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A Theoretical Review On Dhatuposhan Nyaya With Modern Aspect

Dr Shaveta Sawhney[1] Dr Darshana Sirohi[2]

1. Professor, Department of Kriya Sharir

Divya Jyoti Ayurvedic Medical College and Hospital, Modinagar, UP

2. Assistant Professor, Department of Kriya Sharir

Divya Jyoti Ayurvedic Medical College and Hospital, Modinagar, UP

ABSTRACT

Dosha, Dhatu, and Mala are three vital factors of foundation of human body. These three endure body and all body functions; hence they are also called as 'Tridhatu'. Amongst these, Dhatu are responsible for various components of body which help in sustenance of body. The sustenance of these Dhatu is from Sara portion of Ahara Rasa after ahara paka. Ayurvedic scholars described few Nyaya to explain the nourishment or formation of these Dhatu in body. Ancient acharya used Nyaya to elaborate the concept or theory. Hence to portray the mechanism of nourishment of Dhatu, they described three Dhatu Poshan Nyaya in classics. Charakacharya depicted three laws of nutrition i.e. Ksheera -Dadhi Nyaya, KedariKulya Nyaya and Khale-Kapota Nyaya. These nyaya are equivalent to each other. They do not interfere with each other nor do they oppose each other, it is therefore important to accept all theories together and interpret nourishment of seven Dhatu. In initial stage, food has to undergo through the digestion process by Pachakagni or Jatharagni. Dhatwagni, along with Bhutagni further process this Ahara paka and Dhatu are nourished. This dhatu poshan nyaya can be related to metabolism process in body. The term metabolism of a food substance is meant by a series of specific biochemical reactions occurring within the living organism from the time of its incorporation into the cell or tissue till its excretion.

Key words - Dhatu Poshan Nyaya , Ksheera -Dadhi Nyaya, KedariKulya Nyaya, Khale- Kapota Nyaya, food metabolism.

INTRODUCTION

The basic concept of Ayurveda is to maintain the state of equilibrium of dosha, dhatu and mala in the body to maintain health. In Ayurveda, Ahara has greatest importance among three upasthambhas i.e. ahara, nidra, bramhacharya. After ingestion of Ahara, Jatharagni or Pachakagni digest the food initially and then separates it into sarabhaga and kitta bhaga. Sarabhaga is utilized to nourish Dhatu in body which is amongst 'Tridhatu' i.e. Dosha, Dhatu, Mala. Dhatu Poshan Nyaya concept comprises of three words- 1. Dhatu 2. Poshan 3. Nyaya. The term Dhatu is derived from the Sanskrit word which means Dharana or to support or to make the structural design of the body. Poshana means to nourish these dhatu and Nyaya means theory or concept. The examination of the subject with proper evidence and logic is the Nyaya. Nyaya is ones view and is the way a person sees a process happening which varies from person to person. Sapta Dhatu in body can be considered as - Rasa (plasma), Rakta (blood), Mamsa (muscle), Meda (fat), Asthi (bones), Majja (bone marrow) and Shukra (Ovum or Semen). These Sapta Dhatu are being continuously formed with necessary materials i.e. sara bhaga derived from Ahara and these process only happen in human beings to maintain a state of equilibrium. This can be summarized as, Dhatu are nourished initially by the influence of potency of individual Jatharagni and productive nutrients (ahara rasa) are passed respectively into each level of dhatu for nourishment. These Dhatu are of two categories – Sthayee or Poshya (stable or to be nourished) and Asthayee or Poshaka (unstable or which nourishes). Sthayee Dhatu support the body by providing it with basic tissues and the Asthayee or Poshaka Dhatu are responsible for supporting, nourishing and maintaining the Sthayee Dhatu. Acharya have given different types of Dhatu- Poshana Nyaya like Ksheera-Dadhi Nyaya, Kedari-Kulya Nyaya, Khale-Kapota Nyaya, These various theories have been established to elaborate process of the nourishment of various components (sapta dhatu) which takes place in the body. The process of Dhatu Poshan Nyaya can be understood as Metabolism as per the modern concept. The term metabolism of a food substance is meant by a series of specific biochemical reactions occurring within the living organism from the time of its incorporation into the cell or tissue till its excretion, of which some are concerned with tissue synthesis and others with tissue breakdown what are termed as anabolism and catabolism respectively. Anabolism and catabolism are two essential processes that make up metabolism, the sum of all chemical reactions in the body. Anabolism is the process of building larger molecules from smaller ones, requiring energy, while catabolism is the process of breaking down larger molecules into smaller ones, releasing energy. They are essentially opposites, with anabolism building and storing, and catabolism breaking down and releasing

AIMS AND OBJECTIVES

1. To note the learning strategies in context of Dhatu- poshan Nyaya
2. To understand thoroughly the different theories i.e. Nyaya related to Dhatu-poshan Nyaya.

MATERIALS AND METHODS -

Following materials were referred such as Literary information about the study has compiled from Ayurvedic texts, various publications, textbooks, research papers have considered to collect the literary materials.

I. Ksheera Dadhi Nyaya (Metabolic law of transformation) –

Here ksheer means milk and dadhi means curd. After the process of fermentation, the milk completely gets transformed into curd. An Ayurvedic concept describing the complete transformation of one dhatu (tissue) into another, similar to how milk transforms into curd, then butter, and finally ghee. It emphasizes a sequential and irreversible process where the essence of one dhatu is converted into the next, with each stage having distinct properties. According to this law, as the milk entirely converts into curd, similarly Rasa Dhatu entirely converts into Rakta, next Rakta gets converted into Mamsa and so on Shukra Dhatu are formed by virtue of the progressive stages of transformation. This theory is also known as Sravatma Parinama Paksha Nyaya, it indicates the total change of the particular tissue into the next.

According to modern science, different bio-chemical transformational processes like -

- Glycolysis pathway - Glucose → 2 molecules of pyruvate
- Kreb's cycle - Pyruvate + aceto –Co-A → Oxalo acetic acid
- Gluconeogenesis pathway (Pyruvate and phosphoenol pyruvate → Glucose-6-phosphate →Glucose),
- Urea cycle (alpha amino acids and keto amino acids undergo transamination and oxidative deamination to form urea

These processes support this theory as in all these process one substances transformed into another Substance similar to Ksheera Dadhi Nyaya.

The transformation happens step-by-step, with each dhatu giving rise to the next in a specific order, much like the stages of milk transforming into curd, butter, and ghee. Once a dhatu is transformed, it doesn't revert to its previous state, reflecting the irreversible nature of the process. Here, dhatwagni , is believed to be responsible for this transformation and nourishment of the body.

II. Khale Kapota Nyaya (Theory of Selective Absorption) -

Khale means place where grains are kept after being brought from the fields and Kapota means pigeon or represents birds. Pigeons come to a stack of grains to pick up their food as per their need and go back to their home. The quantity of food also depends upon the distance they have to travel form their residences. Similarly, dhatu pick up their nutrition from Ahara Rasa as per their requirements. Ahara rasa contains the nutrient factors for all dhatu in the body. This Nyaya means the selection of individual requirements by the individual Dhatwagni from the same Ahara rasa which contains nutrition for all Dhatu. Because of different distance of Dhatuashaya, the length of the respective Srotas also varies. Nearer the Ashaya, smaller is the length of Srotas and vice versa. Also time taken by the rasa to reach that Ashaya will also be longer. None of the Dhatu are inter connected for the Poshana from Poshaka Ansha of previous Dhatu unlike Ksheer Dadhi Nyaya.
As per modern science, the 'selective uptake' of dhatu is analogous to anabolism, where the body utilizes nutrients to build and repair tissues. The body's tissues selectively absorb amino acids for protein synthesis, fatty acids for lipid production, or glucose for energy production. The Ayurvedic concept of Dhatwagni, which are metabolic fire within each dhatu, can be correlated with the role of enzymes in modern biochemistry. Enzymes catalyze specific reactions, ensuring that the right nutrients are utilized for the right tissue.

III. Kedari Kulya Nyaya (Theory of transportation)

Kedari (kyari) means field (paddy field) and kulya in this reference denotes a small canal. The technique is used in the process of irrigation where the water from the reservoir is supplied to small fields (kedari) through canals. In kulya (canals) the movement of water takes place in the direction of gravitational force. The water reaches to the first part of the field (kedari) and after that it reaches the second part of the field by pressure gradient process (when first kedari filled with water then water moves to the next kedari). It explains the passive diffusion of particles across the cell membrane. Similar to this theory, through Srotasa, body's Dhatu receive nourishment sequentially and one after the other (through vessels). The first Dhatu, RasaDhatu, receives nourishment from Ahar Rasa, or digested food. After nourishment of Rasa dhatu is complete, Rakta Dhatu eceives nourishment from the remaining portions of AharRasa, and so on up to Shukra Dhatu.

This theory explains the nourishment of dhatu by the transmission or transportation process which probably explains the importance of pressure gradient which determines the flow of fluid into the tissue spaces. It explains the passive diffusion of particles across the cell membrane along the concentration gradient because water in the above example passes into different fields passively along the direction of concentration gradient. This theory is based on the concept of passive transport. This theory works in our body like simple diffusion i.e., lipid layer and protein layer. Lipid layer of the cell membrane is permeable only to lipid-soluble substances like oxygen, carbon dioxide and alcohol and the protein layer of the cell membrane is permeable to water

soluble substances. Mainly electrolytes diffuse through the protein layer. This theory also explains **f**iltration of molecules, diffusion and Osmosis **in** the body**.** Lipid layer of the cell membrane is permeable only to lipid-soluble substances like oxygen, carbon dioxide and alcohol. Molecules which are soluble in fat can cross the cell membrane easily. Protein layer of the cell membrane is permeable to water soluble substances. Mainly electrolytes diffuse through the protein layer.

DISCUSSION

Ahara rasa i.e. the nutritive portion of food after digestion process by Jatharagni is absorbed from the Amashaya and pakwashaya nourish and buildup seven dhatu. As per Ayurveda Seven Dhatu (constitutional elements) compose human body purpose is to maintain and preserving the human body. Hence nourishment of these dhatu is very vital process in body.

Various types of theories are described to explain this nourishment of various components (sapta dhatu) which takes place in the body. These theories are called as Dhatu- Poshana Nyaya. Acharya have cited three Dhatu- Poshana Nyaya like Ksheera-Dadhi Nyaya, Kedari-Kulya Nyaya, Khale-Kapota Nyaya. As per modern aspect, the process of Dhatu Poshan Nyaya can be understood as Metabolism. The term metabolism of a food substance is meant by a series of specific biochemical reactions occurring within the living organism from the time of its incorporation into the cell or tissue till its excretion, of which some are concerned with tissue synthesis and others with tissue breakdown what are termed as anabolism and catabolism respectively.

According to Ksheera-Dadhi Nyaya, as the milk entirely converts into curd, similarly Rasa Dhatu entirely converts into Rakta, next Rakta gets converted into Mamsa and so on Shukra Dhatu are formed by virtue of the progressive stages of transformation. Different bio-chemical transformational processes such as Glycolysis pathway, Kreb's cycle, Gluconeogenesis pathway, Urea cycle are based on this Nyaya or theory.

Khale Kapota Nyaya means the selection of individual requirements by the individual Dhatwagni from the same Ahara rasa which contains nutrition for all Dhatu. As per modern science, the 'selective uptake' of dhatu is analogous to anabolism, where the body utilizes nutrients to build and repair tissues. The body's tissues selectively absorb amino acids for protein synthesis, fatty acids for lipid production, or glucose for energy production. The Ayurvedic concept of Dhatwagni, which are metabolic fire within each dhatu, can be correlated with the role of enzymes in modern biochemistry. Enzymes catalyze specific reactions, ensuring that the right nutrients are utilized for the right tissue.

As per Kedari Kulya Nyaya, Dhatu receive nourishment sequentially and one after the other (through vessels). The first Dhatu, RasaDhatu, receives nourishment from Ahar Rasa, or digested food. After nourishment of Rasa dhatu is complete, Rakta Dhatu eceives nourishment from the remaining portions of AharRasa, and so on up to Shukra Dhatu. This theory works in our body like simple diffusion i.e., lipid layer and protein layer. Lipid layer of the cell membrane is permeable only to lipid-soluble substances like oxygen, carbon dioxide and alcohol and the protein layer of the cell membrane is permeable to water soluble substances. Mainly electrolytes diffuse through the protein layer.

CONCLUSION

Nyaya concepts described in Ayurved classics such as Ksheera- dhadhi Nyaya, Khale-Kapota Nyaya, Kedarii Kulya Nyaya explain the nourishment processes of sapta dhatu in body which is one of the Tridhatu. If we take help of modern science, these Nyaya or theories are the base of the process of metabolism. Different bio- chemical transformational processes like Glycolysis Pathway, Kreb's cycle etc. supports Ksheera- dhadhi Nyaya. Any process that requires energy (Active Transport) to maintain the homeostasis of our body supports Khale-Kapota Nyaya. Passive transport like diffusion, facilitated diffusion, filtration and osmosis etc. supports Kedarii-Kulya

Nyaya. So it can be concluded that the classical concept of Nyaya is equivalent to different physiological processes described in metabolic transformations of food.

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