



A DEEP INSIGHT IN TO BHOOTAGNI PAAKA IN AYURVEDA

Goverdhanam Vani^{1*}, J. S. R. A. Prasad²¹Ayurvedic Physician, Research Scholar, Department of Sanskrit Studies, UOH, Hyderabad, Telangana, India²Asst. Professor, Department of Sanskrit Studies, UOH, Hyderabad, Telangana, India

*Corresponding Author Email: Vani_mudumba@yahoo.com

DOI: 10.7897/2277-4572.035185

Received on: 17/08/14 Revised on: 29/09/14 Accepted on: 14/10/14

ABSTRACT

Ayurveda, the science of life, deha (body) is described as "deho'hyahara sambhavah". The body is made up of food. Food is of panchaboutikam (five elements). The Panchaboutika sareera is to be maintained and nourished with the bahya (External) Panchaboutika amshas (ingredients). To convert such alien amshas as part of the body, there exists a process of paaka (Metabolic transformation) which is attributed to bhootagni. The complete process is called Bhutagni Paka. This paper tries to validate this theory scientifically.

Keywords: Agni, Bhutagni, Bhutagni paka, Panchaboutika sharira, Panchaboutika amshas

INTRODUCTION

Agni (Fire) is defined as "nayate parinamayateeti" in Vachaspathyam text, which brings changes in an organism or a substance. Agni is derivative of tejasa mahabhoota (fire element). It carries to Paaka (Metabolic transformations) in which the inherent feature is change. Agni is having 13 categories. Jatharagni (one type) looks after the functions of food digestion and absorption. Bhootagni (5 types) turns all consumed vijateeya Panchaboutika dravyas to sajaateeya Panchaboutika dravyas, i.e. conversion of heterogonous to homogenous. Dhatwagnis (7 types) performs Synthesis and breakdown of tissues. Bhootagni is the one that is present in a basic element (Bhuta). There are five bhootagni in each of the five basic elements, namely, Parthiva (earth), Apya (water), Tejas (Agni), Vayavya (vayu) and Nabhasa (akash). Each and every cell in our body is composed of the five mahabhutas. Each dhatu paramanu (cell) consists of these five bhootagni also. All the nutrients in this world that we eat also consist of the same five basic elements with their respective Agni. Thus, they are completely similar with respect to the five basic elements with their bhootagni in our body cells as well in the entire outside nutrient that we ingest for the nutrition of our body. The five Bhootagni digest their own part of the element present in the food materials. After the digestion of food by the Bhootagni, digested materials containing the elements and qualities similar to each bhoota nourish their own specific bhautika elements of the body. So all the exogenous substances must be subjected to bhootagni paaka to become endogenous¹.

Bhootagni Paka

Bhootagni is the substance, responsible for transforming heterogeneous element in to homologous. Bhootagni are five, paarthivaagni, aapyaagni, tajasaagni, vaayuvaagni, aakaasaagni. The body is made up of food. Food is of panchaboutikam. The Panchaboutika sareera is to be maintained and nourished with the bahya Panchaboutika amshas. To convert such alien amshas as part of the body, there exist a paaka, called bhootagni Paaka². According to the physiology of Ayurveda, Bhootagni Paaka follows Jatharagni Paaka and it completes the process of intestinal digestion. After completion of bhootagni Paaka only, the formation of aahaara Rasa (Chyle) is completed and rasa so'ghana (absorption) is possible. Bhinna samghaata (splitting) of the

complex food substances in to their ultimate elemental units, are of five groups, Parthiva, aapya, tajasa, Vayavya, aakaasha. Criteria for grouping are dominance of the particular mahabhoota over others of Panchaboutika element as could be judged from its characteristic qualities. The activation of the nascent agni bhoota, which forms the part of the Panchaboutika structure of each one of the five groups of molecules. The nascent Agni bhoota present in each one of the Panchaboutika group, the agni present in the paarthiva group is known as paarthivaagni, similarly others, aapyaagni, tejasaagni, vaayuvaagni, aakaasaagni. The five agnis (group of enzymes) are paarthivaagni, aapyaagni, tejasaagni, vaayuvaagni, aakaasaagni bring about transformations (paaka) of five categories, those are paarthiva, aapya, tajasa, vaayaveeya, aakaaseeya attributes (gunas) of food ingredients respectively. The digestion of food by Jatharagni results in the breakdown of food into five distinct bhautic or physio chemical groups i.e. paarthiva, aapya, tajasa, vaayaveeya, aakaaseeya and the activation of agnibhoota present in each one of these boutic groups. The bhootagni, thus activated, digests the substance of that group. The outcome of this kind of digestion, according to Chakrapani Datta, is the transformation of the characteristic qualities of each group and assumption by them of vilakshana gunas or altogether new qualities³. According to Sushruta the significance of Bhootaagni Paaka is "the animated organism is composed of Pancha mahabhootaas and the food of living organic being necessarily par takes the qualities of its corporeal constituents. The food which is panchaboutic, digested by Jatharagni and the digested portion is again dealt with, in further process of digestion by bhootagni. Then each one of its principle proceeds to augment its homologue in the human body⁴. Food articles are composed of five maha bhootaas. Agnis, specific to these five maha bhootaas help in the digestion of their respective food ingredients and converts heterogeneous (vijaaateeya) material in to homogenous (sajaateeya). The bhootagni get stimulated and become activated by Jatharagni, which present in the GIT. These bhootagnis, while disintegrating (transforming - paaka) the mahaabhootas in the food ingredients cause manifestation of their respective attributes. The five mahaabhootas as well as their attributes in the tissue elements in the body are nourished by the five mahaabhootas and their attributes in the food respectively. The paarthiva ingredients and respective

attributes of the tissue elements get nourishment from the paarthiva ingredients and their attributes in the food. Similarly, other mahaabhootas and their attributes in the tissue elements are also nourished by their respective ingredients and attributes in the food⁵. The ingredients and their attributes in the food are heterogenous (vijaaateeya) prior to Bhootagni paaka. After Bhootagni paaka these heterogenous ingredients and their attributes in the food become homologous (sajaateeya) and thus cause appropriate nourishment of tissues. Accordingly the paarthiva, aapya, taijasa, vaayaveeya, aakaaseeya ingredients of food provide nourishment to the paarthiva, aapya, taijasa, vaayaveeya, aakaaseeya ingredients of tissues in the body. Similarly, the attributes of food smell, unctuousness, heat, heaviness, etc., of the tissues respectively⁶. According to Vagbhata each one of the five kinds of dravyas - the outcome of bhootagni paaka - proceeds to augment the corresponding bhautic elements that compose the human body. Bhautic element - products of bhootagni paaka, paarthiva, aapya, taijasa, vaayaveeya and aakaaseeya proceeds to augment the corresponding bhautic elements of the body, paarthiva, aapya, taijasa, vaayaveeya, aakaaseeya. It emphasize the physio chemical aspect of digestion and lay stress on the fact that atoms for atoms and molecules for molecules must be obtained by the body from food sources only for the maintainance of the integrity of its functional and structural constituents, all of which composed of Pancha bhootas at the fundamental level⁷.

Panchaboutika compositions of Tridosha, Sapta dhatu and Trimala

Vata, Pitta, Kapha are called as Tridosha, Rasa, Rakta, Maamsa, Medas, Asthi, Majja, Shukra are called as Sapta dhatu and Mootra, Pureesha, Sweda are called as Trimala. All the exogenous substances must be subjected to bhootagni paaka to become endogenous. As such essential amino acids, essential fatty acids, and essential vitamins are exogenous factors supplemented through food which ignites the enzymatic activity and completes metabolism and in the process they become part of body (endogenous). The Vitamins, Essential amino acids, Essential fatty acids are to be supplemented essentially through the food for the conversion of concerned molecules in to the body tissues on to yield energy. Though these factors are within the food, these are available only after getting digestion to its ultimate

fatty acids, amino acids levels in GIT⁹. Thus the essential factors supplemented through food for the synthesis of this Panchaboutika sareera can be considered as bhootagni amshas, i.e. Vitamins, Essential amino acids, Essential fatty acids. The Bhootagni paaka starts after Jatharagni paka. The process of Bhootagni paaka should start immediately after digestive process in GIT. Hence Bhootagni function starts immediately after absorption i.e. portal circulation to the liver ends before assimilation by delivering asthaya dhatwamshas into the circulation through hepatic vein. So the Bhootagni functions are carried in the portal system, liver and vascular system through which ahara rasa is circulated in the body for nourishing the Rasaadi sapta dhatus. Hence liver is considered as centre of Bhootagni vyapara¹⁰. In the modern physiological perspective, the action of the Bhutagni paka can be equated with the conversion of digested materials in the liver¹¹. That can be correlated with Hepatic Portal circulation or Splanchnic Circulation in Hepatic portal System.

Hepatic Portal System

Hepatic portal circulation is necessary for proper functioning of the body. Hepatic Portal System consists of the heart, liver, hepatic portal vein, small intestine, stomach, and large intestine¹². The blood vessels of the liver carry out many functions, allowing the body to filter wastes and maintain normal levels of protein and waste products in the blood. Liver, pancreas, and intestinal enzymes help to break the food down for easier absorption in the large intestine. During the process of digestion, capillaries in the liver perform several important functions. The capillaries in the liver remove some of the substances absorbed in the intestines. They remove glucose for its conversion to glycogen, allow for the conversion of monosaccharide's (simple sugars) into glucose, convert amino acids into urea, and remove drugs from the circulatory system for later excretion. This process allows the liver to serve as a screen for the blood. After the liver carries out its circulatory functions, the concentrations of substances in the blood should be close to normal. The liver also carries out important functions between meals. This organ releases more glucose by performing glycogenolysis (conversion of glycogen to glucose) and converting amino acids to glucose. This allows the body to use glucose properly between meals¹³.

Table 1: Panchaboutika composition⁸

Functional and structural factors of the body	Panchaboutika compositions				
	pārthiva	āpya	taijasa	vāyaviya	ākāśiya
Vata				+	
Pitta		+	++		
kapha	+	++			
Rasa		++			
Rakta		++	+		
Māmsa	++				
Medas	+	++			
Asthi	++			+	
Majja	++				
śukra	++				
Mootra		++	+		
Pureesha	++				
Sweda		++			

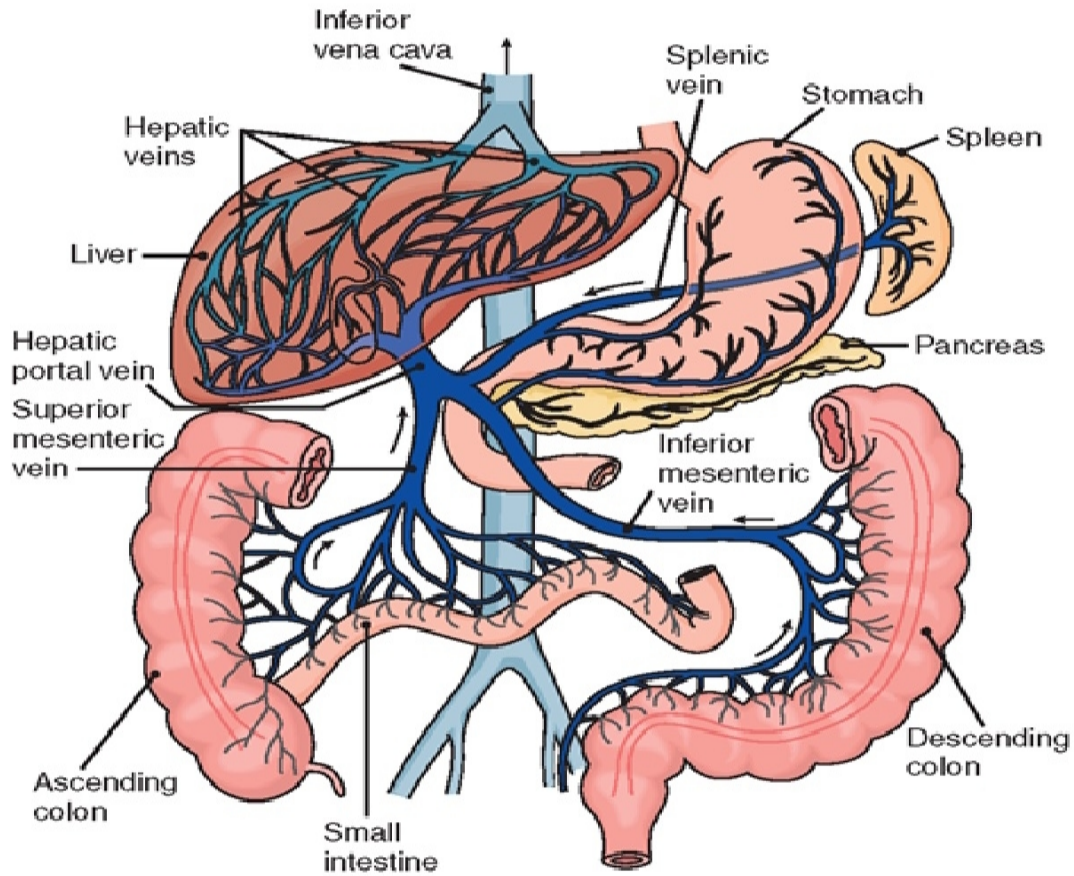


Figure 1: Hepatic Portal Circulation

CONCLUSION

Bhootagni, ignited by Jatharagni transforms the vijateeya annarasa into Sajaateeya Poshaka dhatus (organism specific). After completion of Bhootaagni Paaka only, the formation of aahaara Rasa is completed and rasa shoṣaṇa (absorption) is possible. After that Dhatwagnipaka occur in which the ahara rasa absorbed from the adhoamashaya is subjected to Paka (digestion) before it is utilized. The Prasada bhaga as Poshya or Asthaya dhatu and Kitta bhaga, some portion of which is used up the body and others are eliminated out as metabolic waste product. Bhootaagni function starts immediately after absorption i.e. portal circulation to the liver ends before assimilation by delivering asthaya dhatwamshas into the circulation through hepatic vein. So the Bhootaagni functions are carried in the portal system, liver and vascular system through which ahara rasa is circulated in the body for nourishing the Rasaadi sapta dhatus. Hence liver is considered as centre of Bhootagni vyapara. In the modern physiological perspective, the capillaries in the liver remove some of the substances absorbed in the intestines. They remove glucose for its conversion to glycogen, allow for the conversion of mono saccharides (simple sugars) into glucose, convert amino acids into urea and remove drugs from the circulatory system for later excretion. This process allows the liver to serve as a screen for the blood. The action of the Bhutagni can be equated with the conversion of digested

materials in the liver. Hence, the concept of Bhutagni Paka in Ayurveda signifies its relevance with modern physiology hepatic portal circulation thus providing an extensive field of research and scientific status in the present scenario.

REFERENCES

1. Agnivesa's Charakasamhita Text with English Translation and Critical Exposition Based on Cakrapani Datta's Ayurveda Dipika by Dr Ram Karan Sharma and Vaidya Bhagavandas, 7th edition, Chawkhambha Sanskrit series Office, Varanasi. Cikitsa Sthana 15/13, volume III; 2009. p. 9.
2. Agnivesa's Charakasamhita Text with English Translation and Critical Exposition Based on Cakrapani Datta's Ayurveda Dipika by Dr Ram Karan Sharma and Vaidya Bhagavandas, 7th edition, Chawkhambha Sanskrit series Office, Varanasi. Cikitsa Sthana 15/13, volume III; 2009. p. 9.
3. Dr C Dwarakanath. Digestion and Metabolism in Ayurveda, Chowkamba Krishnadas Academy, Oriental Publishers and Distributors; 2010. p. 78.
4. Susruta Samhita with English Translation of text and Dalhana's commentary along with critical notes translated by Srikantha Murthy, Vol I.I, Chawkhambha Orientalia Publisher, Varanasi. Sutra sthana, 46/526; 2010. p. 455.
5. Agnivesa's Charakasamhita Text with English Translation and Critical Exposition Based on Cakrapani Datta's Ayurveda Dipika by Dr Ram Karan Sharma and Vaidya Bhagavandas, 7th edition, Chawkhambha Sanskrit series Office, Varanasi. Cikitsa Sthana 15/13-14, volume III; 2009. p. 9-10.
6. Agnivesa's Charakasamhita Text with English Translation and Critical Exposition Based on Cakrapani Datta's Ayurveda Dipika by Dr Ram Karan Sharma and Vaidya Bhagavandas, 7th edition, Chawkhambha

- Sanskrit series Office, Varanasi. Cikitsa Sthana 15/14, volume III; 2009. p. 10.
7. Vagbhat's Astanga Hridayam Sharira Sthana 3/60, with the commentaries of Arunadatta and Hemadri by PV Sharma, Chawkhambha Orientalia, 9th Edition; 2005. p. 396.
 8. Susruta Samhita with English Translation of text and Dalhana's commentary along with critical notes by translated Srikantha Murthy, Vol 1.I, Chawkhambha Orientalia Publisher, Varanasi. Sutra sthana, 15/8; 2010. p. 100.
 9. Ramarao AVS. A Text book of Biochemistry. 6th ed., New Delhi: UBS PD; 1994. p. 170, 355, 310.
 10. Dr M Sreenivasulu. Concept of Ama in Ayurveda. 1st ed., Chawkhambha Sanskrit series Office, Varanasi; 2005. p. 14.
 11. Akash Kumar Agrawal. Physiological aspects of Agni. Ayu an International quarterly Journal of Research in Ayurveda 2010; 31(3): 395–398. <http://dx.doi.org/10.4103/0974-8520.77159>
 12. Splanchnic circulation, <https://www.inkling.com/read/medical-physiology-boron-boulpaep-2nd/chapter-24/the-splanchnic-circulation>; 2014.
 13. Hepatic Portal circulation, <https://www.scribd.com/doc/238828506/Hepatic-Portal-Circulation>; 2014.

Source of support: Nil, Conflict of interest: None Declared

QUICK RESPONSE CODE 	ISSN (Online) : 2277 –4572 Website http://www.jpsionline.com
--	--

How to cite this article:

Goverdhanam Vani, J. S. R. A. Prasad. A deep insight in to Bhootagni paaka in Ayurveda. J Pharm Sci Innov. 2014;3(5):413-416
<http://dx.doi.org/10.7897/2277-4572.035185>