



# A SYSTEMIC REVIEW ON PHYSIOLOGICAL ASPECT OF *UPDHATU* IN AYURVED

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## ABSTRACT

*Dosha, Dhātu, and Mala* are the three components that *Ayurveda* uses to explain the physiological processes that occur within the human body. The fundamental parts of the body are composed of *Dosha, Dhātu, and Mala*. They follow *Dhātu's* genre. They receive their nutrition from the *Sara* part produced in the nutritional fluid in the *Dhātuvaha Srotas*. It implies that they are not created from *Ahara Rasa* directly. Since *Updhatus* are descended from *Dhatus* and have similarities with them in terms of nature, function, and structure, they are significant physiological units. In the body, there are tissues known as *Updhatus* that act as supporting tissues or secondary tissues and have certain established roles to perform. The *Updhatus* and the *Dhatus* have a strong relationship. The first four *Dhatus* are the ancestors of *Updhatus*. The best byproduct of *Dhātu* metabolism is *Updhatus*, *Dhatus* and *Updhatus* metabolism is greatly influenced by *Dhatavagni*. There are relatively few references to *Updhatus* in *Ayurvedic* literature. In this conceptual research, an effort is made to compile data on the *Updhatus* concept that is dispersed throughout *Ayurvedic Samhitas*. In this research, information on the fundamentals of *Updhātu* described by various *Acharya's* has been gathered from a variety of sources.

**KEYWORDS** - *Updhatus, Dhatus, Srotas, Dhatvagni*

## INTRODUCTION

The three pillars of our body are *Dosha, Dhātu, and Mala*, according to the different *Acharya's*. The most stable components of the body are *Dhatus*. The *Sara* part created in the nutritional fluid of the *Dhātu Vaha Srotas* provides them with nutrition. It implies that they are not created from *Ahara Rasa* directly. *Ahara Rasa* must go

through further digestion in order to give rise to *Dhatu* and *Updhatu*. Since *Updhatu*s are descended from *Dhatu*s and have similarities with them in terms of nature, function, and structure as they are significant physiological units. *Dhatu* and *Updhatu* are similar in terms of several characteristics and functions. In addition to the fundamental elements mentioned above, *Acharyas* later identified several further unspecified elements that they referred to as *Updhatu*.<sup>1</sup>

The prefix "*Upa*" is added to the word "*Dhatu*. *Dhatu* makes up the body's fundamental structure, however they are unable to carry out its activities without the assistance of *Updhatu*s. Therefore, it is necessary to explain the fundamentals of *Updhatu*.<sup>2</sup>

*Shabdarth Mahanidhi*'s "उपमिता धातुभि इति धातुः". An *Updhatu* is something that is the same as or comparable to *Dhatu*. "ते च स्तान्यद्यो धत् वंतर पोषणश्चशरीरपोषाका अपि उपधातु शब्देनोच्यते" is used in the Modern Era. These *Updhatu*s have been attempted to be explained by *Ayurvedic* experts including *P.S. Variyara*, *Dr. C. Dwarkanatha sen*, and *Ranjitrai Desai*. These factors are included under the "*Prasadaja*" components by *Astanga Sangraha* *Kara*. In the *Samhita*, *Kala Charaka Samhita* was the first to explain all the *Updhatu*s in a single sutra.<sup>3</sup>

## UPADHATU DEFINITIONS

*Upadhatu* is the word used by commentator *Chakrapani* to describe the *Dhatu* level metabolism and its byproducts. He used the *Bhoja Samhita* at the same location to offer the meaning of the term *Upadhatu*.

सिरास्नायुरजःस्तन्यत्वचो गतिविवर्जिताः । धातुभ्यश्चोपजायन्ते तस्मात् उपधातवः ॥ (Ch. Su. St. 15/17)

While explaining the *Anjali Pramana* of bodily components (A.S.sa5/93), *Acharya Vagbhata* viewed *Rajah* and *Stanya* to be two distinct entities. Both the name "*Upadhatu*" and these elements have never been spoken combined by revered oracle *Laghu Vagbhata*. These components have not been designated as *Upadhatu* by commentators of A.S. & A.H.<sup>5</sup>

## UPDHATUS MENTIONED BY ACHARYAS

Name of <i>Acharyas</i>	Name of <i>Updhatu</i> s Mentioned	No.
<i>Sharangdhar</i> , <i>Bhavmishra</i> , <i>Trimalla Bhatt</i> , <i>Y.T.</i>	<i>Stanya</i> , <i>Raja</i> , <i>Vasa</i> , <i>Sweda</i> , <i>Danta</i> , <i>Kesha</i> , <i>Oja</i> .	07
<i>Vridhdha Vagbhata</i> , <i>Dalhana</i> .	<i>Stanya</i> , <i>Raja</i> , <i>Kandara</i> , <i>Sira</i> , <i>Vasa</i> , <i>Twak</i> , <i>Snayu</i> , <i>Sandhi</i> .	08
<i>Charaka Samhita</i> , <i>Gayadass</i> , <i>Chakrapani</i>	<i>Stanya</i> , <i>Raja</i> , <i>Kandar</i> , <i>Sira</i> , <i>Vasa</i> , <i>Twak</i> , <i>Snayu</i> .	07
<i>Acharya Bhoj</i>	<i>Stanya</i> , <i>Raja</i> , <i>Vasa</i> , <i>Sweda</i> , <i>Danta</i> , <i>Kesha</i> , <i>Oja</i> . <i>Stanya</i> , <i>Raja</i> , <i>Sira</i> , <i>Twak</i> , <i>Snayu</i>	12

**UPDHATUS OF DHATUS**

Acharya Charaka reported seven *Dhatu* metabolic byproducts, although he did not refer to them as *Upadhatu*.

“रसात् स्तन्यं ततो रक्तमसृजः कण्डराः सिराः । मांसाद्वसा त्वचः षट् च मेदसः स्नायुसम्भवः” ॥

(Ch. Su. St. 15/17)

Acharya Charaka has described *Updhatus* of first 4 *Dhatus* as follows,

1. *Rasa - Stanya, Raja*
2. *Rakta - Kandara, Sira*
3. *Mamsa - Vasa, Twak*
4. *Meda - Snayu, Sandhi (Dalhana)*

**PHYSIOLOGY OF UPDHATU**

All the components of the body are fed by the *Dhatu* metabolism. The *Prasadaja* (essence) and the *Kitta* are the two forms that food takes after digestion. The tissue components of the body are divided into two categories: pure ones ("*Prasadakhya*") and waste product ("*Malakya*"), depending on whether they are fed by *Prasadaja Bhag* or the *Kitta Bhag*. All the *Dhatus* are gradually generated from the *Prasadaja* part. Additionally fed by this *Prasadaja* component or created from *Sthira Dhatu*'s breakdown products, *Upadhatu*.<sup>6</sup>

**UTPATTI OF UPDHATU**

This topic is portrayed by classic *Sharia Sthana* in "*Garbhavakranti Sharira*" and "*Garbhavyakarana Sharira*." According to ancient seers, "तृतीये मासि सर्वेन्द्रियाणि सर्वांग अवयवस्का युगापद्येन अभिनिर्वर्तन्ते" is applicable in this regard. [S. Sa. 3/15]

All the components of the body are formed during the embryological stage. It starts with "रक्तादयो हि गर्भात् प्रभृति एव उत्पन्ना ...." *Cakra* [C. Ci. 15/16]

*Chakrapani* made it very clear in his commentary on the passage on the sustenance of *Dhatu* that all *Dhatus* manifest throughout the prenatal time.

According to a revered seer, *Snayu*, *Sira*, and *Twak* arise during the sixth month of pregnancy. Characters that exist from birth are known as "*Nitya Bhava*." The word "*Nitya Bhava*" is used to describe all the body's *Dhatus* and *Updhatus*. *Stanya* and *Upadhatu Raja* are exceptions to this rule since they appear just a few years after birth and do not last the entirety of a person's life. "*Anitya Bhava*" is the name for such beings.<sup>7</sup>

**CHARACTERS OF UPADHATU-**

"रसत् स्तन्यं ततो रक्तं अस्रजः कन्दारः सिरः मम्सत् वासा त्वाचः सत् च मेदः स्नयौ सम्भवः।"[C. Ci 15/17]

**Updhatus and the first four Dhatus are connected.**

The Slok "विविस्ता कर्नाटक उत्पदान दर्शनार्थी /" [S.Su. - Dalhana [5,14/10]

**ABOUT UPDHATUS**

**RAJA & STANYA-** Only women possess *Raja* and *Stanya*. They are obtained by a particular function of female physiology, namely reproduction. They are known as *Updhatus* because they eat the *Prasadaja* section of *Dhatus*, which provides them with food. Both things exist as liquids. These two things work together as one. The nature of these two things is excretory. In order to prevent them from acting as *Mala* and becoming pathogenic for the body, they must be eliminated from the body after a set amount of time.<sup>8</sup>

**RAJAS (Bahir Pushpa)**

*Rajas* is the blood of the period. Menstruation is a sign of a woman's health since it is closely tied to her normal functioning states. Like how young and old plants do not produce flowers or fruits, how buds and rotting flowers or fruits have no discernible aroma, and how females do not produce *Raja* (menstrual blood).<sup>9</sup>

**STANYA**

Before the age of twelve and after the age of fifty, (milk) is not visible. *Upachaya* refers to the *Raja's* gradual accumulation in the *Garbhasaya*. The gonadotrophic hormones and ovarian steroidal hormones are the primary causes of menstrual blood, according to modern science. These are the explanations provided by the classics for the Utpatti of the *Raja* for a certain historical period.<sup>10</sup>

**KANDARA**

*Kandara* is referred to as the "*Sthula Snayu*" or "*Sthula Sira*" by commentator *Charkrapani*. These are *Rakta Dhatu Upadhatu* and aid in the movement process. *Kandara* is the word used for *MahaSnayu*. *Sthula Snayu* is how annotator *Chakrapani* identified it. It is cited as *Mahanadya* by a commentator on *Sharngadhara*.<sup>11</sup>

**SIRA**

*Rakta Dhatu's Updhatus*. The term "*Sira*" refers to the vascular structures in the body that move, circulate, and transmit biological substances. The word "*Sira*" derives from the basic phrase "*Sru*" which denotes flow. They are fed by *Rakta Dhatu*, which is a general word for blood vessels. Sushruta also used it to refer to nerves (*Vatavaha Sira*) and lymphatics (*Kaphavaha Sira*). By providing *Snayu*, *Asthi*, *Mamsa*, and *Sandhi* with food, *Sira*, which is located at the location of *Marma*, keeps the body in good condition.<sup>12</sup>

**VASA**

'Vasa' is the *Upadhatu* of *Mamsa Dhatu*. The word "Vasa" is derived from its use to wrap or cover the body, including the abdomen. It alludes to the fat that covers critical organs, fills in various muscle areas and supports or shields other structures like veins and organs.<sup>13</sup>

**UTPATTI:**

"वासा ममसा निर्णयः /" [S.Su.23/12]

*Vasa* is created from the *Mamsa Dhatu* essence. It is only an excerpt from *Mamsa Dhatu*. *Vata Dosha* is relieved by *Snehana*, *Brmhana*, and *Bala*. It stands in for the fat that lines the inside of muscles and supports numerous anatomical elements including blood vessels and nerves.<sup>14</sup>

**TWAK**

The transformational process that occurs during conception causes the fetus to develop extremely quickly. This procedure involves every single molecule. Everyone, except for *Sharangadhara*, refers to Skin as *Upadhatu* of *Mamsa*. The *Sharngadhara Samhita's* author defined *Twak* as "*Mamsa Mala*." Skin is referred to as *Twak* in Sanskrit. It is the body's outermost protective layer. It serves as a crucial barrier between the internal and exterior environments and safeguards the entire body system. It is *Mamsa Dhatu's Upadhatu*.<sup>15</sup>

**SNAYU**

*Meda Dhatu's Updhatu*. These are the bodily elements that connect any two body structures. In *Ayurveda*, these joints are known as *Sandhis*. They serve to hold the entire structure together as a result. Nine Hundred *Snayus* was described in the classics. The different bodily parts were bound by *Snayu*. The *Snayu* fastens *Mamsa*, *Asthi*, and *Meda*. It aids the structures. According to *Vd. Shabd Sindhu* *Vayu* conducts the *sneha* of the *Medas* and transforms the *Sira* into a *Snayu*. *Snayus* are the *nadis* that conduct *vayu*.<sup>16</sup>

"अस्थि संयोगः तत्र उपनिबद्धः च स्नयुः /" [C. Su. 11/48].

All the body's joints can maintain the body weight than to *Snayu's* continuous assistance.

"संयवो बंधनानि स्युः देहे ममस्थि मेदसं /" [SA.Pr.5/36; BH.Pu.3/258-259]

**TABLE NO. 1 -UPDHATU CO- RELATED WITH VYADHI**

<i>Upadhatu</i>	Disease Status
<i>Rajah, Stanya</i>	Concern with female physiology alteration
<i>Kandara, Sira, Snayu, Sandhi</i>	Distinctly related with <i>Vatavyadhi</i> & involved in chronic stages of other skeleton muscle diseases



<i>Sira</i>	Conveyance of <i>Doshas</i> to the place of “ <i>Kha- vaigunya</i> ” thus involved in pathogenesis of many diseases.
<i>Vasa</i>	Distinctly involved in <i>Prameha</i> , one of the <i>dusya</i> of <i>Prameha</i> .
<i>Twak</i>	Many underlying pathological conditions manifest on skin

## SANDHI

Any junction between two or more bodily structures is referred to as a *Sandhi*. According to Sushruta *Samhita* commentator Dalhana, *Sandhis* are *Updhatus* of *Meda Dhatu*.<sup>17</sup>

TABLE NO. 2- *DOSHA* AND *UPDHATU* CO-RELATION

<i>Dosha</i>	<i>Updhatus</i>
<i>Vata</i>	<i>Kandara, Sira, Snayu, Sandhi, Twak</i> ( <i>Su.Ni.1/25-29 nyaychandrika</i> )
<i>Pitta</i>	<i>Rajah, Twak</i>
<i>Kapha</i>	<i>Stanya, Vasa</i>

## DISCUSSION

Although the *Updhatus* are technically secondary tissues or sub-tissues, they perform vital bodily activities. Numerous key functions would not be possible without *Updhatus*. *Stanya* aids in lactation; *Aartava* aids in regular cleansing; *Siras* aid in circulation; *Kandaras* and *Snayus* aid in supporting and holding the body tissues together; *Vasa* aids in lubrication; *Twak* aids in enveloping the body; protection and beautification; and *Sandhis* aid in our movements and locomotion.<sup>18</sup> Numerous illnesses and deformities will result from *Updhatus* imbalances in the form of pathological growth (*Vridhhi*) or decrease (*Kshaya*). As a result, it is critical to understand *Updhatus* in full, including their location, kinds, quantity, and purposes. Since *Updhatus* are fed by the *Prasadaj* portion of the *Dhatu*, they cannot be regarded as *Mala*'s while being byproducts of the *Dhatu* metabolism. Each *Dhatu*'s *Dhatvagni* is in *Srotasa*, which oversees the *Parinamana* of *Dhatu* from one state to another. *Upadhatu* and *Dhatvagni* have a tight relationship. As a result, it is claimed that *Upadhatu* have their own *Srotas* via which they acquire nutrition.<sup>19</sup>

## CONCLUSION

The idea of *Updhatu* was illuminated in various ways by various *Acharya*'s at various times. *Updhatus* do not feed any subsequent. The *Sukshma Prasadaj* portion of the *Dhatu*, which also nourishes the next *Dhatu*, is the primary source of nourishment for *Updhatus*. The feeding of *Dhatu* and *Updhatus* is greatly aided by *Dhatvagni* and *Srotas*. The *Dhatvagni* of each *Updhatu* is unique. There are two types of *Updhatus*: structural entities and

functional entities. The body's structural architecture is mostly created by *Kandara*, *Sira*, *Snayu*, *Sandhi*, and *Twak*. Anatomically and functionally, *Kandara* and *Snayu* are similar. *Kandara* is the *Upadhatu* of *Rakta*, while *Snayu* is the *Upadhatu* of *Meda*. *Vasa* is *Mamsa's Upadhatu*. It serves as a lubricant to keep muscles moving easily.

#### CONFLICT OF INTEREST -NIL

#### SOURCE OF SUPPORT – NONE

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