



Raktavaha Srotas and Raktapradoshaja Vikara (Blood vitiated Disorders) in Ayurveda

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ABSTRACT

Background: In *Ayurvedic* science, *Raktavaha Srotas* are the pathways responsible for circulating blood (*Rakta Dhatu*) throughout the body. When these channels are disrupted, they can lead to a variety of health issues collectively known as *Raktapradoshaja Vikara* or blood-vitiated disorders.

Objectives: To explain the structure and function of *Raktavaha Srotas* as per classical *Ayurvedic* texts. To explore how imbalances in blood occur and how they lead to disease. To highlight the role of liver and spleen in maintaining healthy blood and how their dysfunction contributes to illness.

Materials and Methods: This article is based on an in-depth review of classical *Ayurvedic* literature, especially the *Charaka Samhita*, *Sushruta Samhita* and *Ashtanga Hridaya*. Interpretations from respected commentaries and modern insights into physiology were also included to draw comparisons and enhance understanding.

Results: *Ayurveda* identifies the liver, spleen, and blood vessels as the core sites (*Moolasthanas*) of *Raktavaha Srotas*. When these are affected by poor diet, stress or environmental factors, blood gets vitiated, leading to disorders like skin diseases, anaemia, jaundice and bleeding conditions. These changes reflect deeper imbalances in the body's regulatory systems, particularly those governing blood production and circulation.

Conclusion: *Raktavaha Srotas* function similarly to the circulatory and blood-forming systems described in modern medicine. Liver and spleen play key roles in blood health. By understanding and treating these roots of disease, *Ayurveda* offers a holistic approach that focuses not just on symptoms, but on restoring balance to the entire system.

KEYWORDS: *Raktavaha Srotas*, *Rakta Dhatu*, *Raktapradoshaja Vikara*, liver, spleen.

Introduction

Srotas Nirukti- Derived from the root "*stru*", meaning "to flow or to secrete"

The term *Srotas* refers to pathways involved in bodily transport and secretion.

Definition of *Srotas* (Channels):

" स्रवणात् स्रोतांसि । ¹

(च.सू.३०/१२)

This implies that *Srotas* are those structures through which flow or movement occurs.

मूलात् खादन्तरं देहे प्रसृतं त्वभिवाहि यत् |
स्त्रोतस्तदिति विज्ञेयं सिराधमनिवर्जितम् ॥²

(सु.शा.९/१३)

Srotas as channels originating from a root with an internal cavity spread throughout the body. These are distinct from *Sira* (veins) and *Dhamani* (arteries) in both structure and function. *Srotas* facilitate the circulation of *Dosha* and *Dhatu* to various organs aiding in the transformation of *Dhatu* from *Rasa* to *Shukra*. Each *Dhatu* supports its own tissue layer while also nourishing the next one in sequence. Among the many types of *Srotas* such as *Rasavaha*, *Raktavaha* and *Mamsavaha* etc.

Raktavaha Srotas holds significant importance as it is responsible for circulating *Rakta Dhatu* (blood) to all parts of the body for tissue nourishment. Imbalance in *Pitta Dosha* can lead to vitiation of *Rakta Dhatu*, resulting in various *Pitta* and *Rakta* disorders, collectively known as *Rakta Pradoshaj Vyadhi*. Since the formation and circulation of *Rakta Dhatu* occur within the *Raktavaha Srotas* any disruption in *Rakta Dhatu* affects this system, often manifesting at specific sites (*Sthansanshraya*).

Aims:

1. To provide a comprehensive understanding of the concept of *Raktavaha Srotas* in *Ayurveda*.
2. To elucidate the causes, manifestations and Ayurvedic management of *Raktapradoshaja Vikaras*.
3. To highlight the clinical significance of *Rakta Dhatu* and its vitiation in disease formation.

Objectives:

1. To explain the anatomical and functional aspects of *Raktavaha Srotas* as described in classical *Ayurvedic* texts.
2. To identify the *Moolasthanas* (root structures) of *Raktavaha Srotas* and their physiological importance.
3. To discuss the etiological factors leading to *Rakta Dushti* (vitiation of blood).
4. To describe common *Raktapradoshaja Vikaras* with their signs, symptoms and pathological basis.

MATERIALS AND METHODS

This article is based on a detailed review of classical *Ayurvedic* texts and supportive modern literature to explore the concepts of *Raktavaha Srotas* and *Raktapradoshaja Vikara*. Key references were drawn from authoritative scriptures such as *Charaka Samhita*, *Sushruta Samhita* and *Ashtanga Hridaya*, along with their respected commentaries. Additional insights were taken from *Ayurvedic* pharmacological texts (*Nighantu*) and current research papers.

DISCUSSION

In *Ayurveda*, *Dosha*, *Dhatu* and *Mala* are considered the three fundamental components of the human body. Among the seven *Dhatu*, *Rakta Dhatu* (blood) plays a vital role in sustaining life. Heavier and denser than *Rasa Dhatu*, *Rakta* exists in liquid form and is responsible for nourishment, vitality and maintaining complexion.

Role of Food in Rakta Formation

Food is the foundation of all *Dhatu*. To generate *Rakta*, it must contain all six tastes (*Shadrasa*) and be rich in *Agneya* (fiery) qualities: hot, sharp, bright and light.³ According to *Chakrapani*, foods like hot spices, red meat and richly coloured vegetables support *Rakta* formation by enhancing qualities like colour, lustre and internal warmth.

Dhatu Poshana: Nourishment Process

Dhatu Poshana refers to the step-by-step nourishment of *Dhatu*, beginning with *Rasa* and progressing to *Rakta*, *Mamsa*, *Meda*, *Asthi*, *Majja* and finally *Shukra*. Though some texts describe a simultaneous distribution (*Yugapat*), traditional analogies like *Kshira Dadhi Nyaya* and *Kedara Kulya Nyaya* explain how nutrition flows and transforms within the body.⁴⁻⁵

Qualities of Pure Rakta.

Healthy blood is vibrant red, smooth, free of discoloration, and resembles bright red substances like *Gunja* seeds or *Indragopa* insects.⁶ A person with pure blood shows signs of *Rakta Sarata* is radiant skin, glowing complexion, strength, emotional calmness and vitality. Their lips, palms, soles, and nails appear naturally red and unctuous.

Functions of Rakta

Rakta supports *Jeevana* (life), enhances skin tone, strengthens muscles and carries *Oja* is the essence of immunity.⁷ Flowing through *Dhamani* and *Srotas*, it also helps in the transportation of *Dosha*, playing an active role in maintaining balance or spreading disease when vitiated.

Rakta Dhatu Quantity and Raktamokshana

The ideal quantity of *Rakta* is about 8 *Anjali*.⁸ During *Raktamokshana* (therapeutic bloodletting), up to one *Prastha* can be safely withdrawn. Over-bleeding, however, can lead to severe complications and must be carefully managed.

Signs of Rakta Kshaya (Deficiency)

When Rakta is depleted:

- Skin becomes rough and pale
- Sensation reduces
- Cravings for sour and cold foods increase
- The body loses heat and strength
- Mental fog and confusion may appear
- Signs of *Rakta Vriddhi* (Excess)
- Excess *Rakta* can cause:
- Skin disorders (like *Kushtha*)
- Eye redness, burning sensations
- Enlarged spleen, abscesses, and inflammation
- Increased body heat and *Agni* disturbance

Elemental Composition

Rakta is predominantly *Agneya*, infused with heat and light. but also contains *Jala* (water) and other *Mahabhuta*. Some scholars see it as a product of all five elements (*Pancha Mahabhuta*) giving it complex physical and energetic properties.

Charaka's Insight

According to *Acharya Charaka*, *Rakta* is a *Jala-dominant* tissue enriched with *Agni* and *Soma Guna*. In managing *Rakta Kshaya*. both these qualities are taken into account to restore its balance.

The concept of *Srotas* is a cornerstone of *Ayurvedic* physiology and pathology. Among these, the *Raktavaha Srotas* is the channels responsible for the circulation of *Rakta Dhatu* (blood), play a crucial role in sustaining life by delivering nutrition and vitality to tissues. Classical texts describe the *Moolasthanas* (root locations) of *Raktavaha Srotas* as the *Yakrit* (liver), *Pliha* (spleen) and *Raktavahi Dhamani* (blood vessels).

which align closely with Modern understanding of the hematopoietic and circulatory systems. When *Rakta Dhatu* becomes vitiated due to faulty diet, lifestyle, emotional stress or external factors, it leads to

Raktapradoshaja Vikara are a group of disorders that originate from disturbed blood. These conditions manifest in diverse ways such as *Kustha* (skin diseases), *Pandu* (anaemia), *Kamala* (jaundice), *Raktapitta* (bleeding disorders) and even systemic inflammatory diseases. This highlights how *Rakta* is not only a carrier of nutrients but also a medium for disease manifestation when imbalanced.

Yakrit (Liver)

According to *Ayurveda*, *Yakrit* (liver) is where *Ranjaka Pitta* imparts colour to *Rasa Dhatu* leading to the formation of *Rakta Dhatu*. *Sushruta* emphasizes the liver as *Raktashaya* a reservoir and site of blood formation through *Raktagni* and *Ranjaka Pitta*. During Mid-gestation, the liver is the primary site of RBC production. Its sinusoids and Kupffer cells allow it to store around 450 ml of blood, expandable up to 0.5 L during cardiac failure. It receives 1350 ml/min of blood, about 27% of resting cardiac output. The liver also stores iron in the form of ferritin and regulates its release, acting as an iron buffer.

Ranjaka Pitta

This subtype of *Pitta* gives colour to blood, bile and stool and is located in the liver, spleen, stomach and small intestine. It plays a key role in red blood cell formation and its dysfunction may lead to anaemia.

Pleeha (Spleen)

The spleen, considered a major site for *Rakta Dhatu* storage, also stores platelets and filters old RBCs. Though modern science attributes RBC formation to bone marrow, *Ayurveda* links early *Rakta Dhatu* production to the sternum. The spleen supports immune function and helps combat infections like pneumonia and meningitis.

Raktavahini Dhamani (Blood Vessels/Arteries)

Dhamani refers to arteries pulsating vessels that transport oxygenated blood. *Sushruta* identified *Dhamani* not *Sira* (veins), as the root (*Moolasthan*) of certain *srotas* (body channels), as arteries precede capillary networks in circulation. Some *srotas* like *Udakavaha*, *Mutravaha* and *Sukravaha* are not linked with *Dhamani*, possibly because they deal with waste (*Mala*) and have different mechanisms in *Ayurveda* compared to modern physiology.

| <i>Acharya</i> | <i>Moolasthan of Raktavaha srotas</i> ⁹⁻¹⁰ |
|--------------------|--|
| 1. <i>Charak</i> | <i>Yakrit</i> (liver), <i>Pliha</i> (spleen) |
| 2. <i>Sushruta</i> | <i>Yakrit</i> (liver), <i>Pliha</i> (spleen), <i>Raktavahi Dhamani</i> (blood vessels) |

Raktavahi srotas dusti hetu (etiology)-

विदाहीन्यन्नपानानि स्निग्धोष्णानि द्रवाणि च
रक्तवाहीनि दुष्यन्ति भजतां चातपानलौ॥¹¹

(च. वि. ५/१४)

Acharya Charak has described several causes for the vitiation (*Dushti*) of *Raktavahasrotas* (the channels carrying blood). These include the consumption of food and drinks that cause a *Vidahi* (burning sensation), as well as those that are *Snigdha* (oily), *Ushna* (hot) and *Drava* (liquid) in nature. Additionally, excessive exposure to *Atapa* (sunlight) and *Anila* (wind) also contribute to the disturbance of *Raktavahasrotas*.

There's a fascinating alignment between *Ayurvedic* and Modern understandings of blood function. The liver and spleen's role in blood formation and detoxification are emphasized in both systems. *Ayurvedic* descriptions of *Raktapradoshaja Vikara* show overlap with autoimmune and inflammatory conditions recognized in Modern medicine. The *Ayurvedic* approach, which focuses not only on symptoms but on root causes such as *Srotas* dysfunction and *Dosha* imbalance offers a more holistic pathway for treating complex, chronic illnesses. It emphasizes purification, dietary regulation, and herbal support.

Raktapradosaj vikara-

वक्ष्यन्ते रक्तप्रदोषजाः

कुष्ठ वीसर्प पिडका रक्तपित्तं असृग्दरः ॥

गुद मेद्र आस्यपाकः च प्लीहा गुल्मो अथ विद्रधिः ।

नीलिका कामला व्यङ्गः पिप्लवः तिलकालकाः ॥

दद्रुः चर्मदलं श्वित्रं पामा कोठ अस्र मण्डलम् । रक्त प्रदोषात् जायन्ते..... ॥¹²

(च.सू. २८/११-१३)

कुष्ठ - Skin diseases (leprosy) .

वीसर्प - Erysipelas or spreading skin inflammation.

पिडका - Pimples, boils.

रक्तपित्त - Bleeding disorders like epistaxis, etc.

असृग्दर - Menorrhagia or excessive menstrual bleeding.

गुद, मेद्र, आस्यपाक - Inflammation or ulcers in the anus, genital region or mouth.

प्लीहा - Enlargement or disorders of the spleen.

गुल्म - Abdominal lumps

विद्रधि - Abscesses.

नीलिका - Bluish discolorations under the skin (like bruises).

कामला - Jaundice.

व्यङ्ग - Dark spots or pigmentation.

पिप्लव, तिलकालक - Small black moles or freckles.

दद्रु, चर्मदलं - Ringworm and scaly skin disorders.

श्वित्र - vitiligo.

पामा, कोठ, अस्रमण्डल - Itching, urticaria and circular reddish eruptions.

| <i>Vyadhi</i> | <i>Charaka</i> | <i>Sushruta</i> | <i>Bhela</i> |
|-------------------------------|----------------|-----------------|--------------|
| <i>Kustha</i> | + | + | + |
| <i>Visarpa</i> | + | + | - |
| <i>Pidika</i> | + | + | - |
| <i>Raktapitta</i> | + | + | - |
| <i>Arsgdara</i> | + | + | - |
| <i>Guda, Medhra, Asyapaka</i> | + | - | - |
| <i>Pleeharoga</i> | + | + | - |
| <i>Gulma</i> | + | + | - |
| <i>Vidradhi</i> | + | + | - |
| <i>Nilika</i> | + | - | - |
| <i>kamala</i> | + | - | - |
| <i>Vyanga</i> | + | + | - |
| <i>Piplava</i> | + | - | - |
| <i>Tilakalaka</i> | + | + | - |
| <i>Dadru</i> | + | - | - |
| <i>Charmadala</i> | + | - | + |

| | | | |
|--------------------|---|---|---|
| <i>Pama</i> | + | - | + |
| <i>Kotha</i> | + | - | - |
| <i>Asramandala</i> | + | - | - |
| <i>Masaka</i> | - | + | - |
| <i>Nyachha</i> | - | + | - |
| <i>Indralupta</i> | - | + | - |
| <i>Arsa</i> | - | + | - |
| <i>Arbuda</i> | - | + | - |
| <i>Angamarda</i> | - | + | - |
| <i>Kachhu</i> | - | - | + |
| <i>Vicharchika</i> | - | - | + |

In a healthy and well-functioning human body, the *Dosha*, *Dhatu*, and *Mala* work together in a balanced and harmonious relationship. This harmonious partnership is known as *Ashrayashrayee Bhava*. In this state, the *Dosha* (visitor) and *Dushya* (host) share similar qualities and maintain a cooperative relationship.

However, this balance is delicate. When the *Dosha* are disturbed or aggravated by certain causative factors, they lose their friendly nature. Instead of supporting the body, they turn hostile and begin to disrupt normal bodily functions. As this disturbance progresses through the stages of *Samprapti* (pathogenesis), it ultimately leads to the manifestation of disease.

At this point, the once harmonious relationship between the *Dosha* and *Dushya* turns into a conflict, resulting in various symptoms and signs of illness. In the case of *Rakta Pradoshaja Vikara* (blood-related disorders), a common question arises: Which *Dosha* has vitiated the *Rakta* (blood)?

The answer lies in observing the nature of the symptoms. For example:

- When *Vata* vitiates the *Rakta*, the blood may appear reddish, frothy, clear and thin. (*Bhavet Arunabham... Vatat Phenilam Vishadam Tanu (Ca. Su. 24/8)*).
- If *Pitta* is the culprit, the *Rakta* may turn yellowish, slightly blackish, thick, hot and slow to clot. (*Pittat Peetasitam Raktam Styayati Aushnyat Chirenacha (Ca. Su. 24/8)*).
- In the case of *Kapha*, the *Rakta* may appear pale, sticky, stringy, and dense. (*Ishat Pandu... Kaphat Dustam Picchilam Tantumad Ghanam – Ca. Su. 24/8*).

By comparing the qualities of vitiated *Rakta* with that of healthy *Rakta*, one can identify which *Dosha* has become imbalanced. These changes in *Rakta* properties can be classified into two types:

1. ***Prakriti-samasamavayajanya*** – changes that align with the natural tendencies of the vitiating *Dosha*.

2. ***Vikriti-vishamasamavayajanya*** – changes that are inconsistent or contradictory to the *Dosha* usual behaviour.

CONCLUSION

Raktavahasrotas from its *Utpattisthan* we can compare with Haemopoetic system, From the *Sangrahasthane* come to know liver and spleen act as reservoir of blood and from the *Vahansthan* we can also compare with the circulatory system of the body and its *Moolasthan* we can compare with the portal system. from its *Moolsthana* it is easy to diagnosis the disease and thus we can conclude that *Raktavahasrotas* is nothing but whole circulatory system and the disease of the *Raktavahasrotas* and the disease which is mainly liver and spleen disease. Any of the skin disease, any kind bleeding disorders, hepatic disease and tumour treatment should give its root liver and spleen.

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