



A CLINICAL INSIGHT INTO THE CONCEPT OF *RASA VAHA SROTAS*

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ABSTRACT

Dosh, Dhatu, and Mala are formed and circulate within the body through a network of channels known as Srotas, a unique concept in Ayurveda. Srotas are like channels or pores in the body that provide nourishment to the entire body and are responsible for specific functions related to various body parts. Each body element is replenished within its respective Srotas. These channels not only serve various functions but any disruption in their functioning can also have an impact on pathological manifestations. Therefore, understanding the physiological concept of Srotas is crucial.

Among these channels, the Rasavaha Srotas plays a significant role in the body's circulatory processes. Disturbances in its functioning can lead to pathological manifestations, and if this Srotas fails to operate correctly, it can result in a lack of nourishment for the Dhatus, potentially causing severe illnesses. Within the Rasavaha Srotas, there exists the Rasavaha Dhatuagni, which is responsible for the formation of Rasa Dhatu. Rasa Dhatu is the primary Dhatu that carries nutrition to all other Dhatus. Any imbalance or impairment in the Rasavaha Srotas can result in an excess or deficiency in Rasa Dhatu, leading to improper functioning of the other Dhatus.

KEY WORDS

Srotas, Rasavaha Srotas, Rasavaha Dhatuagni, Rasa Dhatu

INTRODUCTION

Srotas are innumerable channels or pathways which supply nourishment to *dhatu* and whole body. *Srotas* carry all like *poshya rasa* to *poshaka rasa*, specific materials, hormones, enzymes, thought process, stimulus. It is such a minute supply that is not seen but visible by their actions or by functioning that occurs. Any disturbance in physiology of *srotas* may lead to pathological manifestation, therefore it is very important to understand physiological and clinical concept of *srotas* along with its management. Ayurvedic *samhitas* described anatomical and physiological concepts of *srotas* broadly along with the diseases related to *strotodushti*. The formation and circulation of dosha, dhatu, mala take place through srotas. Srotas are channels or pores in the body which provides nourishment to the whole body and responsible for some particular function with respect to body part. Major srotas are thirteen as per Charaka samhita and eleven pairs of srotas as per Susrutha samhita. ^[1,2,3]

The srotas not only perform various functions but disturbance in srotas may also impact some pathological manifestation, therefore it is very essential to understand physiological concept of srotas. When there is excess, deficiency or blockage in these channels' diseases can take place. *Strotamsi* stands for the inner delivery system of the body incorporation to that of circulatory system. It indicates all level of exchanging and transportation of *Poshya rasa* from *Ahara rasa* by *Jataragni* at micro to macro level of cells and tissue. The kind of life style choices are practised nowadays are key contributors in development of *Srotodushti* (vitiation of channels of circulation) leading to

progression of diseases. The digested food finally contributes to *Rasa dhatu*, which performs many vital functions of body. *Rasa dhatu* is first *dhatu* and its main function is *Preenanam*. [1] *Rasavaha Srotas* are channels carrying *rasa dhatu* and giving *poshan* to *rasa* and *Rakta dhatu*. [4]

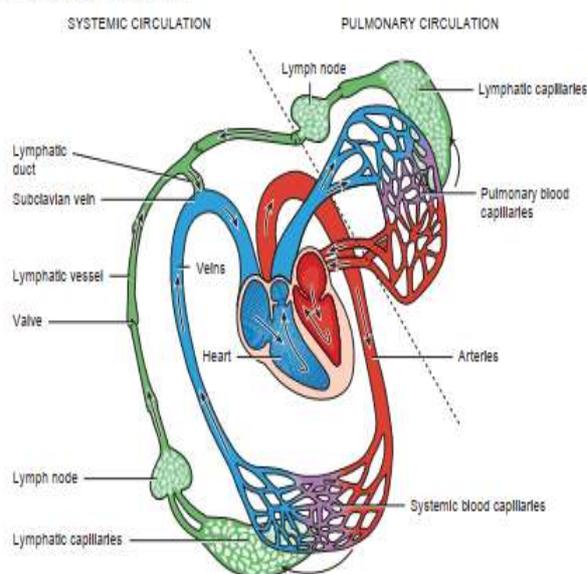
Rasa Samvahana: *Rasa dhatu* is circulated in whole body by *Vyan Vayu*.
Mulasthanas of Rasavaha Srotas: *Hridaya* (Heart) and *dasha dhamani* (10 major vessels) [5]
Clinical importance of mulasthanas of rasavaha srotas: “*Mulam iti prabhavasthanam*” [6] The working of every *srotas* is regulated and controlled by its respective *mulasthana* (root place). Hence, to treat any *srotodushti* or its disease we need to emphasize on its *mulasthana*

According to modern concept, *rasavaha srotas* can be correlated to lymphatic system and its circulation begins from the heart [7]

From the heart blood is pumped into the blood capillaries which then enter into interstitial space as interstitial fluid. It then passes as lymph through the lymph capillaries lymph nodes lymphatic vessels lymphatic trunk lymphatic ducts → venous blood. Return to blood stream

Figure 22.4 Schematic diagram showing the relationship of the lymphatic system to the cardiovascular system. The arrows indicate the direction of flow of lymph and blood.

The sequence of fluid flow is blood capillaries (blood) → interstitial spaces (interstitial fluid) → lymphatic capillaries (lymph) → lymphatic vessels (lymph) → lymphatic ducts (lymph) → junction of the internal jugular and subclavian veins (blood).



Schematic diagram showing the relationship of the lymphatic system to cardiovascular system

Circulation of *rasa/Rasa samvahanam*:

Rasa is situated in the *hridaya* and circulates throughout the body via twenty-four *dhamanis* (vessels), of which ten move upward, ten downward, and four transversely. It continuously provides *tarpana* (sustenance), *vardhana* (growth and nourishment during youth), *dhāraṇa* (stability during adulthood), and *yāpana* (maintenance during old age) to the entire body through subtle and imperceptible mechanisms. [8] *Rasa dhātu* circulates throughout the body in a subtle and continuous manner, comparable to the uninterrupted flow of sound, flame, and water. According to *Dalhana*, this analogy illustrates the modes of *rasa* movement—sound signifies lateral movement, flame denotes upward movement, and water represents downward movement. [9]

Role of *vyanavayu* and *samanavayu* in *rasa samvahana*:

Vyanavāyu—a subdivision of *vāta*—owing to its pervasive nature, constantly propels *rasadhātu* throughout the body. Being located in the *hridaya* and moving swiftly in all directions, *vyānavāyu* facilitates the distribution of *rasa* from its seat in the *hridaya* to every part of the body. [10] However, when its flow encounters obstructions within the *srotas* due to pathological disturbances, disease manifests at those sites—much like rainfall occurs when clouds are impeded in the sky. Despite its constant activity, *rasa* remains imperceptible and can only be inferred through its functional manifestations across the body. Qualitatively, it is regarded as *saumya* (gentle and soothing) owing to its nourishing,

lubricating, vitalizing, satiating, and sustaining functions. After digestion, the essence of food (*āhāra-rasa*) is driven towards the *hṛidaya* (heart) by the action of *Samāna Vāyu*, from where it is further circulated throughout the body by *Vyāna Vāyu*. This verse highlights the role of *Samāna Vāyu* in the initial movement and distribution of the nutritive essence post-digestion. ^[11]

Lymphatic system ^[12,13]

The lymphatic system is composed of:

- Lymph
- Lymphatic vessels
- Various structures and organs containing lymphatic tissue and red bone marrow

Functions:

- Circulates body fluids
- Drains excess interstitial fluid
- Transports dietary lipids
- Facilitates immune responses

RASAVAHASROTHO DUSTI NIDANAM ^[14]

- **Guru Āhāra:** Excessive consumption of heavy foods such as cheese, fast food, Chinese dishes, and bakery items.
- **Śīta Āhāra:** Overindulgence in cold foods or cold preparations.
- **Ati-snigdha Āhāra:** Intake of excessively oily or unctuous foods, which increases the viscosity of blood, leading to obstruction in *srotas* and impaired circulation.
- **Samaśana:** Consumption of wholesome and unwholesome foods together.
- **Atimātra Āśanam:** Excessive intake of food.
- **Mānasika Hetu:** *Chintā* (mental stress or worry) leads to *Rasavaha Srotodushti*, resulting in conditions such as cardiac disorders and hypertension, thereby impairing both mental and physical health.

RASA VAHA SROTHO DUSTI LAKSHNAM ^[15]

- ASRADHA- Disinclination for any type of food/loss of desire for food
- ARUCHI- Even though the person is having desire for food he will not feel the taste once it is ingested.
- ASYAVAIRASYAM- Altered taste in mouth
- ARASAJNATHA- Is nothing but loss of sensation of taste in the mouth.
- HRILLASA- Excessive salivation or watering of the mouth / nauseating sensation.
- GOURAVA - Subjective feeling of heaviness and not a disorder
- TANDRA- Acharya charaka has considered tandra as one among the kaphaja nanatmaja vyadhis. Tandra manifests mainly due to predominance of vata, kapha and tamo guna
- ANGAMARDA- a type of painful sensation all over the body.
- JWARA- Due to exposure to mithya ahara and vihara the vitiated doshas in the amasaya displace the agni from the koshta and spread all over the body along with rasa dhatu.
- TAMA - one among the vataja nanatmaja vikaras. Tama can be considered as the sudden feeling of darkness in front of the eyes.

- PANDU- Excessive exertion, intake of amla and lavana predominant diet, alcohol, mud intake, sleeping in the day time and spicy food intake leads to vitiation of doshas which inturn vitiate rakta dhatu resulting in paleness of the skin i.e. a combination of rakta and peetha discolouration of the skin
- SROTHORODHA- The word srotorodha as a whole indicates obstruction to the dhatu parinama krama in the srotas,
- KLAIBYA- indicates impotence in both males and females- Pathogenesis of klaibya mainly involves rasakshaya or shosajanya
- SADA- Angasada indicates weakness in particular body parts or meaning of the sada as angavasada.
- KRISHANGATHA- indicates emaciation of the body parts.
- AGNINASA - total absence of agni.
- AYATHA KALA VALAYA- wrinkles and change of skin texture which occurs as a result of loss of elasticity of skin
- AYATHA KALA PALITHYA- means kesh paka due to excessive exposure to krodha, soka, srama.
- AVIPAKA (SU)- means indigestion of food resulting from agnimandhya
- TRIPTHI (SU)- feeling of satiety.
- HRIDROGA (SU)- Rasa dhatu being vitiated by doshas vitiates Hridaya thus causing hridroga, as it is the main site of Rasa dhatu.

Comparing rasa vaha sroto dushti nidana with modern view:^[16]

- AGEING- Sagging of skin, loss of elasticity is all related to changes in the collagen & elastic fibers of skin which are impacted by diet. Ingestion of food with high glycemic index like dairy products can accelerate signs of aging as it promotes cross linking of collagen fibers.
- HEART DISEASE - Plasma viscosity a major determinant of blood flow in microcirculation as well as fibrinogen & wbc count was positively associated with the incidence of CHD events in a population-based study of middle-aged men.
- ANAEMIA- Most of the problems of iron deficiency anemia are related to dietary habits. Among junk food consumers 69.1% were anemia and their Hb levels were lower than non-consumers of junk food.

CHANGES IN PLASMA PROTEIN EXPRESSION INDICATIVE OF EARLY DIET INDUCED METABOLIC DISEASE IN MALE PIGS-^[17]

Pigs were given cafeteria diet (unhealthy, high in saturated fats) & Mediterranean diet (healthy, high in unsaturated fats)

- Cafeteria diet– LDL (bad cholesterol), immune processes, blood clotting
- Mediterranean diet- HDL (good cholesterol, immune processes, glycolysis).

PHYSIOLOGICAL IMPORTANCE OF RASA VAHA SROTAS

- It served as place of transformation of ahararasa to Rasa dhatu.
- It offers pathways for transporting Rasa dhatu in the body.
- The proper functioning of this srotas offers excellence of twak characterized by snigdha, shlakshna, mrudu, prasanna, sukshma, gambhira and sukumara appearance.
- The physiological normalcy of rasavaha srotas offers happiness, power, enjoyment, intellect and longevity.
- The assimilation and digestion of ahara take places with the help of biochemical process of rasa which transport through rasavaha srotas.
- Rasavaha stroto dushti should be treated to avoid rasa dushti and ultimately further dhatu dushti and stroto dushti.

RASA VAHA SROTHO VIDHA LAKSHANAM^[18]

- Dehydration
- Same lakshanas of Pranavaha vidda

Dehydration symptoms include:

- Irritability
- Dizziness
- Fatigue
- Delerium
- Death

Hypoxia symptoms include:

- Mental and muscle fatigue
- Nausea
- Dizziness
- Euphoria
- Shouting, crying
- Coma
- Death

TREATMENT OF RASA VAHA SROTHO DUSTI^[19]: Langhana

Types of langhana therapies

- Emesis
- Purgation
- Niruhavasthi
- Nasyam
- Control of thirst
- Exposure to sun and wind
- Pachana drugs
- Fasting
- Physical exercise

4 types of elimination therapies

CONCLUSION:

Rasavaha srotas perform vital functioning of body related to circulatory process and physiological disturbance to their functioning may leads some pathological manifestation and if this srotas not work properly then dhatu nourishment not take place, may result severe illness. The rasadhatu agni is present in srotas. Its important function is formation of rasa dhatu. The rasa dhatu is firstly formed dhatu in all dhatu, which carry nutrition to all dhatu. If there is any dusti of rasavaha srotas can lead vruddhi or kshaya in rasa dhatu which causes the improper function of other dhatus.

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