



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Physiological Study Of *Rasa Dhatu* In The Context Of Present Era

Dr. Yamini Kumari Jain¹, Dr. Kishori Lal Sharma²,

1.PG Scholar PG Department of Kriya Sharir MMM Govt. *Ayurveda* College Udaipur, Rajasthan

2. Associate Prof. PG Department of Kriya Sharir MMM Govt. *Ayurveda* College Udaipur, Rajasthan

Abstract

According to *Ayurveda*, Living body is continuously subjected to wear and tear process. *Dhatu*s which are being lost in physiological activities are replenished by food and water. The word *rasa dhatu* literally means the component of the body with nutrients and essence. There are two forms of *rasa* related to body physiology. Man needs to eat food to build a new *Dhatu*s and to repair damage *Dhatu*s. After consumption food is digested in gastro intestinal tract. Fluid formed from the digested part of food is called as *Ahara Rasa*. For growth, *Dhatu*s needs nourishment, and these *Dhatu*s are nourished by food and water. *Aahar Rasa* is formed in *Annavaha* Srotas. *Aahar Rasa* contains nutrients of seven *Dhatu*s. *Aahar Rasa* is absorbed from *Grahani* (small intestine) and brought into heart. Heart is a root of *Rasavaha* Srotas, hence in heart, *Rasa Dhatvagni* transforms nutrients of *Ahara Rasa* into stable *Rasa Dhatu*. *Rasa Dhatu* is formed in *Rasavaha* Srotas. *Rasa* is the first *Dhatu* formed from *Aahar-Rasa*.

Key words: *Rasavaha* Srotas, *Rasa*, *Dhatu*.

Introduction

Rasa word derived from the 'Sanskrit' Ras having the meaning of table, to relish, to desire. *Rasa dhatu* means juice or liquid of life. *Rasa* is derived from the *rasa gatau* which means moving. *Rasa dhatu* is more nourishment than fluid, is carrying hormones, nutrients & proteins. As the nutrients fluid is continuously circulated in our body it is called as *Rasa*. The quality of *Rasa dhatu* depends on the health of digestion i.e. *Agni Rasa* is produced by the digestion of food & liquids. We call Ras a *Adyadhatu* as it is first *dhatu* in our body. *Prasada* & *Sara* are the synonyms of *Rasa* in the context of *ahara Rasa*.

Definition

Rasa dhatu literally translates to "the part of the body with essence and nutrients." In relation to body physiology, *rasa* comes in two varieties. After the initial stage of digestion by the stomach's metabolic and digestive processes (*jatharagni*), food becomes its essence, or *ahara rasa*. The *rasa dhatu* is the second form. It is the element that arises when *rasa dhatvagni* acts upon the *ahara rasa*.

Derivation and etymology

The word '*rasa*' is derived from the Sanskrit root "ras" having the meaning of taste, to relish, to perceive, to feel, to desire.

Rasa is derived from the root 'gatau' which means moving. As the nutrient fluid is continuously circulated in our body, it is known as *rasa*.^[1]

Synonyms

Adyadhatu(first *dhatu*)^[2]

- *Aharaparinama dhatu*(transformed from food)
- *Prasada* and *Sara* are the synonyms of *rasa* in the context of *ahara rasa*.

Material and Methods

This study is based on a review of data collected from classical text and various modern books, magazines, articles and research papers from various journals and various websites. The information available on the internet is also incorporated into the study.

Physiological Aspect of *Rasa Dhatu*

Formation, circulation and metabolism of *rasa dhatu*

Rasa dhatu is formed from essence of food(*ahara rasa*). The ingested food is disintegrated into two parts: essence or useful part (*prasada*) and waste (*kitta*). The *prasada* is called as essence of food (*ahara rasa*). This essence is transformed into a nutrient fluid called '*rasa dhatu*'.^[3]

It is the ultrafine form of *ahara rasa*.

Rasa Dhatvagni acts upon the *rasa dhatu* in addition. It is split into two halves. The first part takes on a permanent form (*sthayi rasa dhatu*) to perform physiological functions such as body maintenance and nourishment.

The second portion called '*poshaka rasa*' is carried forward to nourish the next *dhatu* i.e.rakta.^[4]

During the metabolic process, this *rasa* is transformed into *rakta dhatu* by action of *ranjaka pitta*. It acquires a red colour during this process. This metabolism takes place at *yakrit* (liver) and *pliha*(spleen).^[5]

Panchbahutic Composition of *Rasa Dhatu*

- *Apya Mahabuta* :- Body fluid 60% contain Na+, Ci-, K+, H+ ion
Sneha – Liquids, Phospholipids Cholestrol etc.
- *Prithvi Mahabuta* :- Protein Serum albumin, Globulin, fibrinogen, etc.
Glucose, glycogen, Nitrogenous, credtine, urea, uric acid etc.
- *Agneya* Element : Vitamin A, D, E, K, B Complex Niacin

Enzyme- Amylolytic, Lipolytic, Proteolytic etc

Elements- Sodium, Potassium, Magnesium, Calcium, Iron etc. All endocrine Secretion

➤ *Vayavya* Element :- Gases, oxygen, carbon dioxide etc

Metabolic by products and waste products(*Upadhatu* and *mala*)

Breast milk(*Stanya*) and menstrual blood including ovum (*artava*) are formed as metabolic byproducts(*upadhatu*) of *rasa dhatu*.^[6]

Sharangadhara considers only breast milk(*stanya*) formed as *upadhatu*.

Various secretions and discharges are formed in this process as '*kapha*'. This is termed as "*malarupakapha*".

Quantity of *rasa dhatu* in body

The total quantity of *rasa* is nine *anjali*. One *anjali* is equal to the quantity that can be filled in a space formed from joining one's palms together. This measurement is person-specific.^[7]

Time span

The *rasa dhatu* is formed in a time span of 3015 *kala* (five days).^[8]

Circulation of *rasa dhatu*

The *rasa dhatu* is circulated through twenty-four vessels(*dhamani*) originating in the cardiac region. The upper and lower part of the body is nourished by ten vessels each. The remaining four nourish lateral parts of the body.^[9]

All the twenty-four vessels are described in a separate chapter named '*dhamanivyakarana sharira*' *Vyanavayu* carries out the circulation of *rasa dhatu*.^[10]

Rasavahi/ Rasaharini

The heart of the fetus is linked to the mother's heart through the channels carrying nutrients(*rasavahi*). The fetus expresses its wishes to the mother through these channels.^[11] During the eighth month of gestation, the vital essence(*ojas*) is unstable. It moves from mother to fetus and from fetus to mother through these channels.

Rasavaha srotas

The system that transports *rasa* throughout the body is known as *Rasavaha Srotas*. It circulates *rasa* through ten vessels after emerging from the heart.^[12] *Pranavaha srotas* are made up of the same channels and organs. This indicates that the body's vital force, or *prana*, is also carried by the heart and the *rasa*-transporting channels.

Role of *rasa dhatu* in embryogenesis:

During embryonic life, *rasa dhatu* is the only source of nutrition. The heart of the fetus is connected with the mother through the placenta and umbilical cord. The fetus gets nutrient fluid (*rasa dhatu*) through this placental circulation. Growth and development depend upon nutrition provided by *rasa dhatu*. This promotes strength and complexion of the fetus as it is composed of materials having all six tastes. This *rasa* also nourishes the mother's body and carries out lactation.^[13]

Together with maternal and paternal factors, *rasa* is one of the fetus's six origins. It is in charge of the development and growth of bodily parts, as well as the maintenance of life, satiety, nourishment, and zeal during embryogenesis.

Causes of vitiation

Excess consumption of heavy to digest, cold, over-unctuous food, overeating and excessive mental stress cause vitiation of *rasavaha* srotas.^[14]

Abnormal states

The increase or decrease in quality and/or quantity of *rasa dhatu* can lead to various abnormal conditions. The states can be assessed by following clinical features.

Symptoms of <i>Rasa Dhatu</i> kshaya ^[15,16,17]	Symptoms of <i>Rasa Dhatu</i> vridhi ^[18,19]
Degeneration of other " <i>dhatu</i> "(<i>Dhatu ksheenata</i>)	Decrease digestive power(<i>Agnimandya</i>)
Dryness of mouth(<i>Mukhashosha</i>)	Nausea(<i>Utklesha</i>)
Dryness of body mass (<i>Sharirashosha</i>)	Salivation (<i>Praseka</i>)
Emaciation (<i>Karshya</i>)	vomiting(<i>Chhardi</i>)
Thirst(<i>Trishna</i>)	Lack of enthusiasm to do work (<i>Alasya</i>)
Feeling of emptiness(<i>Shunyata</i>)	Heaviness in body (<i>Gaurava</i>)
Tiredness(<i>Shrama</i>)	Whitish discoloration of body(<i>Shvaitya</i>)
Intolerance to sound(<i>Shabdaasahishnuta</i>)	Feeling abnormal coldness of body(<i>Shaitya</i>)
Pain in the heart (<i>Hrudayaghattana</i>)	Looseness in body parts(<i>Angashaitilya</i>)
Trembling sensation of heart or tachycardia(<i>Hrutkampa</i>)	Dyspnoea(<i>Shwasa</i>)
Palpitation(<i>Hrutdrava</i>)	Cough(<i>Kasa</i>)
Cardiac pain(<i>Hrutshola</i>)	Excessive sleep (<i>Atinidrata</i>)
Fatigue or tiredness (<i>Shrama</i>)	

DISCUSSION AND CONCLUSION:

The necessity of food for the body's growth and operation is acknowledged by both sciences. The last by product of food that *Agni* in *Pachak Pitta* has digested is called *Aahar Rasa*. The result of digestion via *Annavaha Srotas* is *Aahar-Rasa*. After the initial stage of digestion by the stomach's metabolic and digestive processes (*jatharagni*), food becomes its essence, or *ahara rasa*. The *rasa dhatu* is the second form. It is the component formed after the *ahara rasa* gets acted upon by *rasa dhatvagni*. *Aahar-Rasa* is absorbed from *Grahani* into *Rasa-Rakta*. Absorbed *Ahara-Rasa* is carried to heart and then it is circulated in body. *Agni* of every *Dhatu* transform nutrient of respective *Dhatu* into stable *Dhatu*. Every *Dhatu* identifies its own nutrient and binds with it, so that *Dhatvagnic* transform it into stable *Dhatu*. *Rasa Dhatu* is a first generation of *Aahar Rasa* and is produced by digestion of *Ahara-Rasa* in *Rasavaha Srotas* by *Rasa-Agni*. Hence *Rasa Dhatu* is product of digestion through two *Srotamsi*, *Annavaha Srotas* and *Rasavaha Srotas*.

References :

- 1.Sushruta Samhita edited by Kaviraj Ambikadutta Shastri, Shutra sthana,14/13 Page no. 66. Chaukhamba Sanskrit Sansthan, Varanasi, 2007.
- 2.Ashtanga Hridaya, with Vidyotini Hindi commentary of Kaviraj Atrideva Gupta Sutra Sthana, Chapter 13/25, Chaukhambha Prakashan, Varanasi.
3. Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Brahmanand Tripathi and Dr. Ganga Sahay Pandey, Sutra Sthana Chapter 28/4, V Chaukhamba Surbharti Prakashan, 2007.
- 4.Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Brahmanand Tripathi and Dr. Ganga Sahay Pandey, chikitsa Sthana Chapter 15/16, V Chaukhamba Surbharti Prakashan, 2007.
5. Sushruta Samhita edited by Kaviraj Ambikadutta Shastri, Shutra sthana,14/4 Page no. 64. Chaukhamba Sanskrit Sansthan, Varanasi, 2007.
6. Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Brahmanand Tripathi and Dr. Ganga Sahay Pandey, chikitsa Sthana Chapter 15/17, V Chaukhamba Surbharti Prakashan, 2007.
7. Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Brahmanand Tripathi and Dr. Ganga Sahay Pandey, Sharir Sthana Chapter 7/15, V Chaukhamba Surbharti Prakashan, 2007.
- 8.Sushruta Samhita edited by Kaviraj Ambikadutta Shastri, Shutra sthana,14/14 Page no. 66. Chaukhamba Sanskrit Sansthan, Varanasi, 2007.
- 9.Sushruta Samhita edited by Kaviraj Ambikadutta Shastri, Shutra sthana,14/3 Page no. 63. Chaukhamba Sanskrit Sansthan, Varanasi, 2007.
- 10.Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Brahmanand Tripathi and Dr. Ganga Sahay Pandey, chikitsa Sthana Chapter 15/36, V Chaukhamba Surbharti Prakashan, 2007.
- 11.Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Brahmanand Tripathi and Dr. Ganga Sahay Pandey, Sharir Sthana Chapter 3/15, V Chaukhamba Surbharti Prakashan, 2007.
- 12.Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Brahmanand Tripathi and Dr. Ganga Sahay Pandey, vimana Sthana Chapter 5/8, V Chaukhamba Surbharti Prakashan, 2007.
- 13.Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Brahmanand Tripathi and Dr. Ganga Sahay Pandey, Sharir Sthana Chapter 6/23, V Chaukhamba Surbharti Prakashan, 2007.

14. Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Brahmanand Tripathi and Dr. Ganga Sahay Pandey, vimana Sthana Chapter 5/13, V Chaukhamba Surbharti Prakashan, 2007.

15. Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Brahmanand Tripathi and Dr. Ganga Sahay Pandey, Sutras Sthana Chapter 27/764, V Chaukhamba Surbharti Prakashan, 2007.

16. Sushruta Samhita edited by Kaviraj Ambikadutta Shastri, Shutra sthana, 15/9. Chaukhamba Sanskrit Sansthan, Varanasi, 2007.

17. Ashtanga Hridaya, with Vidyotini Hindi commentary of Kaviraj Atrideva Gupta Sutra Sthana, Chapter 11/17, Chaukhambha Prakashan, Varanasi.

18. Sushruta Samhita edited by Kaviraj Ambikadutta Shastri, Shutra sthana, 15/14. Chaukhamba Sanskrit Sansthan, Varanasi, 2007.

19. Ashtanga Hridaya, with Vidyotini Hindi commentary of Kaviraj Atrideva Gupta Sutra Sthana, Chapter 11/7-8, Chaukhambha Prakashan, Varanasi.

