

A CONCEPTUAL STUDY ON *DHATU POSHANA NYAYA*: A REVIEW

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ABSTRACT

According to *Ayurveda* the body is an outcome of nutrition. Diseases are the result of *Mala* & impaired nutrition. The concept of *Saptadhatu* of *Ayurveda* refers to the physiology of basic nutritional and structural factor of the body. The *Ahararasa* (essence part of the food product) is the source for giving nourishment to all the *Dhatu*s and *Dhatu*s nutrients are nourished one after another from *Ahararasa* to *Shukra*. *Dhatu Poshana Nyaya* gives us a simple and clear view about how the *Dhatu*s formed and how the conversion of *Ahararasa* takes place in *Saptadhatu*s. The theories regarding to nourishment of the *Dhatu*s are termed as *Dhatu Poshana Nyaya*. *Kshira Dadhi Nyaya*, *Kedari Kulya Nyaya*, *Khale Kapota Nyaya* and *Ekakala Dhatu Poshana Nyaya* are discussed in this article.

Keywords. *Dhatu Poshana*, *Dhatu Poshana Nyaya*, Nutrients

INTRODUCTION

The basic theory of *Ayurveda* is based on the state of equilibrium of *Tridosha*, *Saptadhatu* and *Trimala*.

Acharya Charaka states that the body is the outcome of *Ahara* (food). *Aahara* sustains and supports the *Deha-Dhatu*s, *Ojas*, *Bala* and *Varna* among people. *Aahara* depends upon *Agni* to contribute to the nourishment of the body. *Sharira Dhatu*s cannot be nourished and developed when food is not properly digested by *Agni*. To understand the concept of *Aahara Paka* in *Ayurveda* we must know the role of *Agni* indigestion.

The formation and nourishment of *Dhatu*s is a continuing process which is occurred from the embryonic stage of the foetus to death. The *Ahararasa* essence part of the food product is the source for giving nourishment to all the *Dhatu*s and *Dhatu*s nutrients are nourished one after another from *Ahararasa* to *Shukra*. The consumed diet containing all elements first gets digested in *Amashaya* (stomach) by the action of *Jatharagni*. Formation of *Dhatu*s

(tissues) is possible only by maturation of basic elements by particular types of *Agni*, i.e. *Dhatwagni*. After proper digestion of different forms of *Ahara dravya* by *jatharagni*, makes *Ahara dravya* into two forms like *Prasada* (*Sara*) and *Kitta bhaga*^{1,2}. The *Doshas* and *Dhatu*s get nourished by *Prasada* part (nutrients). *Kitta part* (metabolic waste) is to be excreted from the body.

There are four theories about the mode of nourishment of different *Dhatu*s of the body.

1. *Kshira Dadhi Nyaya*
2. *Kedari Kulya Nyaya*
3. *Khale Kapota Nyaya*
4. *Ekakala Dhatu Poshana Nyaya*

1. KSHIRA DADHI NYAYA (LAW OF TRANSFORMATION)

This is also known as “*Sarvatma Parinama Paksha*” or “*Kramaparinama Paksha*”. According to this theory preceding *Dhatu*s get transformed into the succeeding *Dhatu*s just like the analogy of transformation of entire milk into curd. At first, *Ahararasa* completely changes to

Rasadhatu under the influence of *Agni*, following this there is changing of *Rasadhatu* to *Raktadhatu* and so on till the last *Dhatu Shukra* is formed^{3, 4}. This complete conversion of one *Dhatu* into other is called law of transformation. For this transformation of one *Dhatu* into next *Dhatu*, it takes six days for the formation of *Shukra* from *Rasadhatu*⁵, some say it takes 24 hours⁶, some other say that it takes 30 days for *Dhatu* transformation⁷. Time duration for the completion of *Dhatu* formation varies, because it is chiefly dependent on *Agni*. Some *Acharyas* oppose this *Nyaya* stating that, if the whole *Rasadhatu* is converted into *Rakta* and the entire *Raktadhatu* into *Mamsa* and so on, without leaving no *Rasa* behind, if a person goes for fasting for 1 month then the body would become *Shukramaya* and no other *Dhatu* exists.

Acharya Dalhana clears this aspect by saying that, *Parinama* of any *Dhatu* takes place in three forms⁸:

Sthulabhaga- It is responsible for formation and giving nutrition to the same *Dhatu*

Suksamabhaga- It is responsible for formation of *Upadhatu* and also formation of *Uttarottara Dhatu*

Mala bhaga - Which is meant for genesis of waste product of that tissue.

In *Kramaparinama Dhatu* not under complete transformation but a ratio of *Dhatu* is transformed and utilized for execution of its functions and the remaining portion will serve as precursor for the next *Dhatu* along with by products to be excreted called as *Mala*. In this way, the *Parinama* of *Dhatu* takes place by giving the precursor for a succeeding *Dhatu* by the help of *Dhatvagni*.

It is related with transformation of tissue or denovosynthesis of tissue. During

formation of new tissue, the nutritive particle turns into new tissue. This *Nyaya* is also helping the fetus to grow. In the formation of new tissue one undergoes transformation into another. Spermatozoal cells are also formed from the bone marrow stem cells. These entire examples are almost similar with *Kramaparinama Nyaya*.

2. KEDARI KULYA NYAYA (LAW OF TRANSMISSION)

According to this theory the distribution of water from a river, tank or well to plots in rice or wheat fields through a main channel to supply water to the nearest as to the farthest plots one after one, likewise the *Aahararasa* reaches to *Rasadhatu* through the main circulatory channel, there it nourishes *Rasadhatu* and after that it goes to *Raktadhatu* and nourishes it. In this manner the *Aahararasa* circulates from one *Dhatu* to another *Dhatu* to nourish one after another⁹.

Sushruta used this *Nyaya* while explaining about *Sira* (vessels), like the *Kedar & Kulya*, the *Siras* which spread all over body does the nourishment of body. From the third month onwards, the foetus is nourished through the *Nadi* which connects the umbilicus of the foetus to the heart of the mother¹⁰. After the establishment of *Nadi*, the nourishment of the foetus (the *Dhatu*s of the body) is conducted by *Kedari Kulya Nyaya*.

The Circulating *Aahararasa* moves from one compartment to another. Thus the circulating *Aahararasa* reaches *Dhatu*s by flowing through one compartment to another ultimately reaches the cell level. This theory probably explains the importance of pressure gradient, which determines the flow into the tissue spaces. This is similar to the movement of water in the direction of gravitational force. This

theory can also explain the passive diffusion of particles across the cell membrane, along the concentration gradient as occurs in the case of carbon dioxide, oxygen etc because water in this case passes into different fields passively along the direction of concentration gradient. Passive diffusion is a movement of ions and other substances across cell membranes without need of energy input¹¹.

KHALE KAPOTA NYAYA (THE LAW OF SELECTIVITY):

According to this theory, like the pigeons coming from different places and distances to pick up the kind of grain they need and return to their own places residing either early or late depending upon the distance and direction they require to travel, so also the individual *Dhātu* takes their requirements from the *Ahararasa* which can contain all the nutrients of the *Dhatus* and return back to their own places. According to this theory, first of all the *Rasadhātu* get nourished and then the subsequent *Dhātu* and lastly the *Shukradhātu* get nourished. This is due to their distance from the *Ahararasa*¹².

Khale Kapota Nyaya in the modern can be explain by these example that the bone tissue will only take the amino acids and minerals like Calcium Phosphorus, Calcium Carbonate while the blood tissue will uptake specifically the nutrients like Iron, Vitamins etc¹³. The fact that there are many such proteins and that they bind only in specific combinations ensures that cargo is delivered to a precise location. Inside the cell the same principle apply when a vesicle binds to the cell's outer membrane to release its contents. The plasma membrane permits passage of certain substances and restricts the passage of others. This property of membrane is called selectivity permeability¹³.

When the *Ahararasa* reach the tissue or *Dhātu*, the concerned *Dhātu* permits its own relevant particles to enter them to become their own *Dhātu* (tissue). This is because of the channels, receptors and enzymes presents in particular cell. Each receptor or enzyme affects only specific substrate molecules. So passage of selective substance in each and every cells based on its functions and structure.

4. EKA KALA DHATU POSHANA NYAYA

This theory is propounded by *Arunadatta*, the commentator of *Astanga Hridaya*. According to this theory after proper digestion of *Ahara dravyas* with the help of *Jatharagni* this *Ahararasa* enters into the all *Dhātu vaha srotas* at a time uniformly it can be presumed that all the *Dhatus* are nourished simultaneously without any time gap¹⁴. In this connection *Acharya Charaka* has mentioned that after proper digestion this *Ahararasa* get mixed with the plasma of the body and due to the contraction and relaxation of heart by the *Vyana vayu* takes this *rasa* to distribute all over the tissues of the body¹⁵. According to *Acharya Sushruta* with the help of *Vyana vayu*, *Ahararasa* nourishes all *Dhatus* at a time without interruption throughout life¹⁶.

It deals with circulation of nutrients (end product of digestion after absorption) through blood by the heart. It reaches all the tissue with each systolic function of heart and nourishes all the tissues at the same time¹⁷.

DISCUSSION

The concepts of *Saptadhatus* of *Ayurveda* refer to the physiology of basic nutritional and structural factors of the body. *Dhatus* are formed, destroyed and reformed, all the time in a living man maintaining a state of dynamic metabolic equilibrium. The

formation and nourishment of *Dhatu*s is a continuing process which is occurred from the embryonic stage of the foetus to death. Above mention theories regarding the nourishment of the *Dhatu*s are termed as “*Dhatu Poshana Nyaya*”. According to *Kshira Dadhi Nyaya* the whole *Rasadhatu* is converted into *Rakta* and the entire *Rakta* into *Mamsa* and so on upto *Shukradhatu*. *Medavridhi* should result into *Asthivridhi* by this law but in practice, it is not seen so. *Kshira Dadhi Nyaya* can be correlated in modern with transformation of tissue or denovosynthesis of tissue. This theory cannot be applied in case of certain aphrodisiac, anti toxic and *Rasayan dravyas* as they directly act on particular tissue. According to *Kedari Kulya Nyaya* the process of nourishment of tissue can be linked to irrigation of different field by water from a canal. It is clear that *Madavridhi* can not necessarily cause *Asthivridhi*. According to *Khale Kapota Nyaya* process of nourishment of *Dhatu* takes place by selection. According to this law it is not necessary that vitiate *Rasadhatu* should lead to vitiate further *Dhatu*s. According to *Ekakala Dhatu Poshana Nyaya*, *Ahararasa* percolates into all *Dhatuvahasrotas* at a time uniformly.

CONCLUSION

The above description makes one point clear that *Rasa* is important in nourishment of all the *Dhatu*s. All ancient texts have postulated the view that *Saptadhatu*s are produced in a kind of progressive transformation, beginning with the *Rasadhatu* and ending with *Sukradhatu*, the previous *Dhatu* being transformed in to the next higher. The entire *Dhatu Poshana Nyayas* act as a unit and it is not possible to explain *Dhatu Poshana* with the exclusion of any of them. All laws are

important and equivalent to each other. They do not interfere or oppose each other, so it can be stated that *Ahararasa* reaches to specific channel according to *Kedari Kulya Nyaya*. Nutrients in *Ahararasa* are selected as per tissue requirements according to *Khale Kapota Nyaya* and finally *Dhatuposhakamshas* i.e. nutrients are transformed into *Dhatu*s according to *Kshira Dadhi Nyaya*. *Ekakala Dhatu Poshana Nyaya* is universally accepted without any criticism.

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Source of support: Nil Conflict of interest: None Declared

Cite this Article as : [Yadav Manisha et al : A Conceptual Study on Dhātu Poshana Nyaya: A Review] www.ijaar.in : IJAAR, VOLUME IV ISSUE VIII MAY - JUNE 2020 Page No: 953-957