

PHYSIOLOGICAL ROLE AND ANATOMICAL CONSIDERATION OF RASAVAHA SROTAS IN HUMAN BODYKavita R. Bhagat*¹ and Gurunath Khanolkar²¹Assistant Professor, Sharir Kriya Dept., R.A. Podar Medical College (Ayu.), Worli, Mumbai, India.²Associate Professor, Sharir Rachana Dept., R.A. Podar Medical College (Ayu.), Worli, Mumbai, India.

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ABSTRACT

Srotas, essential in Ayurveda, serve as intricate channels responsible for nourishing the entire body and governing specific bodily functions. These channels are viewed as a dynamic inner transport system crucial for the holistic harmony of body, mind, and spirit, surpassing the basic concept of the circulatory system. The well-being and functionality of the Srotas system profoundly influence the entire spectrum of life processes. In this context, the Rasadhātu, a pivotal constituent that nourishing and sustaining all other Dhatus, while also facilitating the genesis, development, and sustenance of the physical body. This Rasadhātu mainly circulated or transported from one place to another with the help of Rasavaha srotas, this channel govern significant physiology of human body. Present article described physiological role and anatomical aspect of Rasavaha Srotas in human body.

KEYWORDS: Ayurveda, Physiology, Anatomy, Rasavaha, Srota, Channel.**INTRODUCTION**

The ancient Ayurveda texts encompass knowledge about the anatomy and physiology of human body; in this regards Ayurveda elaborated the functions and anatomy of hollow spaces or channels of human body. These channels are also known as "Srotas" and they are as diverse as the elements of the physical body itself. Without these Srotas, neither the generation nor the deterioration of bodily entities would occur. Srotas are best described as the transport passages through which the Dhatus undergo transformative processes. Internally the human body is described as an aggregate of Srotas and many Srotas together or individually performs several functions of the body.^[1-4]

These Srotas mainly circulates Dhatus and one such Dhātu is Rasadhātu that is carried by Rasavaha srota. Rasadhātu is derived from the essence portion of Ahar rasa, and it serves as the foundation for Asrikkara and the genesis of Agni sambhav. Rasavaha srota play vital role in the transportation and physiological functioning of Rasadhātu.

Rasavaha Srotas

The primary channels responsible for the transportation of nutrient-rich substances, known as the Rasavaha srotas, originate from the heart and extend through the major vessels. These channels hold paramount

significance as they facilitate the distribution of nutrients to every part of the body. The journey of food begins with the Yakrit and subsequently, it traverses through the circulatory system of the heart, ensuring the dispersion of essential elements to all bodily tissues. Thus, both the Yakrit and the heart, playing vital roles in this process, contribute significantly to the overall well-being of the body.^[4-6]

Rasavaha srotas is prime important Srotas as all other Srotas are dependent on Rasavaha srotas due to its main function Prinan. Nourishment or balance of Rasavaha srotas results in nourishment of all other Srotas and ultimately the whole body gets nourished. Whereas Kshya or improper functioning of Rasavaha srotas produces illness of body as this Srotas not only nourish but along with that it also plays a very important role in defense mechanism of the body.

The Rasavaha Srotas hold a prominent position as they serve as the primary conduits supplying nutrients to all parts of the body. Furthermore, they provide nourishment to both the Rasa Dhātu and Rakta Dhātu. Notably, the Yakrit and Hrđiya play a crucial role in nourishing the Ahara Rasa through this channel. Initially, food is directed to the Yakrit and subsequently circulated through the cardiovascular system, ensuring its distribution to all bodily regions. In modern terms, the

functions of the heart, lungs and liver can be correlated with the concept of *Rasavaha Srotas* in Ayurveda. The *Rasavaha Srotas*, in their circulation of *Rasa*, encompass the lymphatic system and plasma, thereby facilitating the nourishment of other *Dhatu*s.^[5-7]

Physiological View of *Rasavaha Srota*

Optimal functioning of the *Rasavaha srotas* manifests in the exceptional condition of the skin characterized by a lustrous, smooth, clear and delicate appearance. Maintaining the physiological equilibrium of the *Rasavaha srotas* fosters feelings of joy, satisfaction, mental acuity and vitality.

The *Rasavaha srotas* play a pivotal role in the transportation of nutrients and other vital substances for the regular physiological activities of the tissues. The *Rasavaha srotas* significantly contribute to the body's immune response, aiding in the defense against external pathogens. *Rasavaha srotas* facilitate the body's healing and defense mechanisms at the site of the trauma.

The assimilation and digestion of ingested food occur through the biochemical processes of *Rasa*, facilitated by the transport function of the *Rasavaha srotas*. The transportation of *Paushaka Dhatu* to the *Sthayi Dhatu* is facilitated through *Srotas*. They aid in the absorption of fats and minerals through the lymph, utilizing the pressure of circulating body fluid.

These channels act as the site for the transformation of *Ahararasa* into *Rasadhatu*. They provide pathways for the transportation of *Rasadhatu* throughout the body. The body's thermostat is regulated by the appropriate circulatory process facilitated by *Rasavaha srotas*. The assimilation and digestion of food occur through the biochemical processes of *Rasa*, facilitated by the *Rasavaha srotas*.^[6-8]

Anatomical View

The root of the *Rasavaha Srotas* is the *Hridaya* and several *Dhamanis*, the *Dhatuvahasrotas* are referred to as the internal life forces of the body. *Sushruta* identifies the *Mula Sthanas* as the heart and the *Rasavahini Dhamani*. *Sushruta* adds an additional feature, '*Shosha*,' to the *Viddha Lakshana* of the *Srotas*, *Srotamsi* function not only as passages or channels for the flow of various substances but also serve specific roles in providing nourishment to the corresponding *Dhatu*s of the body. These *Srotas* act as conduits through which both the nutrient *Dhatu* and *Mala Dhatu* are transported, serving as structures facilitating the passage of nutrients and waste products to and from the *Sthayi Dhatu*.^[7-9]

Correlation with *Hrudya*

The human heart is a muscular organ located in the chest, between the two lungs, and slightly towards the left. It is roughly the size of a closed fist and is divided into four chambers: two atria and two ventricles. The heart has four valves that regulate blood flow. These are the valve,

which control blood flow on the right side, and the mitral valve and aortic valve, which control blood flow on the left side.

Physiologically cardiac cycle involves a series of events that result in the contraction and relaxation of the heart muscle. Systole refers to the contraction phase, while diastole refers to the relaxation phase. The heart's rhythmic contractions are controlled by electrical impulses generated by the sinoatrial node and atrioventricular node. This electrical activity spreads through the heart, causing it to contract and pump *Rasa*. The heart works as a pump, propelling *Rasa* through the circulatory system. The anatomy and physiology of the heart is crucial in comprehending its functions and correlation with *Rasavaha Srotas*.

Relation with *Dosha*

Imbalance in *Vata dosha* can affect the heart and *Rasavaha Srotas*. *Vata* governs movement and is associated with the nervous system. When aggravated, it can lead to irregular heartbeats, palpitations, or an erratic pulse rate. A balanced *Vata* supports healthy circulation and nerve impulses, which are vital for maintaining the regular rhythmic contractions of the heart.

Pitta dosha is associated with metabolic processes and transformation within the body. When *Pitta* is imbalanced, it can lead to inflammation and excess heat in the body, potentially affecting the heart or *Rasavaha Srotas*. An aggravated *Pitta* can contribute to conditions such as hypertension, leading to increased strain on the heart. A balanced *Pitta*, on the other hand, supports the efficient functioning of the digestive system, thus ensures nutrients requirement for heart health.

Kapha dosha is associated with structure and lubrication. When *Kapha* is imbalanced, it can lead to the accumulation of excess mucus and fluids in the body, potentially affecting the cardiovascular system. An aggravated *Kapha* can contribute to the development of conditions such as atherosclerosis or congestive heart failure. A balanced *Kapha*, however, supports the stability and strength of the heart, helping to maintain healthy blood flow and preventing the accumulation of harmful substances.

Pathological Aspect

The following Ayurveda quote represents disease about the *Rasavaha Srota*:

Ashraddha cha aruchi cha aasyavairasyam arasaudnyata, hrilaaso gauravam tandra saangamardo jwarastamaa. Pandutvam strotasam rodha klaihya saada krishangtaam, naashoagneya ayathakaalam valay palitaani cha Diseases are caused by vitiation of *Rasa dhatu* includes *Ashraddha*, *Aruchi*, *Aasyavairasya*, *Arasaudnyata*, *Gaurav*, *Tandra*, *Pandu*, *Strotasaam rodha*, *Saada*, *Krishangata*, *Nashoagneya* and *Vali*.

According to Ayurveda, disturbances in the functioning of specific *Srotas* can also lead to various diseases including *Ashraddha*; aversion to any type of food, *Aruchi*; loss of appetite or lack of interest in diet, *Aasyavairasya*; alteration in taste perception, *Arasadyata*; absence of taste sensation or ageusia, *Hrilaso*; sensation of queasiness or queasiness, *Gaurav*; sensation of heaviness, *Tandra*; excessive drowsiness or lethargy, *Pandu*; deficiency in red blood cells or anemia, *Strotasaam rodha*; blockage of circulatory channels, *Klaibya*; erectile dysfunction or impotence, *Saada*; general weakness or fatigue, *Krishangata*; state of extreme thinness or emaciation and *Nashoagneya*; decreased digestive capacity.

Modern Aspect

Rasavaha Srota specifically pertains to the channels responsible for the transport of *Rasa Dhatu*. This *Dhatu* can be roughly correlated with plasma and interstitial fluid in modern physiological terms. This plays a crucial role in maintaining the proper transportation and nourishment of important bodily fluid. This channel primarily encompasses the digestive system, including the stomach, small intestine and associated digestive glands such as the liver and pancreas. It is also associated with the circulatory system and the lymphatic system, which facilitate the transportation of nutrients and fluids throughout the body. This channel is composed of various microscopic and macroscopic structures, involving physiological processes that govern the assimilation, absorption and circulation of nutrients and fluids. The primary function of these channels is to carry the nutrient fluid produced after digestion and assimilation of food from the gastrointestinal tract to the various tissues and cells of the body. It ensures the nourishment and hydration of all bodily tissues and organs, thereby supporting their proper functioning.^[9,10]

CONCLUSION

The primary role of *Rasa* involves nourishing other *Dhatus*, a function known as *Prinana*. A malfunction of these channels can lead to inadequate nourishment of the *Dhatus*, potentially resulting in severe illnesses. Therefore, it is imperative to acknowledge that the proper functioning of *Rasavaha Srotas* is crucial for the sustenance and optimal operation of vital tissues. These *Srotas* not only facilitate the transportation of vital materials throughout the body but also contribute to the body's defense mechanism.

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