

CONCEPT OF SROTAS WITH SPECIAL EMPHASIS OF RAKTAVAHA SROTAS

Rutuja S. Jadhao^{1*} and Anjana Ghogare²

¹P. G. Scholar Rognidan, SSAM Hadapsar, Pune, Maharashtra, India.

²Assistant Professor, Rognidan Avum Vikriti Vigyana.



*Corresponding Author: Dr. Rutuja S. Jadhao

P. G. Scholar Rognidan, SSAM Hadapsar, Pune, Maharashtra, India.

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ABSTRACT

The channels, or internal transit system, known as srotas are where the activity of various body elements, such as dosha, dhatu, mala, Agni, and so forth, take place. The movement, leaking, and permeation of various physiological components and nutrients—known as *sravanam karma*—take place via the channel or structure known as *srotas*. Various *acharyas* have mentioned a vast array of *srotas*, both in quantity and variety. *Rakt dhatu* is transported by channels called *raktvaha srotas*. *Rakt Dhatu* is the second *Dhatu* and its main function is *jeevanam*. *Yakrut* and *pleeha* are *raktvaha srotas' moolasthanas*, or roots. There are many diseases of *Raktavaha Srotas*, which occurs as a result of *Srotas Dusti*. The disease of the *Raktavaha srotas* is *Kustha*, *Visarpa*, *Pidaka*, *Kamala*, *Asrugdara*, *Arubuda*, *Arsha* etc.

KEYWORDS: *Srotas*, *dhatu*, *raktavaha srotas*, Circulatory system.

INTRODUCTION

Rakta meaning blood or fluid connective tissue. *Vaha* meaning to carry. *Srotas* meaning channel or vessels. It is said that '*stroto aiura purusha*' that means human body is made up of so many *srotas*, but for clarification and understanding various functions of *srotas* are mentioned by *Sushrut* and *Charak*. *Charak* gives 14 numbers of *srotas* while *Sushrut* gives 11 numbers of *srotas*. *Raktvaha srotas* given by both *acharyas*. Those from which *sravana* or flow of the body substances takes place or those through which the materials flow in the body are called *Srotas*. Thus, they are the channels or pathways of the body through which the materials needed for tissue building, nutrition and other nutrients flow from one corner of the body to the other. The *Raktvaha Srotas* is comprised of three main components:

1. *Hridaya* (Heart): The center of circulation, pumping life-giving blood throughout the body.
2. *Siras* (Blood Vessels): Arteries, veins, and capillaries that transport blood to and from the heart.

3. *Rakta* (Blood): The fluid connective tissue that carries oxygen, nutrients, and prana to cells and tissues.

Synonyms

Sira (Vein), *Dhamani* (Artery), *Rasayani* (Lymphatic ducts), *Rasavahini* (Capillary), *Nadi* (Tubular conduits), *Panthana* (Passages), *Marga* (Pathways, tracts), *Sharira chidra* (Body orifices), *Samvritasamritani* (Open or blind passages), *Sthana* (Sites), *Ashaya* (Repertories), and *Niketa* (Resorts) are the synonyms of *Srotas* (Channels).

Classification of srotas

As per charaka

- A) Bahirmukha srotas-9
- B) Antarmukha srotas-14

As per sushruta

He stated 11 pairs that are 22 *srotas*. He had not considered *Asthivaha*, *Majjavaha* and *swedvaha srotas*.

Types of srotas as per acharya charak^[1]

S. No.	Srotas	Sroto mool	Dushti lakshan
1	Pranavaha srotas	Hridaya, mahasrotas	Atishrastam, atibadham, alpam
2	Udakavah srotas	Taalu, klom	Jivha, talu, osha, kantha, shusk-klom, Atipravridhha, Trishna
3	Annavah srotas	Aamashya, vaamparsha	Anannabhilasha, arochak, avipak & chhardi
4	Rasavaha	Hridaya, Das	Ashradha, aruchi, mukhaverasya, jwar, pandu, klevya, akal-

	srotas	dhamani	palitya
5	Raktavaha srotas	Yakrit, pleeha	Yakrit pleeha, kushtha, visarpa, pidika, charmadal, gulma, Vidradhi
6	Mansavaha srotas	Snayu, twak	Adhimamsa, arbud, galgand, gal-shundika, alajee
7	Medovaha srotas	Vrikka mool, vapavhan	Atistholya, purwaroop of prameha
8	Asthivaha srotas	Medo mool, jaghan Pradesh	Aadhyasthi, aadhidant, kesh,nak-shramsho vikar
9	Majjavaha srotas	Asthimool, sandhi	Parvabhed, bhram, murchha,tamh-pravesh
10	Shukravaha srotas	Vrishana, shef	Klevya, dhvajbhang, apraaharsh, napunsakta, garbhapat, garbhasraav, vikratsantan
11	Mutravaha srotas	Basti, vankshan	Mutra-atipravatti, Dushit mutra, Mutrakrichra, Mutraaghat
12	Purishvaha srotas	Pakvashaya, sthool guda	Vibandha, Atisaar, Bandhamal, Mal-tyag with shool, Gathddar-maltyag,
13	Swedavaha srotas	Romakooop	Swed-aabhav, Swed-aadhikya, Lomharsh
14	Artavaha srotas	Garbhashaya, artvaahi dhamni	Bandhatva, Aartavnash, maithunasahiushnata, aartav-krichata

Type of srotas as per acharya sushrut^[2]

S. No	Yogavahi srotas	Sroto mool	Sroto vidha lakshan
1	Pranavaha srotas	Hridaya, rasvaahi dhamani	Akrosh, vinaman, bhram, vephathu, maran
2	Udakavaha srotas	Taalu, klom	Pipasa, miratyuu, sadhyomaran
3	Annavaaha srotas	Aamashya, annavahi dhamni	Adhyaman, shool, chhardi, pipasa, aandhya, maran
4	Rasavaha srotas	Hridaya, rasvaahi dhamni	Shosh, pranavah srotovidhha, maran
5	Raktvaha srotas	Yakrit, pleeha,raktavaahi dhamni	Jwar,daah, pandu, shonitaagaman, raktanetrata, krishn varna
6	Mansavaha sroatas	Snayu,twak,raktavaahi dhamni	Sooth, shosha, shiragranthi, maran
7	Medovaha srotas	Kati,Vrikka	Sweda, snigdha, taaloshosh, shosha, pipasa, pipasa
8	Shukravaha srotas	Stanya, vrishana	Klewya, chir prasek, raktashukrata
9	Mutravaha srotas	Medra,basti	Basti ka fulna, mutrasang, stabdhamedra
10	Purishvaha srotas	Guda, pakvashya	Aanah, durgandha, aatragranthi
11	Artavaha srotas	Garbhashaya, artavaahi dhamni	Bandhatwa, maithun asahiushnata, artavahnash

Features of srotas vitiation

There are four kinds of abnormalities in the functioning of *Srotas*, called the “*Srotoduṣṭi*”. They are *Atipravṛtti*, *Sanga*, *Sirāgranthi*, *Vimārga-Gamana*.^[3]

1. **Atipravṛtti (Excessive output):** The term *Atipravṛtti*, means excessive flow, refers to the excessive production or excessive discharge of the body fluid or increased functioning of the organ. For example, Excessive urinary output in diabetes mellitus (*Prameha*), Excessive loose motion in diarrhoea or cholera (*Atisar/ Visuchika*), Excessive blood loss in menorrhagia (*Rakta Pradara*) Excessive white discharge in leucorrhoea(*Shweta Pradara*), Excessive sputum production in lower respiratory cough (*Kasa*), Excessive blood loss in

disseminated coagulation (*Raktapitta*), Increased respiration in breathlessness (*Shwasa*), Increased heart beat i.e. tachycardia (*Hrit dardarika*).

2. **Sanga (Stasis/ Obstruction):** *Sanga* means obstruction/retention or holding up, refers to the obstruction to the flow of the body fluids. For e.g. Urine flow obstruction due to calculi or tumour• (*Mutrasanga*) Stasis of faecal material due to intestinal obstruction• or gastroparesis (*Malasanga*) Bile flow obstruction in intrahepatic or extrahepatic• cholestasis (*Ruddhapitta*) Blood flow obstruction due to thrombus causing• infraction.

3. **Siragranthi (Obstructive growth in channels):** *SiraGranthi* means dilatation of veins causing

obstruction to normal flow through *Srotas* and the plague or thrombus or obstructing material in the channel. For eg. Thrombus in blood vessels causing blood flow• obstruction (Infraction) Urinary calculi obstructing the flow of urine• Gallstone obstructing the bile transportation•

4. **Vimarga gamana (Retrograde movement):** Due to some pathology of *Srotas*, there is the flow of fluid in the affected area through alternative channels i.e. reversal of the flow of the body fluids. For eg. Reversal of the flow of urine due to calculus• obstruction causing hydronephrosis Vomiting of faecal material in intestinal obstruction• Regurgitation of blood in mitral stenosis ultimately causing congestion in the lungs.

Rakt Dhatu (Blood tissue) performs the following chief functions

1. **Jeevanadhara (जीवनाधार):** Life-sustaining, nourishing all tissues.
2. **Poshaka (पोषक):** Nourishing, supplying oxygen and nutrients.
3. **Shuddhi (शुद्धि):** Purifying, removing waste and toxins.
4. **Rakt Prasaran (रक्तप्रसारण):** Circulating blood throughout the body.
5. **Ojas Prasaran (ओजस्प्रसारण):** Supporting immune function.
6. **Pranana (प्राणन):** Maintaining vitality and energy.
7. **Twacha Prasadan (त्वचाप्रसादन):** Nourishing skin and maintaining skin health.
8. **Indriya Prasadan (इन्द्रियप्रसादन):** Supporting sensory functions.
9. **Dhatu samadhana (धातुसमाधान):** Nourishing other tissues.
10. **Mal Ksharana (मलक्षारण):** Removing waste products.

MATERIAL AND METHOD

Moolasthan of raktavaha srotas

According to *charak*, the *Yakrit* and *pleeha* are the *Mool* of *Raktavaha srotas*.^[4] *Aacharya Sushruta* has described *Yakrit*, *Pleeha* and *Raktvahi dhamni* as *mool* of *Raktavaha srotas*.^[5]

Yakrit

Charak and *sushrut* both have considered *Yakrit* as *moolasthan* of *Raktavaha Srotas*. The *Yakrit* is one of the *koshtanga*.^[6,7,8] which maintains the metabolic function of the human body. It is situated on the right and inferior to the *Hridaya*.

Pleeha

charak and *sushrut* both have considered *Pleeha* as *moolasthan* of *Raktavaha Srotas*. The *pleeha* is a *Koshtanga* situated below and left to the *Hridaya*.

Dhamni

Dhamani is a structure mentioned in *Ayurvedic classics* which carry *Rasa* all over the *sharira*⁹ and maintains the *poshana* (Nutrition) of the *sharir*. *Charaka* has stated that the channel which carries the related content (*Dravya*) with *Dhamni* (Pulsation) has been named as *Dhamani*.^[10]

Raktavaha srotas dushti lakshan

- **Kushtha** – Leprosy.
- **Visarpa** – Acute spreading suppurations. It is an indisposition characterised by rapidly spreading inflammation of skin and is compared to *erysipelas*.
- **Pidaka** – Small boil, pustules, pimples.
- **Raktapitta** – It is an indisposition in which bleeding occurs from upper channels like nose, mouth etc. or from lower channels like anus, urinary passage, genitals etc.
- **Asrugdara** – Irregular or excessive menstruation.
- **Guda-medhra-asya paka** – inflammation of anus, mouth (Stomatitis), urethritis.
- **Pleeha** – Splenomegaly
- **Gulma** – Localised abdominal tumour / swelling.
- **Vidradhi** – Abscess.
- **Neelika** – Skin disease characterized by coloured circular patches on face or body.
- **Kamala** – Hepatitis / jaundice.
- **Vyanga** – Vata undergoing growth in association with pitta due to anger and physical exertion gets localized on face producing painless, thin black patches on skin.
- **Tilakalaka** – Sore, putrefying warts/moles on genitals.
- **Dadru** – Ringworm / tinea. **Charmadala** – pustules exuding and causing peeling of skin.
- **Shwitra** – Vitiligo.
- **Pama** – Scabies.
- **Kothasra** – Erythema.
- **Mandalam** – Cutaneous eruption or leprosy with circular spots.

RESULT AND DISCUSSION

Ayurveda has given importance to *Srotas* for every *Murthiman bhavas*. *Raktavaha srotas* is important & main *srotas* of the body. *Srotas* are the channels different from *Sira* and *dhamani*, which carries nutrients to the body organs and widely spreads all over the body. It also carries waste materials for the excretion from the body. Without *Srotas*, the physiological functions of the human body will not be possible. Every *Srotas* has two *moola sthanas* and function of these *moola sthanas* is to produce the elements which flow through the *srotas*. According to *charak* and *sushrut* *Yakrit* and *pleeha* as a *moola* of *raktavaha srotas*.

Yakrit (Liver) Functions

1. **Pachana (Digestion):** *Yakrit* helps digest nutrients, especially fats.
2. **Ranjaka (Colouring):** *Yakrit* impart colours to bile, stool, and urine.
3. **Vikrati (Separation):** *Yakrit* separates nutrients from waste.
4. **Shodhana (Purification):** *Yakrit* detoxifies blood and removes toxins.
5. **Raktamokshana (Blood Cleansing):** *Yakrit* filters and cleanses blood.
6. **Pitta Sthana (Pitta Reservoir):** *Yakrit* stores and regulates Pitta dosha.

Pleeha (Spleen) Functions

1. **Rakta Dhara (Blood Holding):** *Pleeha* stores and filters blood.
2. **Rakta Shodhana (Blood Purification):** *Pleeha* removes impurities from blood.
3. **Ojas Prasaran (Immunization):** *Pleeha* supports immune function.
4. **Kapha Sthana (Kapha Reservoir):** *Pleeha* stores and regulates Kapha dosha.
5. **Meda Dhatu (Fat Metabolism):** *Pleeha* regulates fat metabolism.

CONCLUSION

Raktavaha Srotas plays a vital role in maintaining overall health. Understanding its structure, functions, and factors affecting it can help prevent and manage circulatory disorders. Ayurvedic management of *Raktavaha Srotas* disorders emphasizes a holistic approach, incorporating diet, lifestyle modifications, herbal remedies, and Panchakarma therapies.

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