, an excess *Tamas Guna* imbalances *Kapha dosha* leading to atherosclerosis, dyslipidaemia, arterial plaque formation.

Modern medicine validates this mind - *Rasa Dhatu* axis link by establishing link among psychological stressors, emotional instability, and anxiety leading to cardiovascular disease through neurohormonal, autonomic, and inflammatory pathways. Overthinking leading to Anxiety is associated with increased *Rajas*, has a profound impact on cardiovascular function. Chronic stress and emotional instability contribute to Hyper activation of the

sympathetic nervous system, due to high adrenaline release leads to increased heart rate causing cardiac arrhythmias and increased cardiac workload, Vasoconstriction causing increase in blood pressure and decreased flow to vital organs, increased cardiac contractility leads to cardiac hypertrophy and decreased cardiac function, increased platelet aggregation leads to thrombosis and acute coronary event. The second long term effect of anxiety is deranged Hypothalamic-Pituitary-Adrenal (HPA) axis, resulting in raised cortisol levels which triggers systemic inflammation. Cortisol is a steroid hormone that plays a crucial role in the body's response to stress. The concept of stress was first introduced into the field of health psychology by scientist Hans's selye in 1926. According to selye, stress manifests as states of anxiety, fear and worry.

The hypothalamic-pituitary-adrenal (HPA) axis plays a crucial role in managing the body's response to stress. It releases key hormones such as cortisol and adrenaline, which prepare the body for the fight or flight response. Stress itself is the body's reaction to any demand or challenge, commonly referred to as a stressor. It involves a complex interplay of biological and psychological processes that are essential for survival.

Chronically elevated cortisol levels have effect on cardiovascular system such as increased blood pressure. Neuro- hormonal derangement due to chronic stressors increases the risk of atherosclerosis and heart disease.^{[10] [11]} Hyper activation of HPA axis due to anxiety reduces vagal tone, imbalances *Dosha* (bio energies), *Dhatu* (seven tissues), *Mala* (waste products) impacting digestion, absorption, metabolism of *Rasa Dhatu* and eventually health of its roots-heart and Blood Vessels.

DISCUSSION

An integrated approach that combines ayurveda perception with modern medical practices offers a promising strategy for maintaining cardiovascular health. Techniques such as meditation, pranayama and yoga are known to enhance vagal tone, which in turn helps to regulate emotional well-being and promotes a sense of calm.^[12] The vagus nerve, a key element of the parasympathetic nervous system, plays an important role in controlling heart rate, digestion and mood. By incorporating yoga, meditation and a balanced diet and lifestyle, individuals can promote parasympathetic activity while reducing sympathetic over activity.^[13] This shift supports the equilibrium of *tridosha* and *triguna*, facilitating the proper digestion and metabolism of all *dhatu*s, especially *Rasa dhatu*. Maintaining this balance nurtures the mind-rasa-dhatu-cardiovascular axis and is further enhanced by the natural

release of neurotransmitters such as serotonin and dopamine-chemicals associated with happiness, emotional stability and relaxation.

CONCLUSION

The *Rasavaha srotasa*, plays a vital role in the nourishment and circulation of *rasa dhatu*, which closely correlates with plasma and early stages of cardiovascular function in modern physiology. Disturbances in the *srotasa* due to stress, improper diet or mental imbalances can compromise heart function and emotional wellbeing. Anxiety, which is deeply connected with heightened sympathetic activity and impaired cardiac health, can be significantly influenced by imbalances in the *Rasavaha srotasa*.

By storing the equilibrium of this *srotasa* through holistic interventions such as wholesome diet, lifestyle, mind therapy and practices like yoga and pranayama, both cardiovascular stability and mental calmness can be achieved.

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