



A CONCEPTUAL STUDY OF UPDHATU IN AYURVEDA

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ABSTRACT:

Success of any science depends on its fundamental principles. Doshas, dhatus and malas are considered roots or functional biological units in the body. Updhatus are important physiological units and are derived from Dhatus and resemble Dhatus in terms of structure, function and nature. Updhatus are end product of Dhātu metabolism. Dhatavagni plays an important role in metabolism of Dhatus and Updhatus. Updhatus are sub tissues or secondary tissues in the body which serve as important components and have certain fixed functions to render. References about Updhatus are very less in Ayurvedic literature. Acharya Caraka was the first who had explained updhatu collectively in one segment. Sarangdhar proposed some different concept than traditional ones. In this review article an effort is made to collect the basic concept of Updhatu and various Updhatus mentioned by different Acharayas has been recollected in this article.

KEY WORDS: Updhatu, agni, Dhatavagni, Strotas.

INTRODUCTION:

Ayurveda is a healing science based on the studies and keen observations. Success of any science depends on its fundamental principles. *Doshas*, *dhatu*s and *malas* are considered roots or functional biological units in the body. However, apart from these 3 there are certain other components that are related to these basis units but differ in their function and role in the maintenance of *Ayu*. *Updhatus* are such important physiological units in *Sharira* which have certain specific function to render. They are derived from *Dhatu*s and resemble *Dhatu*s in terms of structure, function and nature. The important function of *updhatu* is to support the various structures of the body, but they do not undergo any specific transformation process like *dhatu*s. Food also nourishes the *Updhatus* like *dhatu*s in the following manner :- *Rasa* nourishes *stanya* and *artava*, *rakta* nourishes *kandra* and *sira*, *mamsa* nourishes *vasa* as well as well as six layers of skin and *medas* nourishes the *snayu* and *sandhi*.¹ The description shows that *asthi*, *majja* and *sukra* produce no *updhatu*. So, in nutshell, it could be said that *Updhatu* is derivative of resemblance in terms of structure, function and nature.

CONCEPT OF UPDHATU:

Caraka samhita was the first who had explained *updhatu* collectively in one segment. Susruta has given the description of the *updhatu* components separately but not as a single unit. Astanga sangraha has mentioned these components under '*prasadaja*' elements. Sarangdhar proposed some different concept than traditional ones. *Sweda* is *Mala* of *Medodhatu* in

opinion of Caraka-Samhita. Sarangdhar not only differ in his statements about *Updhatavah* but he differs in criteria put for *Updhatu* also. He opines that certain *Updhatu* gets origin in due time or at certain age. Menstrual flow, breast milk fits in this criterion. Skin, vessels, remain for life long. They are there in body right from birth till death. Still his opinion is true for certain *Updhatu* and hence has to be considered

VYUTPATTI:

"*Upamiti dhatubhi iti updhatu*" (shabadsatom mahanidhi)

The word, *Updhatu* has been made by combination of two words i.e *Upa* and *Dhatu*.

- "*Upa*" is a prefix attached to the word "*Dhatu*". The literary meaning of *Upa* is Towards, near to, by the side of, resemblance, nearness, with the idea of subordination inferiority.
- *Dhatu* form the Basic architecture of the body, they are not accomplished to execute the functions of the body without the support of *Updhatus*.

so, *Updhatus* are basically the derivatives of the *Dhatu*s and resemble *Dhatu*s in terms of structure, functions and nature.

DEFINITION:

The commentator Chakrapani has used the term *Updhatu* while describing the *dhatu* level metabolism and its by products. At the same place he has given the reference from Bhoja Samhita, which provides the definition of the term *Updhatu*.

"*sirasnayurajahstanyatvacogativivarjitah*!"

dhatubhyascopajayante tasmatta upadhatavah” //²

Meaning: Elements of the body which are derived from *Dhatu*s and which are not further subjected to any transformation are called *Updhatu*s.

UPDHATU FORMATION :

Dhatu metabolism is a nourished pool of all the body constituents. Through this pool all elements including *Updhatu*s derive their nourishment and maintain their equilibrium. The nutrition for all the body

constituents is derived from the essence of the food that we eat. This essence is formed after appropriate action of *Agni* on food and formation of good quality *Rasa dhatu* from it. This *rasa dhatu* contains nourishing elements required for growth and development of all the body constituents. Thus, it is called as essence that nourishes body and is in the pure form. On this essence action of *agni* of all *dhatu*s takes place and selective absorption happens. From the purest form of the absorbed nutrients *dhatu*s and respective *updhatu*s are formed in progressive order.

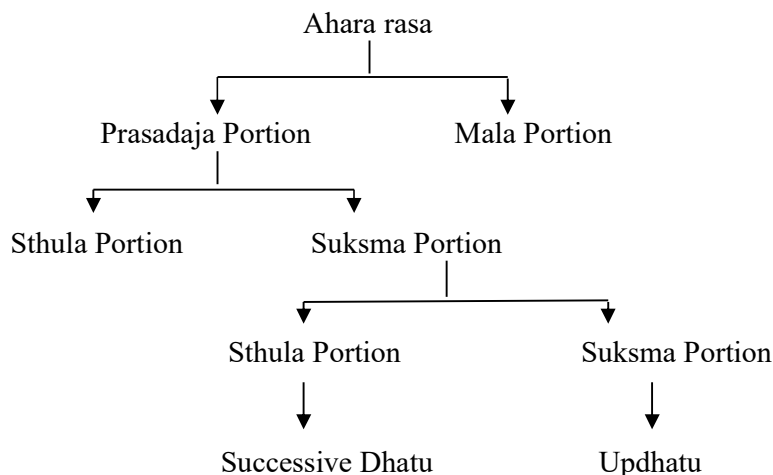


TABLE 1:Characters of *Dhatu* and *Updhatu*:

S.NO	CHARACTERS OF DHATU	CHARACTERS OF UPDHATU
1.	<i>Dhatvantara posakatva :</i> <i>Dhatu</i> nourishes successive <i>dhatu</i> .	<i>Dhatvantara aposakatva</i> <i>Updhatu</i> do not nourish successive <i>dhatu</i> or <i>updhatu</i> .
2.	<i>Gativivarjita:</i> This property is not found in <i>dhatu</i> .	<i>Updhatu</i> possesses <i>Gativivarjita</i> in relation with <i>dhatu</i> .
3.	<i>Dhatu sneha parampara :</i>	

	<i>Dhatu</i> nourishes successive as well as former <i>dhatu</i> . They are connected to each other through nourishing pool.	Such type of inter relation is not present in <i>updhatus</i> .
4.	Sarira Posakatva: It is present in <i>Dhatu</i> .	It is present in <i>Updhatus</i> too.
5.	Sarira Dharanatva: <i>Dhatu</i> bear the body elements.	In <i>Updhatus</i> this function is supportive to <i>Dhatu</i> .
6.	<i>Dhatu</i> functions right from conception till the end of life.	Some <i>Updhatus</i> (<i>Raja & Stanya</i>) function for specific time only.
7.	Some <i>Dhatu</i> (i.e. <i>Sukra</i>) produces a like body elements. It is having reproductive capacity.	<i>Updhatus</i> do not have reproductive capacity. Function of <i>Raja & Stanya</i> is supportive to reproduction.
8.	<i>Dhatu</i> s do not act as ' <i>Mala Bhava</i> ' for Body. Only <i>Sukra</i> is ejaculated from the body by means of specific function of reproduction.	Some (<i>Raja & Stanya</i>) of them are excretory in nature & act as ' <i>Mala Bhava</i> ' for the body if not expelled after specific time.

TABLE 2: Updhatus Quoted By Different Acharyas:

NAME OF ACHARYAS	N0.	NAME OF UPDHATU MENTIONED
Bhoj	05	<i>Stanya, Raja, Sira, Twak, Snayu</i>
Charaka, Gayadasa, Chakrapani,	07	<i>Stanya, Raja, Kandara, Sira, Vasa, Twak, Snayu</i>
Vridha Vagbhata, Dalhana	08	<i>Stanya, Raja, Kandara, Sira, vasa, Twak, snayu, Sandhi</i>
Sarngadhara, Bhavamisra	07	<i>Stanya, Raja, Vasa, Sweda, Danta, Kesa, oja.</i>

TABLE 3: Comparative Description Of Updhatu:

S.NO.	DHATU	CHARAKA	DALHANA ³	SHARANGDHAR ⁴	BHAVMISHRA ⁵
1.	<i>Rasa</i>	<i>Stanya, raja</i>	<i>Stanya, raja</i>	<i>Stanya</i>	<i>Stanya</i>
2.	<i>Rakta</i>	<i>Kandara, sira</i>	<i>Kandara, sira</i>	<i>Raja</i>	<i>Raja</i>
3.	<i>Mamsa</i>	<i>Vasa, twaka</i>	<i>Vasa, twaka</i>	<i>Vasa</i>	<i>Vasa</i>
4.	<i>Meda</i>	<i>Snayu</i>	<i>Snayu, Sandhi</i>	<i>Sweda</i>	<i>Sweda</i>
5.	<i>Asthi</i>			<i>Danta</i>	<i>Danta</i>

6.	<i>Majja</i>			<i>Kesa</i>	<i>Kesa</i>
7.	<i>Sukra</i>			<i>Oja</i>	<i>Oja</i>

TABLE 4: Relation of Dosha and Updhatus:

DOSA	UPDHATUS
<i>Vata</i>	<i>Kandara, Sira, Snayu, Sandhi, Twak</i> ⁶
<i>Pitta</i>	<i>Rajah, Twak</i>
<i>Kapha</i>	<i>Stanya, Vasa</i>

TABLE 5: Relation Of Updhatu and Rogmargas:

UPDHATU	ROGMARGA
<i>Rajah, Stanya</i>	<i>Bahya</i>
<i>Kandara, Sira, Snayu, Sandhi</i>	<i>Madhyam</i>
<i>Vasa, Twak</i>	<i>Bahya</i>

UPDHATU OF RASADHATU:

1. STANYA:

Breast milk is secreted in mammary gland therefore is called 'stanya'.

Properties of *Stanya*:

1. Breast milk which mixes well with water immediately, which is white, is sweet in taste, shows no colors, is pleasant to look at is appropriate one.⁷
2. Good quality breast milk is with physiological appearance of color, odor, taste, and touch and if dropped into water; assimilates in water due to its normal density. Such breast milk is nourishing to a baby and is called good quality breast milk.⁸

2. RAJAS:

Raja is present only in females. *Raja* is the menstrual blood. Menstruation is intimately correlated with the normal functional states of the female and it is an

index of her well-being. As in developing and aged plants flower and fruits do not come up, as in bud and decaying flowers or fruits the fragrance is not explicit, similarly in females *Raja* (menstrual blood).

Raja is produced after 12 years of age and ceases to appear (menopause after 50 years).⁹ *Rasa* gets matured and processed over a period of one month and at the end of the month, the *rasa* gets converted into *shukra* (semen) in men and *artava* (menstrual blood, ovum) in women.

UPDHATU OF RAKTADHATU:

1. SIRA:

These are defined as vessels conveying fluid from one place to another. There are seven hundred '*sira*'.¹⁰ They appear as if channels are drawn from a lake or they appear as leaf of tree shows and vascular network. They all have their origin from

umbilicus. Provide nutrients to grow *Dhatu*. Useful for contraction, relaxation, perception of special senses, realize dreams.

2. KANDARA:

Nirukti – “Mahatyah Snayavah Proktah Kandrah”

There are in all sixteen of them.¹¹

Distribution of *Kandara* is as follows:

4 in lower extremity, 4 in upper extremity, 4 in neck, 4 in back.

They are round in structure.

UPDHATU OF MAMSADHATU:

1. VASA:

Utpatii- “Vasa Mamsa Niryasah”

It is derived from essence of *Mam dhaatu*.¹²

It is nothing but the extract of *masmsa dhatu*.

It represents the fat that fills up muscle spaces and support various structures like blood vessels and nerves etc.

2. TWAK:

It is formed from fertilized zygote during digestion for differentiation the seven layers of skin are produced. When milk is boiled, cream gets deposited on milk at every attempt of boiling. Similarly, seven layers of skin are produced while differentiation of fertilized zygote is in process.¹³

Acharya Caraka considers six layers of skin (*Prathama, Dwitiya, Trtiya, Caturthi, panchami, Sasthi*) whereas Susrta considers seven layers of skin (*Avabhasnini, Lohita, Sweta, Tamra, Vedini, Roini, Mamsa dhara*). Sarngadhara has explicated *Twak* as “*Mamsa Mala*”.

UPDHATU OF MEDODHATU:

1. SNAYU:

Due to contiguous support of *snayu* all the joints of the body are able to sustain the body weight. Classics have described Nine hundred *Snayu*.¹⁴

These are of four types:

1. *Pratanavati* (ramifying and branching)
2. *Vrtta* (ring shaped)
3. *Prthu* (thick or broad)
4. *Susira* (hollow)

Function of *Snayu*:

1. To bear weight.
2. To bind bones together.
3. Knowledge of *Snayu* makes surgeon capable of extracting foreign body from any site.

DISCUSSION:

Though by name they are sub-tissues or secondary tissues, the *updhatus* render very important functions in the body. Without *updhatus* many important functions could not be imagined. *Stanya* is helpful in lactation, *aartava* in regular cleansing and maintenance of health in woman and also in reproduction, *siras* help in circulation, *kandaras* and *snayus* help in supporting the body and holding the body tissues together, *vasa* help in lubrication and *twak* in enveloping the body, protection and beautification and *sandhis* help in our movements and locomotion. *Updhatus* are the by products of the *Dhatu* metabolism but they cannot be considered as the *Malas* because *Updhatus* are nourished by the *prasadaj* part of the *Dhatu*.

CONCLUSION:

Updhatus are closely related with the *Dhatus*. Acarya Caraka has introduced the concept of *Updhatu*. Commentators have contributed significantly to illustrate the concept. *Updhatus* do not nourish any successive *Dhatu*. *Updhatus* are by product of *Dhatu* metabolism. They are nourished from that *Sukshma Prasadaja* portion of *Dhatus*, which also nourishes successive *Dhatu*. Due to this property, they show close resemblance with successive *Dhatu*. First four *Dhatus* exhibit a distinct role in derivation of *Updhatus*. *Stanya, Raja, Kandara, Sira, Twak, Vasa, Snayu & Sandhi* are the components of *Updhatu* unit. Sarngadhara has introduced a modified unit of *Updhatu*. Among newly introduced components *Sweda, Kesa and Danta is "Dhatu Mala"* while *Oja* is elixir of *Dhatus*. Hence these cannot be accepted as *Updhatus*. Normal functioning of *Updhatu* is directly concerned with status of *Dhatvagni*. *Bhutagnis* are present at *Updhatu* level. for treatment.

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