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CONCEPT OF DIGESTION, ABSORPTION AND METABOLISM IN CHARAKA **SAMHITA - A REVIEW**

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ABSTRACT

Introduction: Human body is composed of five universal elements together known as 'Pancha Mahabhuta'. As this body is moment to moment decaying, these five elements also get denuded every moment. Their continuous replacement through food, which is also composed of these five universal elements, is considered to be the most important aspect for maintenance of health. To maintain the homeostasis of the body, this ingested food undergoes three physical and chemical changes - first by digestion, then by absorption and ultimately by metabolism. Agni is the prime factor for regulation of all these three processes. Aims and Objectives: So, this study was conducted to evaluate the concept of digestion, absorption and metabolism as described in Charaka Samhita as well as to evaluate the role of Agni as prime factor for all these physiological processes. Discussion: The process of digestion has been described in two different levels in *Charaka Samhita*, at gross level it has been termed as Ahara Paka and at minute level it has been termed as Avastha Paka. With the help of Jatharagni, at the end of these two processes, the ingested food which is heterogeneous in nature ultimately converted into a homogeneous substance known as Ahara Rasa. Then this Ahara Rasa, which is composed of five Mahabhutas, gets absorbed within the tissue elements of body which are also composed of these five *Mahabhutas*, as per their predisposition. This process of absorption is regulated by five types Bhutagnis specific to each Mahabhutas and has been termed as Bhutagni Paka. The ultimate transformation of food occurs in terms of Dhatu Paka which can be correlated

with the process of metabolism. The *Ahara Rasa* transformed into *Rasa Dhatu*, which is considered as the most primary tissue element. Then this *Rasa Dhatu* transforms into *Rakta Dhatu* and the process of gradual transformation continues till the formation of *Shukra Dhatu*. This whole process of *Dhatu Paka* is regulated by seven types of *Dhatwagnis* specific to each type of *Dhatu*. **Conclusion:** The *Ayurvedic* concept of *Ahara Paka*, *Bhutagni Paka* and *Dhatu Paka* has a very scientific approach to the whole process of digestion, absorption and metabolism respectively. The modern scientific understanding of all these procedures is based on many hypotheses which are being changed time to time. The *Ayurvedic* concept of the above three processes paves a way for new dimension in interpretation of all these procedures and should be validated by modern scientific parameters in near futures.

Keywords: Ahara Paka, Bhutagni Paka, Dhatu Paka, Agni, Charaka Samhita

INTRODUCTION

Human body is composed of three principal factors according to Ayurveda, these are: Dosha (fundamental physiological regulatory principles), Dhatu (body tissues) and Mala (waste products) 1, but the most fundamental structural components of human body are five universal elements like Akasha (space), Vayu (air), Teja (heat), Apa (water) and Prithivi (earth) together known as 'Pancha Mahabhutas'. Several factors are responsible to maintain the homeostasis in different physiological as well as anatomical systems within this Panchabhoutika Sharira which results in proper functioning of Dosha, Dhatu and Mala along with nourishment and growth of body. It has been said in Charaka Samhita that the growth of the body is dependent upon Kalayoga (association of proper time), Svabhavasamsiddhi (favourable disposition), Aharasausthava (excellence of the properties of food) and Abhighata (absence of inhibiting factors) ². Out of these four factors, the food itself causes the formation of the *Pancabhautika Sharira* ³. In the process of formation and regulation of the human body, food has to undergo three basic changes in form digestion, absorption and metabolism. Agni is considered as the single most important factor necessary for all these three changes. It has been said that this Agni functions in thirteen different forms - one as Jatharagni (helps in digestion), five as Bhutagni (helps in absorption) and seven as Dhatvagni (helps in metabolism) ⁴. In Ayurvedic literature, the term 'Paka' refers to any process of irreversible transformation in physical and chemical properties of an object by associa-

tion of Agni (heat). In case of ingested food, such irreversible transformation takes place in three levels - first at the level of Amashaya (stomach) where the various heterogeneous kind of food gets digested and thereby transformed into homogeneous substance called Ahara Rasa by the action of Agni along with several other factors 5. Thereafter this Ahara Rasa is being absorbed into tissue elements of body in accordance with predisposition of Pancha Mahabhutas by the action of five different Bhutagnis 6. The same Ahara Rasa is further transformed into Rasa Dhatu which subsequently transformed into Rakta Dhatu. This gradual transformation continued till the formation of Shukra Dhatu 7. At each level this transformation is regulated by the function of Agni, which is inherent to each one of the Dhatu - known as Dhatvagni. Thus, conjointly with the help of seven different Dhatvagnis, the total transformation from digested food to formation of Shukra Dhatu takes place. This process of formation of different Dhatus can be correlated with metabolism. Every metabolic process has its own metabolic products and byproducts, of which some are considered as essential, and some are considered to be waste. Similarly, according to Ayurveda also, this process of Dhatu Paka also gives rise to several by products at each level of transformation from one *Dhatu* to another, of which some are considered to be the essential (termed as Prasada Bhaga) and some are considered to be waste (termed as *Kitta Bhaga*)⁸. Thus, the complete cycle of digestion, absorption and metabolism takes place within human body.

Aims and Objectives:

This literary study was conducted keeping the following aims and objectives:

- To evaluate the concept of digestion, absorption and metabolism as described in *Charaka Sam-hita*.
- 2. To validate the role of *Agni* in digestion, absorption and metabolism as pointed out by *Acharya Charaka*.

Materials and Methods:

This literary study was conducted based on the textual information available primarily in Charaka Samhita, Sutrasthana, 28th chapter, namely '*Vividhashitapitiyadhyaya*' and *Charaka Samhita*, *Chikitsasthana*, 15th chapter, namely '*Grahanidoshachikitsadhyaya*'. All the literary information has been validated through this study.

DISCUSSION

Role of *Agni* in Digestion, Absorption and Metabolism:

Agni is the main factor for digestion, absorption and metabolism. The root of Annavahasrota is Amasaya and Vamaparsva 9. The food provides nourishment to the tissue elements of body, which are homologous and not contrary in nature 10. The ingested food material at first goes through digestion followed by absorption and metabolism with the action of Jatharagni, Bhutagni and Dhatvagni respectively. The pure and waste product of food after digestion and metabolism enter into circulation 11. Food articles are composed of five Mahabhutas i.e., Akasha, Vayu, Teja, Apa and Kshiti. Agni is specific out of these five Mahabhutas helps on the digestion and absorption of the respective food ingredients. By virtue of the seven categories of Agni, the tissue elements get metabolised in the way of transformation of nourishing materials and transformation of waste products. Acharya Charaka has said that, being stimulated by the Antaragni (the principal form of Agni i.e. Jatharagni), Agnis (specific to different Mahabhutas) digest the various types of foods like Ashita (whole-

some eatables), Peeta (beverages), Khadita (Masticable food articles) and Leedha (linctus) producing thereby Sharira Upachaya (plumpness), Bala (strength), Varna (complexion), Sukha (happiness) as well as growth of *Dhatus* (tissue elements) of the entire body where the process of Dhatupaka (comparable with metabolism) goes on incessantly like the passage of time and where all the Dhatwagnis (can be comparable with enzymes responsible for tissue metabolism), Vata Dosha (principle factor responsible for movement of metabolic products) and channels of circulation are unimpeded ¹². To give more emphasis on the supreme importance of Agni in regulating the whole process of digestion, absorption and metabolism, Acharya Charaka has further opined that, "no doubt, food provides nourishment to Deha-Dhatus (tissue elements of body) and it is the main nourishing factor for Ojas (vital essence of all Dhatus), Bala (strength) and Varna (complexion), but, in effect, it is the Agni which plays the most important role in this connection because the various Dhatus like Rasa etc. cannot even originate from undigested food particles" ¹³. By this statement, Acharya Charaka has clearly accepted Agni as the principal factor for digestion of food leading to production of various Dhatus, resulting in maintenance of strength and complexion, surpassing the initial factor which is food. Conceptually Agni acts at three levels to regulate the three different processes - at the level of digestion, followed by at the level of absorption and ultimately at the level of metabolism. As a matter of fact, to differentiate these three distinct functions of Agni, Acharya Charaka has referred to it as Jatharagni, Bhutagni and Dhatwagni respectively. So, it can be said that successful metabolism depends on successful absorption which ultimately depends on successful digestion. Unless the ingested food undergoes proper digestion within Amashaya by the action of Jatharagni, none of the rest two process can be achieved properly. That's why Acharya Charaka has given the most importance towards the function of Jatharagni by saying, "Dehagni (Jatharagni) is the principal factor for maintenance of Ayu (span of life), Varna (complexion), Bala (strength and immunity), Swasthyam (homeostasis), *Utsaha* (enthusiasm), *Upachaya* (plumpness), *Prabha* (aura), *Ojas* (essence of all the seven categories of *Dhatus*), *Teja* (bodily heat or semen), *Agni* (other varieties of *Agnis* like *Bhutagni* and *Jatharagni*), *Prana* (vitality or *Prana Vayu*). Extinction of this *Jatharagni* leads to death whereas its proper maintenance helps a person to live a long life and its impairment gives rise to diseases. Therefore, *Jatharagni* should be considered as the *Mula* (most important sustaining factor) of all living beings" ¹⁴. With this backdrop we will now discuss the process of digestion, absorption and metabolism as described in *Charaka Samhita*.

A. Process of Digestion:

Acharya Charaka has given a vivid systematic description about the entire process of digestion. The process of digestion has been described in to two stages - at gross stage it has been termed as Aharapaka or Jatharagnipaka and subsequently to denote the transformation of food at minute level during the process of digestion it has been described as Avastha Paka.

1. Process of Ahara Paka (gross digestion): As per the description in Charaka Samhita, at gross level, "Prana with its power of attraction, draws the ingested food into Kostha (alimentary tract). This food gets softened by Sneha (unctuous substance) thereafter which it gets split into small particles by the action of Drava. Thereafter the Agni located at Udara (stomach) gets ignited by Samana Vayu. This Agni being stimulated by Vayu helps in digestion of food of appropriate quality (Samyaka) which has been taken in proper quantity (Sama) along with in proper time (Kala). Such digested food helps in promotion of longevity" 15. To make this description more lucid to understand, Acharya Charaka has given a practical example such "as the fire placed below the vessel helps in cooking of food, namely rice and water kept within a vessel placed thereon, so does the Agni helps in digestion of food located in the Ashava (Amashaya) for the production of Rasa (Ahara Rasa) and Mala (waste products)" 16. In this description, the term 'Prana' can be interpreted as Prana Vayu because one of the primary functions of Prana Vavu

is said to be deglutition of ingested food ¹⁷. On the other way, the term '*Drava*' has been interpreted as '*Paniyadibhih*' (water etc. taken along with food) by *Acharya Chakrapani* but as '*Kledaka Sleshma Dravaih*' (saliva and mucous present in stomach) by *Acharya Gangadhar Roy* ¹⁸.

From the above description of *Ahara Paka*, it is evident that there are six factors necessary for complete process of digestion namely 1. *Agni (Jathragni)* 2. *Vayu (Prana Vayu* and *Samana Vayu)* 3. *Kleda* (in terms of *Drava* i.e., *Kledaka Kapha)* 4. *Sneha* 5. *Kala* (foods which have been taken in appropriate time) and 6. *Samayoga* (in terms of '*Samyaka*' i.e., food which coordinates with ideal dietetic principles). In *Sharirsthana*, 6th chapter *Acharya Charaka* has mentioned all these six essential factors for digestion as '*Ahara Parinamakara Bhaya*' ¹⁹.

2. Process of Avastha Paka (stages of transformation of food during the process of digestion): As per the description in Charaka Samhita, at minute level "as soon as the food consisting six Rasas is taken, Madhura Bhava (sweetness) is manifested during the first stage of digestion resulting in the stimulation of Kapha which is thin and frothy in nature. During this process of digestion, the food remains in Vidagdhavstha (semi-digested form) which results in Amla Bhava (sourness). During the second stage while moving downwards from Amashaya this semi digested and sour stuff stimulates the production of a transparent liquid called Pitta. Since Pitta is itself sour in taste, it appropriately gets stimulated by sour foodstuff. At the third stage, when this food product reaches Pakkvashaya it gets further digested and dehydrated by Agni and subsequently it takes a bolus form resulting in Katu Bhava (pungent taste). This stimulates Vayu" ²⁰. So, the whole transformation of food during the entire process of digestion can be divided into three subsequent stages: 1. Madhura Bhava Paka 2. Amla Bhava Paka and 3. Katu Bhava Paka.

To understand the process of *Avastha Paka* more clearly, we should pay attention to the commentary of *Acharya Chakrapani Dutta*. According to him, after the description of the gross digestive process, the

subsequent form involving the digestion of small particles (Anu Paka) is expounded under the topic of Avastha Paka. Immediately after the intake of food, first of all the action of sweet taste (leading to Kapha production) is manifested. Thereafter, the food remains in a semi digested form having sour taste (leading to *Pitta* production). Subsequently this food stuff gets propelled downwards by Vayu, to stimulate the production of enzymes from the *Amashaya*. Thus, it is pointed out that the semi digested food comes in contact with the site of Pitta. The food stuff then moves downwards and gets rid of its liquid fraction (Soshyamana). Even though Agni by nature has its flames upwards, still it has its drying effect in relation to the objects even placed below. It is in keeping with this natural phenomenon; Charaka has used the term 'dehydrated' in lieu of 'being cooked' in context of the digestion of food. Thereafter, the remnants or the waste products of food take a bolus form and because of the drying of Agni placed above, bring about the acridity (pungentness) of Vayu. Apart from his own understanding about Avastha Paka, Acharya Chakrapani has mentioned views of several other scholars and subsequently refuted them justifying his own interpretation of process ²¹.

While discussing the process of *Avastha Paka*, *Acharya Chakrapani* has mentioned a separate term called '*Nishtha Paka*' or '*Vipaka*' to show the differences between these two different processes. According to him, *Avastha Paka* denotes stages of transformation of taste of the food stuff as a whole during the process of digestion which is distinct from *Nishtha Paka* or *Vipaka* which refers to the taste that ultimately emerges at the end of digestion ²².

End Product of Digestion: At the end of the whole process of digestion, the four types of *Ahara* (ingested food) transformed into *Prasada Bhaga* i.e., *Ahara Rasa* (chyle) and *Kitta Bhaga* (waste products namely *Purisha* i.e., stool and *Mutra* i.e., urine) ²³. The *Ahara Rasa* further goes into process of absorption by means of *Bhutagni Paka* and *Kitta Bhaga* gets excreted from body in due course.

B. Process of Absorption:

The process of absorption can be compared with Bhutagni Paka. According to Acharya Charaka, "after the process of digestion, the five types of Agni i.e., Parthivagni, Apyagni, Taijasagni, Vayavagni and Akshagni bring about transformation (Paka) of five categories viz. Parthiva, Apya, Taijasa, Vayaviya and Akashiya Gunas (attributes) of food ingredients respectively. Thus, the five Mahabhutas as well as their Gunas (attributes) in the tissue elements in the body are nourished by the five Mahabhutas and their attributes in the food respectively. In other words, the Parthiva ingredients and respective attributes of the tissue elements get nourishment from Parthiva ingredients and their attributes in the food. Similarly, other Mahabhutas and their attributes in the tissue elements are also nourished by their respective ingredients and attributes in the food" 24.

Acharya Chakrapani Dutta explains the process of Bhutagni Paka as: "the five Agnis such as Parthiva etc. are located in the food ingredients. They get stimulated and become activated by Jatharagni in the Kostha. These Bhutagnis while disintegrating the Mahabhutas in the food ingredients cause manifestation of their respective attributes. Even though the five categories of Mahabhautika ingredients are reacted upon by their respective and inherent Agnis, the ultimate products which come out of this reaction are the Vishishta Gunas (specific attributes) and not only the fine particles of the food. The ingredients and their attributes in the food are heterogeneous (Vijatiya) prior to Bhutagni Paka. It is because of this Bhutagni Paka that these heterogeneous ingredients and attributes become homologous (Sajatiya) and thus cause appropriate nourishment to the tissues" ²⁵.

C. Process of Metabolism:

The process of metabolism can be compared with *Dhatvagni Paka* as the different body tissues like blood, lipids, muscles etc. are considered to be different metabolic products. The description of metabolism of different *Dhatus* in *Charak Samhita* follows the process of metabolic transformation where one *Dhatu* is formed from another *Dhatu*. *Acharya Chakrapani Dutta* has compared this process of metabolic transformation with *Kshira Dadhi Nyaya*

(maxim of transformation of milk into curd) ²⁶. Acharya Sushruta and Acharya Vagbhata have described the process of metabolism following the theory of transmission and theory of selectivity which has been termed as *Kedari Kulya Nyaya* and *Khale Kapote Nyaya* respectively.

In 28th chapter of Sutrasthana, Acharya Charaka has overall described the process of metabolism as: "food after digestion takes two forms viz. the Prasada or the essence, also known as Rasa and the Kitta or the waste. The Kitta portion provides nutrition to Mutra (urine), Purisha (stool), Sweda (sweat), Vata, Pitta, Kapha, excreta of ear-eyes-nose-mouth-hair follicles, Roma (hair), Nakha (nails) etc. The former portion i.e., Prasada Bhaga provides nutrition to Rasa (plasma), Rakta (blood), Mamsa (muscles), Meda (body fats), Asthi (bones), Majja (bone marrow), Shukra (semen), Oja (essence of all Dhatus), the material constituents of *Jnanendriya* (sense organs), *Sandhi* (joints), Kandara (ligaments) etc. Depending on their nourishment from the essence or waste of the food after digestion, tissue elements are of two types -Prasada (pure) and Mala (waste). By virtue of the nourishment, they maintain their quality, according to the size and age of the body. Thus, the essence as well as waste portion of food after digestion having remained in their own quantity, maintain the normalcy of *Dhatus* elements" ²⁷.

But in the 15th chapter of Chikitsasthana, Acharaya Charaka has given a more systemic description of Dhatupaka i.e., metabolism. After completion of Bhutagni Paka, by virtue of their respective seven categories of Agnis (Dhatvagni), Dhatus undergo metabolic transformation in two ways: Kitta Paka (transformation of waste products) and Prasada Paka (transformation of nourishing material). Rasa Dhatu transforms into Rakta Dhatu, Rakta Dhatu into Mamsa Dhatu, Mamsa Dhatu into Meda Dhatu, Meda Dhatu into Asthi Dhatu, Asthi Dhatu into Majja Dhatu and finally Majja Dhatu into Shukra Dhatu ²⁸. Here a question may be raised whether the whole portion of one *Dhatu* transforms into subsequent *Dhatu* or not. During fasting, when *Ahar Rasa* cannot be produced then if Rasa Dhatu completely transforms into Rakta Dhatu and Rakta Dhatu into Mamsa Dhatu and so on, at one point of time the simultaneous existence of seven Dhatus within human body cannot be possible. To eliminate this fallacy, Acharya Chakrapani Dutta propounded the theory of Poshya Bhaga and Poshaka Bhaga of Dhatus. Every Dhatu has their own Poshya Bhaga (nourishing part for their own nourishment) and Poshaka Bhaga (nourishing part for the nourishment of subsequent Dhatu). During Dhatu Paka, it is this Poshaka Bhaga of one preceding Dhatu converts into the subsequent Dhatu. Thus, the fallacy regarding the theory of transformation can be refuted.

During this transformation every *Dhatu* gives rise to their subsidiary elements and waste products. These two processes can be brought under the previously mentioned *Prasada Paka* and *Kitta Paka* respectively. The subsidiary elements of each *Dhatu* (termed as Prasada / Upadhatu) and the waste products (termed as *Kitta*) have been tabulated in Table no. 1. Thus, Prasada and Kitta are the two categories of products that arise out of the Dhatvagni Paka (metabolic transformation). Therefore, the process of successive transformation of the Dhatus is mutually inter-woven. If we accept the theory of transformation regarding Dhatupaka, it can be asked how a certain distinct tissue element transforms into another element which is different from the earlier? This enquiry has been addressed in Charaka Samhita in form a conversation between Sage Agnivesh and his preceptor Sage Atreya in following manner: "Rasa represents the essence (Teja) of all the Rasas (Ahara Rasa). The essence of Rasa gets transformed into Rakta by virtue of the colour (Raga) imparted by the heat of Pitta. This Rakta again accompanied by Vayu, Jala, Tejas and *Ushma* attains compactness and gets transformed into Mamsa. That Mamsa, cooked by its own heat (Ushma) gets transformed into Medas. This helps in the excitement of liquidity (Dravatva) and unctuousness (Snigdhatva), which are the attributes of Jala Mahabhuta. The Asthi Dhatu is produced by the transformation of *Medas* into compact form. This compactness is brought about by the action of the Ushma present in the Medas itself upon the Mahabhutas viz. Prithvi, Jala, Vayu etc. of this tissue element. This enzymatic action gives rise to hardness (Kharatva), with the result that Asthi is manifested in the human beings. Vayu causes porosity in the interior of bones and this porous space gets filled up with Medas. This unctuous substance is, thereafter, called Majja. The unctuous substance of that Majja, thereafter, gives rise to Shukra. Porosity of bones is caused by Vayu, Akasha etc. and through these porous holes, exudation of Shukra takes place. This happens on the analogy of exudation of water through the porous walls of a new earthen pot" ²⁹.

Duration of metabolic transformation: *Acharya Charaka* has commented quoting 'other scholars' that the transformation of *Dhatus* (from *Rasa Dhatu* to

Shukra Dhatu) is affected in six days and nights (Ahoratra). This process of transformation of the tissue's elements requiring nourishing is a continuous one, like a moving wheel ³⁰. Acharya Chakrapani has commented on this topic that, "the duration of the metabolic process for the transformation of the successive Dhatus in general has been described. According to some scholars, it takes six days and nights for the Rasa to be converted into Shukra in succession. Rasa takes one day and night (Ahoratra i.e., 24 hours) to be converted into Rakta. In the same order, transformation of the remaining five Dhatus takes place in five days and nights - one day and night for each Dhatu" ³¹.

Table no. 1: Prasada (essence) and Kitta (waste products) parts of different *Dhatus*: 32

Sl. No.	Dhatu	Prasada Part / Upadhatu	Kitta Part / Mala
01.	Rasa	1. Stanya (breast milk)	Kapha
		2. Artava (menstrual blood)	
02.	Rakta	1. Kandara (tendons)	Pitta
		2. Sira (vessels)	
03.	Mamsa	1. Vasa (muscle fat)	Kha-mala (waste products excreted from the cavities
		2. Twaka (layers of skin)	like ears, eyes, nose etc.)
04.	Meda	Snayu (nerves)	Sweda (sweat)
05.	Asthi	Not mentioned	1. Kesha (hair)
			2. Loma (body hair)
06.	Мајја	Not mentioned	Sneha Akshi Vita Twacham (the unctuous substance
			present in the eyes, stool and skin)

CONCLUSION

Digestion, absorption and metabolism are the three most essential aspects for sustenance of life for any living being. According to *Charaka Samhita*, the foundation text book of *Ayurveda*, the ingested food in any form whether it is solid, semi-solid or in liquid form, has to get digested first by the actions of *Agni* within *Amashaya* and thereafter it should undergo through the process of absorption which has been described in *Ayurveda* as *Bhutagni Paka*. Along with this process of absorption, there is a process of formation of different *Dhatus* undergoes at the tissue level which can be interpreted as a process of metabolism. By this process of metabolism *Ahara Rasa* gets converted into *Rasa Dhatu* - first among all

Dhatus, which further undergoes transformation into the subsequent Rakta Dhatu. This series of transformation continues till the formation of Shukra Dhatu. The fundamental principles of Ayurveda are always based on solid rational theories which can be validated both conceptually and clinically. The theory of Ahara Paka and Avsatha Paka (form of digestion), Bhutagni Paka (form of absorption) and Dhatvagni Paka (form of metabolism) stand on the pure logic of reasoning and theory of causality. Studying Ayurveda with such a scientific rational approach will give us more opportunity to understand the fundamental principles of this ancient science. Such logical understanding will help us to interpret various complex phenomena described in modern science with the help of basic principles of Ayurveda.

REFERENCES

- 1. Murthy Srikantha K.R., editor, Illustrated Sushruta Samhita (Text, English translation, Notes etc.), Reprint Ed., Vol. 1, *Sutrasthana, chapter 15, Verse no. 3*, Varanasi: Chaukhamba Orientalia, 2016.pp. 97.
- Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 2. Sharirasthan, Chapter 6, Verse no. 12, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 435.
- Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Verse no. 5*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 4.
- 4. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Chakrapani's commentary on Verse no. 3* & 4, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 3.
- Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Verse no. 6 - 12*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 3 - 6.
- 6. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Verse no. 13 14*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 10 11.
- Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Verse no. 16*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 12.
- 8. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 1. *Sutrasthan, Chapter 28, Verse no. 4*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 567.
- 9. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 2. *Vimanaasthan, Chapter 5, Verse no. 8*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 215.

- 10. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 2. Sharirasthan, Chapter 6, Verse no. 16, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 438.
- 11. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 1. Sutrasthan, Chapter 28, Verse no. 4, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 567.
- 12. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 1. Sutrasthan, Chapter 28, Verse no. 4, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 567.
- 13. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. Chikitsasthan, Chapter 15, Verse no. 5, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 3.
- 14. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Verse no. 3 4*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 1-2.
- 15. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Verse no.* 6-8, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 4.
- 16. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Verse no. 6-8*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 4.
- 17. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 5. *Chikitsasthan, Chapter 28, Verse no. 6*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 20.
- 18. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. Chikitsasthan, Chapter 15, Chakrapani Dutta and Gangadhar Roy's commentary on Verse no. 6-8, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 4.
- 19. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 2. Sharirasthan,

- *Chapter 6, Verse no. 14*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 437.
- 20. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 5. *Chikitsasthan, Chapter 15, Verse no. 9-11*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 5.
- 21. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 5. *Chikitsasthan, Chapter 15, Chakrapani Dutta's commentary on Verse no. 9-11*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 5.
- 22. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 5. *Chikitsasthan, Chapter 15, Chakrapani Dutta's commentary on Verse no. 9-11*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 5.
- 23. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Verse no. 15*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 10.
- 24. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Verse no. 14*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 10.
- 25. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. Chikitsasthan, Chapter 15, Chakrapani Dutta's commentary on Verse no. 14, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 10.
- 26. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. Chikitsasthan,

- Chapter 15, Chakrapani Dutta's commentary on Verse no. 16, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 12.
- 27. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 1. Sutrasthan, Chapter 28, Verse no. 4, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 567.
- 28. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Verse no. 15 & 16*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 12.
- 29. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Verse no. 22 35*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 20 21.
- 30. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. Chikitsasthan, Chapter 15, Verse no. 21, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 17.
- 31. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 15, Chakrapani Dutta's commentary on Verse no. 21*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 17.
- 32. Sharma R.K., Dash Bhagwan, editor. Charaka Samhita of Agnivesh: commentary Ayurveda Dipika of Chakrapani Dutta. Reprint Ed. Vol. 4. *Chikitsasthan, Chapter 17 19, Verse no. 21*, Varanasi: Chaowkhamba Sanskrit Series Office, 2004. pp. 14 16.

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