



“literary review of *dhatu nirmana prakriya* described in *charak samhita* and *sushruta samhita*. ”

Aditya Ravindra Kambli*¹, Ganesh S. Puradkar², Nisha Sandeep Jadhav³,

PG Scholar¹, Associate Professor², PG Scholar³,

Samhita & Siddhant Department, Ayurved Mahavidyalaya, Sion, Mumbai, Maharashtra

*Corresponding author: kambliaditya10936@gmail.com

ABSTRACT

In *Ayurveda* human body is said to be formed by *dosh-dhatu-mala-moolam –hi-shariram*. (Acharya *sushruta*). It is based on the state of equilibrium of *tridosha*, *saptadhatu* and *trimala*. All these are nourished well initially by influence of *jatharagni* (digestive energy) after consuming food. The nourishment of all *dhatu*s is influenced by function of respective *dhatvagnis*. This nourishment from *aahar vihara* and *aushada* affects *dhatu nirmana*. *Ayurveda* has described seven *dhatu*s that are produced in kind of progressive metamorphosis, beginning with *rasa dhatu* (primary product of digested food) followed by *rakta dhatu* (blood tissue), *mamsa* (muscle tissue), *meda* (fat tissue), *asthi* (bone tissue), *majja* (bone marrow) and ending with final product *shukra dhatu* (reproductive fluids). The previous *dhatu* nourishes the next *dhatu*, hence they act as a substratum for each other. So the main objective of the study is to explore knowledge on physiology of bodily tissue formation.

Keywords:

Dhatu, Ayurveda, jatharagni, dhatvagni.

Introduction:

1. *Shareera dharanath Dhatavah-Dhatavaho deha dharanath-Anatomical structures and support*
2. *Dharana Posheti sareera samvardhakaan –dhatu-Responsible for Nutrition of the body*
3. *Dhadadhate va sareera manah prana iti -dhatu - Physiology -Dynamic integration and coordination of functions of body systems, mind for the existence of life.*

Dhatu is originally a *Sanskrit* word derived from the root ‘*dha*’ *dhatu* which means *dharan* (to support) and *poshan* (to nourish). Definition and etymological meaning of *dhatu* let us know that *dosha* and *mala* in there normal states are also termed as “*dhatu*.”

sharir dharnat dhatava (asht Hri su. 1/13. hemadritika)-body constituents which supports body are called as dhatu. It nourishes and helps to grow and support life. It is thus said to be the base of dhatu in human body. These seven dhatu are

composed of five *mahabhutas*. These *dhatu*s remain inside body in proper equilibrium so that body can function properly. Any imbalance causes ailments and disease. We need to eat food everyday to grow, to be strong, to be healthy and to live a long life. Whatever the food eaten, it helps in creation of *dhatu*s in a positive or negative way in the body. *Dhatu* means construction elements as tissues for the growth and structure of the body. All the *dhatu*s need time to be formed respectively. Each of them takes 5 days for example, if digested food becomes *aahar rasa* and it can transform as the last *dhatu*, i. e. reproductive tissue after 35 days. Responsible for size, shaped immersion posture.

Biological forces and tissue metabolism

Visarga-soma-kapha-Anabolism.

Adana-surya-pitta-Transformation.

Vikshepa-vayu-vata-Transpiration.

*Dhatu*s are basically the catalysts that convert one tissue progressively into another one making it like a cascade-*paraspara dhatu sneha parampara*. The sole purpose of tissue metabolism is to assemble proper *dhatu*s together in synchronization with which they carry out their role in physiological activity. The nourishment of *dhatu*s occurs with *sara* in stages. *Sara* is a pure essence and the pure metabolized stable tissue. Further the *dhatu*s (during metabolism) undergoes twofold conversion into excretion and essence having been acted upon by respective one of seven *agnis*. Specific location of *dhatu* can be understood by *strotas* (storage part), specific organ (physiological and anatomical

understandings and *kala* (limiting membranes separating every *dhatu*).

Aim:

To study the concept of *dhatu nirman prakriya* present in *caraka* and *sushrut samhita*.

Objectives:

To Study the relevance of *dhatu nirman prakriya* present in *caraka* and *sushrut samhita* critically.

Materials and methods:

Literary source:- Review of *dhatu nirman prakriya* was done from various *samhitas*, review was also done from *ayurvedic* text books, thesis and papers published in international journals, etc. The obtained descriptions were analyzed to understand the relevance and applied aspect of *dhatu nirman krama*. The articles related with metabolism and manner of distribution of nutrients, nourishment and replenishment of tissue were included in this review.

Review of literature:

In ancient times, *Acharyas* have to put subject into light to understand thoroughly with the help of three different laws:-

1. *Kshir dhadi nyaya/Krama parinaman/sarvatva parinaman-Law of transformation-Milk curd theory*

Kshir means milk and *dadhi* means yogurt. Milk has a great potency to transform step by step inside to out. In this example, first milk could be transformed to yogurt, then buttermilk, butter and ghee. The process can only start with milk curdling.

With the help of this perspective, we can imagine that how *ahara rasa* and chyle transforms as different *dhatu*s in body. At first *ahara rasa*, the essence of food

acquires redness from the colour of fire like *pitta*. The same acted upon by *vayu*, *ap* and *tejas* and cooked further attains solidity and thus converts into flesh. It is further cooked by its own heat combining *prithvi*, *tejas*, *vayu*, etc together give rise to hardness and thus produces *asthi* (bones). Within bones, *vayu* create hollowness which is filled up by marrow, the essence of *medas*. From the essence of marrow, semen (reproductive fluids) are produced. By *vayu* and *akasha*, porousness is produced in bones through which semen comes out like water. From new earthen jar, semen moves through its carrying vessels in whole body and produce with force from sexual ecstasy and passionate determination gets displaced and liquefied like ghee by physical exertion comes out of urinary passage like water flowing towards lower surface.

2. Kedarkulya nyaya- Law of irrigation/transmission

Kedar means one parts of land and *kulya* means drain. Crops in field get irrigation by creating *kulya* (drain) and *kekar* (small pieces of land). The *kekar* gets irrigated one by one through *kulya* in a sequence. Likewise, different *dhatu* of body gets nutrition one by one in sequence through vessels. In this *nyaya* analogy of water channels (*kulya*) irrigating to the plots of paddy or wheat (*kedari*) has been given to explain the mode of nourishment of *dhatu* in similar fashion. Thus the nearby fields are irrigated. In this way *rakta dhatu* gets nourished first by its homologous nutrient fraction present in *rasa dhatu* and thereafter other *dhatu* in succeeding manner gets nourished. This theory suggests the following things related to tissue nutrition.

Individual blood supply to tissue or organs, pressure gradient for blood flow or transportation of different nutrient substances. It also signifies the importance of *paraspara dhatu sneha parampara*-nutrition of *dhatu* is interdependent on each other, this justifies the concept of *anuloma* and *pratiloma gati* in specific disorders, e. g. *rajyakshma*.

3. Khale khapot nyaya-Law of selectivity-Pigeon picking theory.

Khala means the field where the grains are heaped and *kapot* means pigeon. Based on requirement each *dhatu* gets nourished through chyle (*aahar rasa*). *Dhatu*s are arranged from superficial to deep level. It is also noted that every *dhatu* gets nourished independently from *aahar rasa*. Instead of being interdependent, all *dhatu*s depend only on *aahar rasa*. They pick from chyle according to their need, milky alkaline product is the precursor of *dhatu* formation. It is carried from the intestine through the lymphatic system and in the blood stream. From this theory we conclude that the replenishment of tissues is a uniform sequential process. It also states that increase of fat tissue need not cause an increase in bone tissue. Hence, this *nyaya* states that *dhatvagni* selects the nutrition based on its requirements from essence of food which contains all the nutrients. It also states the possibility of nutrition of *shukra* directly from milk due to *shukra poshak amsha*. This is due to *guna samanya* as per *samanya vishesh siddhanta*. eg:-*dravya guna vrudhi-rasa, rakta, shukra vrudhi*.

4. Ek Kal dhatu poshan nyaya

This *nyaya* was introduced by *arundatta*. The circulating fluid *rasa* is always sited in *hridaya* but it circulates throughout the body. Different sites are stated for every *dhatu*, but they are present throughout the body. Therefore, the digested food (*ahara rasa*) nourishes all the *dhatu* in same time. According to *caraka*, the tissue formation goes on continuously like a rotating wheel. In context of strength of *agni* is good or decreased, conducts *dhatu* formation faster or slower continuously.

According to *Acharya caraka*, *dhatu*s are of two kinds –*asthayi* or *poshaka* and *sthayi* or *poshya*. He also stated that *strotas* do not transport *sthir dhatu*s, *dhatu* that are formed consecutively one after another from the *poshaka* or nutrient *dhatu*s.

According to *Acharya sushruta*, *rasa* develops from food in one day. This circulating fluid stays on each *sthayi dhatu* for a period of 3015 *kala*. Therefore it takes for *rasa* a total time of one month span to be formed into *shukra* in men and *arthava* in women.

Also states the comparative duration required for the formation of *dhatu*s.

	Name of <i>dhatu</i>	As per <i>charak</i> (days)	As per <i>sushrut</i> (days)
1	<i>Rasa</i>	1	1
2	<i>Rakta</i>	2	5
3	<i>Mamsa</i>	3	10
4	<i>Meda</i>	4	15
5	<i>Asthi</i>	5	20
6	<i>Majja</i>	6	25
7	<i>Shukra (men), arthava (women)</i>	7	30

Dhatu nirmana prakriya (Mode of formation of bodily tissues)

In *sushrut samhita*, *dalhan* commentary states *dhatu nirman prakriya* in an elaborative way. When food of four types like *ashita* (eaten), *pita* (drunk), *lidha* (licked), *khadita* (devoured) after process of *jatharagni*, *ahara* gets converted into two parts-

1. *Prasad bhaga* (nutritive part).
2. *Kitta bhaga* (waste portion).

From *kitta bhaga*, various substances like stool, urine, *kapha*, *pitta*, *khamala*, sweat, *kesha* (hair) *loma* (body hair) and unctuous substances present in eyes are produced.

The seven *dhatvagnis* (metabolic factor in *dhatu*s) acts on *Prasad bhaga* of *ahara rasa* and converts into *dhatu*. During *dhatvagni paka*, two parts are produced viz. *shukshma* part and *sthula* part. The *shukshma* part provides nutrition to succeeding *dhatu* and formation of *upadhatu*. It is called *asthayi dhatu* or *poshak dhatu*. *Sthula* part is stable part and provides nourishment to *dhatu* concerned and *dhatu mala* is also formed.

Discussion:

In ancient ayurvedic classical texts *acharyas* have taken the help of few laws, i. e *nyaya* to explain the formation of *dhatu*s in body. Some of these laws are

1. *Kshir dhadi nyaya* -It applies to the transformation of complex foods into simple compounds like glucose → amino acids and fatty acids, glycerol during the process of digestion.
2. *Kedarkulya nyaya* → End products of digestion are carried through *aahar*

rasa circulating in the body from tissue to tissue, simultaneously the metabolic energy, i. e. *dhatwagni* lying in those *dhatu*s selects only those substances which are necessary for them for further transformation.

3. *Khale khapot nyaya* → *Ekala dravya chikitsa*, *dhatu rasyana chikitsa* is understood by this theory.
4. *Ek Kal dhatu poshan nyaya* → All digestive process takes place at a very speedy rate and through circulation of blood which can be correlated by this *nyaya*.

Acharya charak has divided *dhatu* formation in two types-*asthaya poshaka* and *sthaya poshya*. *Sushruta* has highlighted the importance of each *dhatwagni* in the process of formation of *dhatu*.

In *sushrut samhita*, one can see how organs are formed from various *dhatu*s. In the entire process of tissue formation, *dhatvagni* of respective *dhatu* works steadily at every level of tissue formation and development. If *dhatvagni* is good, it will increase the potency, otherwise drug or food will not work in a proper way. On the basis of need and demand, it nourishes *dhatu* in *sukshma* (carry the next *dhatu* materials), *sthula* (develop the same *dhatu*) and *dhatumala*.

Conclusion:

From the text mentioned above we can conclude that by whichever process or *nyaya* the *dhatu* is formed in our body, it all depends on our *agni*. Both the *jatharagni* (*grahani*) and *dhatavgni* play a critical role in *dhatu nirman prakriya* because if *agni*

gets vitiated then the initial *aahar rasa* will not be formed of good quality and thus it will ultimately affect the formation of *rasa* and subsequent *dhatu*s. Thus *agni* is very important factor in *dhatu nirman prakriya*. *Ayurveda* also stated that *dosha*, *dhatu* and *mala* are three important pillars in the formation and deterioration of body, hence *dhatu* acts a vital role in it. It also states its importance in the context of healthy person, which gives *dhatu* a greater importance and scope in the field of *ayurveda*.

All the seven *dhatu*s are interconnected, the malfunctioning of single *dhatu* can have an impact on all other *dhatu*s. The *dhatu*s are composed of five *mahabhutas* or elements. Thus the *doshas*, which are also made up of five elements help manage the balance of five elements help manage the balance of *dhatu*s, thus leading to the proper functioning of the entire system of the body.

References:

1. Dr Nandini Dhargalkar, Sārīr Kriya Vidnyana, Chaukhamba Sanskrit Series Office, Varanasi, Partii, 3rd Edition, 2015.
2. Dr Keval Thakral, Sushruta Samhita With Dalhana Commentary And Acharya Gayadas Translated, Chaukhambha Aorientalia, Vol 1;2nd Edition 2016
3. Dr. K. C. Chunekar, Bhavprakash Nighantu Of Sri Bhavmisra, Chaukhambha Bhartiya Academy, Reprint 2002.
4. Prof Priyavrat Sharma, Caraka Samhita Dr. D Bala Commentary (Text With English Translation) Chaukhamba Aorientalia, Varanasi Vol. 2 Second Edition. 1992.

5. Lakshmidhar Dwivedi, Ayurveda Kedarmool Siddhant Evum Unki Upadeyata, Chaukhamba Krishnadas Academy, Varanasi Reprint , 2006.
6. Charaka, Yadavji Trikamji, Charaka Samhita Of Agnivesha Chakrapani Commentary Varanasi, Chaukhamba Sanskrit Pratishtan, 2014.

7. Sushrut, Sushrut Samhita Ayurved Tatva Sandipika Hindi Commentary Of Kaviraj Dr. Ambikadutta Shastri, Varanasi, Chaukhambha Prakashan, 2013.
8. Tripathi Ravidutta Padarth Vidnyan, Chaukhambha Surbharti Academy, Varanasi Reprint, 2006.

Conflict of Interest: Non

Source of funding: Nil

Cite this article:

“literary review of dhatu nirmana prakriya described in charak samhita and sushruta samhita. ”

Aditya Ravindra Kambli, Ganesh S. Puradkar, Nisha Sandeep Jadhav

<https://doi.org/10.52482/ayurlog.v9i03.856>

Ayurlog: National Journal of Research in Ayurved Science- 2021; (09) (03):01- 06

