

## CONCEPT OF RAKTHA DHATU IN AYURVEDA

Seeta M. Biradar<sup>1</sup>, Shruti Hiremath<sup>2</sup>, Renuka Tenhalli<sup>3</sup>, Sateesh Patil<sup>4</sup>

<sup>1</sup>M.D.(Ayu), Ph.D (Scholar), Associate professor & HOD, Dept. of Roganidana,

<sup>2</sup>Assistant professor, Dept. of Kriyashareer

<sup>3</sup>Professor & HOD, Dept. of P.G Studies Samhita & Siddhanta,

<sup>4</sup>Associate professor & HOD, Dept. of Swasthavritta,

BLDEA'S AVS Ayurveda Mahavidyalaya, Vijayapur, Karnataka, India

Corresponding Author: [drseetabijapur@gmail.com](mailto:drseetabijapur@gmail.com)

<https://doi.org/10.46607/iamj3208102020>

(Published online: October 2020)

Open Access

© International Ayurvedic Medical Journal, India 2020

Article Received:06/09/2020 - Peer Reviewed:28/09/2020 - Accepted for Publication:03/10/2020



### ABSTRACT

*Rakthadhatu* (Blood) is one of the seven *dhatu*s. Word *Rakthais* taken from Devanagari “Raj Ranjane” which determines red shading. The functions of *Raktha dhatu* are clarified in many different views as *Kala*, *Matrujabhav Twacha*, *Avayava Utpatti* in *Garbhavastha*, Formation of *Srotas*, its *Panchabhautiktva*, *Upadhatu*, *Pramana*, *Gunas*, Mala have been clarified. *Acharya Sushruta* says its extreme importance for the sustainability of life. Therefore, it is very important to do the protect the *Raktadhatu*. *Acharya Sharangadhara* states that *Rakthadhatu* is life of *shareer*. The *shareerdoshasangraha*, *dehasambhavahetava*, *Trayodoshasamasataha*, that shows that *Vata*, *Pitta* and *Kapha* are 3 *doshas* and *raktha* cannot be called as *Dosha*. As we known, *Rakthadhatu* is different from the blood according to modern and carrier of *Agni /pitta* that invigorates the body and mind. All *Dhatu*s get digested by the *Tejas* of *Pitta dosha*. As *Yakrut* is responsible for *Rakthautpatti*. The liver plays important role in metabolism. *Acharyas* have opined about the genesis of *Yakrut* (liver) from *Rakta Dhatu* (blood tissue). Parallel opinion in conventional anatomy states that abundant quantity of blood is responsible for the formation of sinusoids of liver. *Ayurveda* covers *Raktadhatu* in much wider aspect. *Ayurvedic* texts reveal that *Raktadhatu* has much broader concept than blood. Hence in this article concept of *Raktha* in *Ayurveda* are highlighted.

**Keywords:** *Raktadhatu*, Blood, *Raktautpatti*, *Dhatu*, *Pitta*

## INTRODUCTION

*Raktadhatu* is an entity which is considered as one of the *Saptadhatus*, which is unanimously accepted by all *Ayurveda Acharya's*. The word *Rakta* is derived from *Sanskrit* word *RajaRanjane* which indicates red colour. Synonyms of *Raktadhatu* are *Rudhiram*, *Shonitam*, *Lohitam* whereas *rakthaoutpatti*<sup>1</sup> is dealt as *Apya rasa*<sup>2</sup> (water like *Rasa*), the *Apya rasa* (water like *Rasa*) after getting red colour by the *Tejas* (heat fire like agency) present in the body (in the liver and spleen) remaining unvitiated and clear comes to be called as *Rakta*. When the *Apya rasa* passes through the *Yakrut* and *Pleeha* and by the action of the *Ranjaka Pitta* the *Apya* gets converted into *Raktadhatu*. Essence of food known as *Aahara rasa* is formed by the action of *Jatharagni* (gastric juice-hydrochloric acid) in the *Amasaya* (stomach) and is partially digested product. It passes through the *Grahani* (duodenum) gets mixed with *Acchappitta* (bile and pancreatic juice) reaches the *Pachyamanasaya* (small intestine). There it undergoes further digestion by the action of *Bhutagni* (metabolic process). After these activities are completed the first tissue known as *Rasa dhatu* get formed. This is white thin liquid containing nutrient materials essential for the formation and growth of other *Dhatus* (tissues). This *Rasadhatu* travels all over the body constantly supplying nutritive materials (*Dhatuposakamsa/Posakadhatu* or *Asthayidhatu*) to other static tissue (*Sthayi* or *Posyadhatus*). The ancient view that *Rasadhatu* goes to the *Yakrut* and *Pleeha* obtains red colour there and become *Raktadhatu* can be explained to some extent. Some portion of chyme absorbed from the small intestine goes to liver and spleen and from there reaches the heart. A red pigment called haemoglobin is synthesized in these organs (especially the liver) and is instilled into each of the RBC (Red Blood Corpuscles) which are in great number and so make the entire fluid deep red in colour. In the living body *Teja* brings this red colour to *Rasa dhatu* and when produced in healthy manner and in physiological quantity; it is fresh and called *Rakta*. The *Rasa dhatu* though *Apya* (liquid possessing and action of water)

after reaching *Yakrut* and *Pleeha* attains red colour due to the action of *Ranjaka pitta*. *Charaka* said that when *Teja* portion of *Ahararasa* and *Pitta* (*Ranjaka pitta*) with *Ushma* acts upon *Rasa* it acquires redness. This is finally *Raktata*. As per modern science Blood<sup>3</sup> is connective tissue in fluid form. It is considered as fluid of life because it carries oxygen from lungs to all parts of body and carbon dioxide from all parts of body to lungs. It is also called fluid of health because it protects body against diseases. According to Ram SundarRao, the essence of *Ahararasa* after being subjected to *Paaka* by *Ranjaka Pitta* attains red colour and become *Raktadhatu*<sup>4</sup>. As per *Sushruta*<sup>4</sup> vein providing *Rakta* to each smallest structure of the body is additionally a base of *Raktavahasrotas*. *Yakrut* and *pleeha* are locales of arrangements and vitiation of *Raktadhatu*.

*Visratadravataaraagahaspanandanamlaghutaatathaa|Bhoomyadeenamgunaaahyetedrushyantechaatrashonite || (Susruta) Panchabhoutikatva*<sup>6</sup> of *rakthadhatu* resembling blood, the following qualities of blood represents the presence of their respective *Mahabhutas* and thus establish the fact that blood is *Panchabhoutika*.

*Visrata*– fleshy odour – *Prithvimahabhuta*, *Dravata* – fluidity – *Jalamahabhuta*, *Raga* - redness – *Agni mahabhuta*, *Spandana* – movement – *Vayumahabhuta*, *Laghuta*– lightness – *Aakash mahabhuta*

Properties of *Rakta*

*Madhuramlavanamkinchitoshnamsamhatam|Padmendriyopahemaavishashalohitalohita|| (A.H.Su 27/1)*<sup>7</sup>

*Raktadhatu*<sup>8</sup> pure or wholesome status looks like heated gold which turns red after heating, like fire insect (*Indragopa*) red lotus or like *Abrusprecatorius* (*gunja*) these various shades depends upon individuals. *Sushruta*<sup>9</sup> also described characteristics of pure *Raktadhatu*. *Raktadhatu* looks like insect (*Indragopa*) is of proper density and does not bear any other colour than meant of pure blood *raktadhatu* is neither very cool nor very warm. It is sweet, unctuous, and red in colour, heavy, smells typically. Reacts to items which affect the *pitta*. As per *Bhanumati*

commentary of *Sushruta Raktadhatu* is made up of *Teja* and *Jalamahabhoot*. In Hemadri, commentary on *Astanga Hrudaya* he described *Aashryaashriyatva*, in which he explained pitta has *ashraya* of *Raktadhatu*. It means if *Pitta dushti* occurs, it affects the normal *Raktadhatu* and vice versa. According to *Ayurveda*, the *Rasa Dhatu*, which comes to *Yakrut* and *Pleeha*, get color red by *Ranjakagni*. But, this is too difficult to correlate with modern science. In the term of modern science, it can be matched with haematopoiesis. Haematopoiesis is carried out by *Yakrut* only in intrauterine life. However, after birth, this is carried out by red bone marrow. In some pathological conditions, the liver may help in forming blood cells with red bone marrow. Actually, the function of *Yakrut* is metabolism of fats, proteins, etc., or storage of certain vitamins, nutrients or glycogen and not colouring the chyle. On the whole, the term of *Ranjakagni* related to the liver is too difficult to match with any of the components present in the liver.

#### **Rakta and Pitta correlation**

The *Rakthadhatu* being made up of primarily of *Agni*, has similar qualities. It is *Ushna*, *Laghu*, *Rooksha*, *Khara*, *Asthayi*. These qualities are very similar to *Pitta dosha* which is made up of *Tejas* and *Apa*. *Sharangadhara*(*prathamkhanda*)<sup>10</sup>The status of *Rakthadhatu* plays an important role in determining the status of *pitta dosha*. In the formation of *Dhatu*, *Pitta* is the mala produced by the formation of

*Rakthadhatu*. *Raktha* has special relation to the *Yakrut*. *Yakrut* is the site of region of *Rakthavahasrotas*, which is the channel through which unstable form of *poshya Rasa dhatu* must pass prior to the formation of *Raktha*. When *Rakthadhatu* is overheated, so too is *poshya Rasa dhatu*. As a result the *Yakrut* and *Pleeha* become overheated and possibly gets enlarged. This is what occurs during Hepatitis. Some Acharyas have different opinion regarding *utpatti* of *Rasadidhatu*s. Some believe that in one day all the 7 *dhatu*s are formed whereas some comment that they take 7 days and 8<sup>th</sup> day *Shukra* is formed.

#### **Rakthavahasrotomoola**

Elaborate description of *Rakthavahasrotas* and *Rakthapradosajavyadhis* are found in both *Laghutrayas* and *Brhatrayas*.

#### **Brhatrayees**

*Acharya Charka* describes *Rakthavahasrotas* in *Vimanasthana* 5<sup>th</sup> chapter and *Shonitajarogas* in *Sutrasthana* 24<sup>th</sup> chpt and *Rakthapradosajaanyavyadhis* in 28<sup>th</sup> chapter<sup>11</sup>

*Acharya Susruta* describes *Rakthavahasrotas* and its *dusti* in *Shareersthana* 9<sup>th</sup> chapter.

*Acharaya Vagbhata* followed views of *Charak*, *Susruta*

*Acharaya Sharangadhara* was the first to mention *Rakthajanatanmajavikaras*. He has also mentioned *kamala* under *Panduroganidana* chapter itself.

**Table 1:** Aetiology of *RakthavahaSrotas*

Sl No	Etiological Factors	References		
		Charak	Susruta	Vagbhata
1. 1	<i>Aharaja</i>	+	-	+
2.	<i>Atilavana</i>	+	-	-
3.	<i>Atikshara</i>	+	-	+
4.	<i>Atiamla</i>	+	-	+
5.	<i>Atikatu</i>	+	-	+
6.	<i>Atidadi</i>	+	-	-
7.	<i>Atikulatha</i>	+	-	+
8.	<i>Drava snigdha guruni cha atyaadana</i>	+	+	-
9.	<i>Pindalu, moolaka</i>	+	-	-
10.	<i>Jalajamamsasevana</i>	+	-	-
11.	<i>Virudda, upakhinapootibhakshan</i>	+	-	-
12.	<i>Atiamlasevana</i>	+	+	-

13.	<i>Atimastusevana</i>	+	-	-
14.	<i>Atisura, Souveerasevana</i>	+	-	-
15.	<i>Atimashasevana</i>	+	-	+
16.	<i>Atinishpava</i>	+	-	+
17.	<i>Atitilatailasevana</i>	+	-	+
18.	<i>Anupamamsasevana</i>	+	-	-
19.	<i>Bailanammamsa</i>	+	-	-
20.	<i>Prasahanamsevana</i>	+	-	-

**Table 2:** Environmental Conditions

1	<i>Sharathkala Swabhavataha</i>	+	-	+
---	---------------------------------	---	---	---

**Table 3:** Sedentary Habits

1	<i>Bhutva diva praspvapnam</i>	+	+	-
---	--------------------------------	---	---	---

**Table 4:** *Shreerika*

1	<i>Shrama</i>	+	+	-
2	<i>Abhigata</i>	+	+	-

**Table 5:** Psychological

1	<i>Krodha, Chinta, Shoka, Bhaya</i>	+	+	-
---	-------------------------------------	---	---	---

**Materials & Methods:** All classics, articles, online materials are taken for the study.

## DISCUSSION

Concept of *Raktha Dhatu* has got broad meaning compared to Blood in Modern. *Raktha dhatu* (blood) is an important entity in context to continue the Life. Because it performs important functions required for the body. As per Modern functions of Blood<sup>9</sup> described as the Haemoglobin of RBC picks up oxygen in the Lungs and this Oxyhaemoglobin circulates & discharges oxygen into the Tissue, this is Respiratory Supply of Nutrients such as Glucose, Amino acids, & Fatty acids absorbed from the GIT tract & transported by the Blood to the liver, acts as Nutritive. Various waste products of the body are carried by the Blood & ultimately removed from the body via Kidney, this is excretory function. Blood also helps in transport of various drugs, hormones etc to various tissue. It also helps in maintaining the body temperature, in process of Coagulation and also in detecting the foreign material by Antibodies. In *Ayurveda* *Raktha dhatu* is extremely important for the

sustenance of life. Therefore, it is needed to protect this *Dhatu* by every possible measure. *Rakthadhatu* is also responsible for *Dehadharan*. *Susruta* also mentioned that *Raktha dhatu* is responsible for the nourishment of all *dhatu*s & plays vital role in the formation of organs. It considered as one of the *Dashapranayatana*, hence included in *Dashapranayatana*. In *Susruta shareerasthana*, it is explained that *Raktha dhatu* while circulating throughout the body gives *Poshakansha* to their respective *dhatu*s & helps in maintaining of strength of respective *dhatu*s (*dhatuparinama*). *Raktha dhatu* is also responsible for *Varnaprasadana*. It also performs the function of sensation. In embryonic life, *Raktha dhatu* plays an important role in formation of liver, spleen, lungs, colon, kidney & heart. A little wasting will not hamper function of *Rakthadhatu* immediately if *Rakthadhatu* is in excellence condition. Persons will have strength to fight the pathogenesis. Charak in *Sutrasthana* mentioned that *Raktha* is also responsible for formation of Oja & *Ayurvruddhi*. *Kshaya* and *Vrudhi* of *dhatu*s are also dependent on *Raktadhatu*. (Su.su14/21) (*Shonitnimittaj*). In *Charak Sutrasthana*

14<sup>th</sup>chapter it is explained that if there is loss of *Rakthadhatu* in turn leads to diminished strength of other *Dhatus*, *Agni* & *Vatadosha* gets aggravated. In Charak. Sutra 24<sup>th</sup> /11. It is explained, if diseases are not cured by *Sheeta*, *Ushna*, *Snigdha*, *Ruksha* treatment then that diseases are called to be *Raktajvyadhi*. It indicates importance of *Raktadhatu*. *Raktadhatu* is one of seven *Dushya* in aetiology of *Kustha* and *Visarpa*. Charak *Sutrastana* 24<sup>th</sup> /24 explained *Vishudda Raktapurusha Lakshanas* as if persons organs are properly functioning, as such each of organs performing their respective functions as they mean. If digestion is proper and excretory functions are proper, it indicates proper functioning of *Raktadhatu*.

## CONCLUSION

After viewing through the classics regarding *Rakthadhatu*, it maintains the life process. Modern sciences also described Blood as the fluid of life, as it carries Respiratory gases, nutrient materials required for the basic life process. Body cannot survive without *Prana* & *Rakthadhathu*. *Rakthasthanana* means either the site where *Raktha* is formed or stored. & *Pleeha* have been recognised by *Charak* & *Susruta* as *Rakthasthanana* & also moola of *Rakthavahasrotas*. *Rakthadhatu* circulates in the body & supply nutrients to all dhatus & responsible for existence, support & maintenance of the body. The functions described in Ayurvedic texts of *Raktadhatu* are much more than that described in modern science. *Raktadhatu* gives us idea about vital fluid running through body, which connects *Jatharagni* to every other *Dhatus* of the body. These organs get nourishment through *Raktadhatu* and are responsible for nourishment and maintenance of good health.

## REFERENCES

1. Susruta, Susruta Samhita (Nibandha Sangraha by Dalhan) Sutrasthan, Susruta Samhita, Edited by Jadavji Trikamaji Acharya, Chaukhambha Subharti Prakashan, Varanasi, Sutrasthanana chapter 14<sup>th</sup>, verse 6, 8<sup>th</sup> ed. 2012.
2. Susruta, Susruta Samhita Kaviraj Ambikadatta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Sutrasthanana chapter 21<sup>st</sup> page no 185 ,2<sup>nd</sup> edition 2002.
3. Health engine.com.au>info>blood-function-&-composition. (Health.engine.blog)
4. Dr M. Ramsundarrao, Shareer Kriyavijanan 2<sup>nd</sup> edition, page no 268
5. Susruta, Susruta Samhita Kaviraj Ambikadatta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Sutrasthanana chapter 21<sup>st</sup> page no 64, 2<sup>nd</sup> edition 2002.
6. Susruta, Susruta Samhita Kaviraj Ambikadatta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Sutrasthanana chapter 14<sup>th</sup> verse 9, page no 65.
7. Paradar H.S.S, Astanga Hrudaya of Vagbhata, Sarvangasundaratta & Ayurveda Rasayana of Hemadri, Varanasi, Sutrasthanana 27<sup>th</sup> chpt 1sloka Chaukhambha Surbharati Prakashan, Sutrasthanana 27<sup>th</sup> chpt 1sloka, Reprint Ed 2002.
8. Susruta, Susruta Samhita Kaviraj Ambikadatta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Sutrasthan chapter 14<sup>th</sup>, verse 22 page no 69, 2<sup>nd</sup> ed 2002.
9. Sharangadhara Samhita, Durgadattashastri, Vaijyanatha Prasad Bukslewar, Banarasacity, 1949 page no 84.
10. S. K. Choudhari, Concise Textbook of Physiology, 4<sup>th</sup> edition page no 19.
11. Agnivesha, Charaksamhita, revised by Charak & Dridhabala with commentary of Chakrapanidatta, edited by Jadavaji Trikamaji Acharya, Chaukhambha Sanskrit Sansthan, Varanasi, Sutrasthanana, chapter 28<sup>th</sup>, verse 11, 12 page no 5985<sup>th</sup> Edn, Reprint 2011.

**Source of Support: Nil**

**Conflict of Interest: None Declared**

How to cite this URL: Seeta M. Biradar et al: Concept of Raktha Dhatu in Ayurveda. International Ayurvedic Medical Journal {online}; 2020 {cited October, 2020} Available from: [http://www.iamj.in/posts/images/upload/4778\\_4782.pdf](http://www.iamj.in/posts/images/upload/4778_4782.pdf)