

## Concept of *Amla Avasthapaka* w.s.r. to Metabolic Transformations

Madhavi Abasaheb Howal<sup>1\*</sup> and E.E.Mojes<sup>2</sup>

<sup>1,2</sup>Kriya Sharir Dept. , R.A.Podar Medical college (Ayu.) Worli, Mumbai, Maharashtra, India

### Abstract

*Agni* (Digestive fire), *Prakruti* (Constitution), *Dhatu sarata* (Tissue Excellence), *Dosha* (Bio-Energies) are the unique concept of Ayurveda & are extremely important in the Diagnosis, Treatment and hence in maintaining the health of an individual. The food consumed by the mouth undergoes the process of Digestion in order to achieve the nature of “*Sharirbhava swarup*.” The process of Digestion takes place in various stages and during every stage; there are changes in the composition of Aahar dravyas under the influence of the jatharagni which participate & regulate the course of Digestion and metabolism. These changes refer the *Avasthapaka* & *vipaka*. *Kapha pitta* and *vata* at three different levels of *mahasrotas* are enriched and supported by *Madhur*, *Amla* and *Katu Avasthapaka* respectively. After the *Madhura Avasthapaka* is completed, the semidigested food descends to *Pachyamanashaya* & due to its admixture with *amlabhava*'s it becomes *vidagdha* and attains the acid taste. *Pitta* which is originally situated at this site get's nourishment & support from this *avasthapaka*.

### Keywords

*Agni, Sharirbhava swarupa, Awathapaka, Vidaghatwa*



**Greentree Group**

Received 01/03/16 Accepted 06/04/16 Published 10/05/16

## INTRODUCTION

The basic principles of Ayurveda remains truthful even in this modern era due to its deep fundamental concepts. 'Agni' is one of the basic fundamental concepts of Ayurveda which transforms the food in the form of energy which is responsible for all the vital functions of the body. In human beings Agni represents the power of Digestion, metabolism and assimilation as ingested food has to be digested, absorbed and assimilated which is unavoidable for the maintenance of life.

The concept of Agni is inclusive of the manner in which the nutrition ingested, various components are metabolised into appropriate dhatu and some of its constituents are broken down for being utilized for the production of the energy required for vital activities. Not only in the digestion and metabolism but in every transformations even at the cellular level, the role of Agni takes place. Derangement of the Agni leads to indigestion and hence various diseases. Agni is the root causative agent for all the diseases so, it is important step to keep Agni in its normal state as the whole treatment method depends upon the management of Agni. For this ; the function of Agni or the actual metabolic transformations taking place should be known properly. During this process, the ingested food substances undergoes the process of degradation to transform into the nature of drava which represents the outcome of jatharagnipaka in terms of their rasa. These

changes are directly correlated to the changes in the composition of the dravyas . According to Ayurveda, this process of digestion takes place in various stages of composition of food substances under the influence of jatharagni. These changes are called as 'Avasthapaka'.

According to Ayurveda, Digestion refers to the two phases as follows:

a) Prapaka or Prathama paka: It is the first outcome of paka.

b) Vipaka : It is the resultant of prapaka & it includes the outcome of action of jatharagni.

Kapha , pitta and vata which are originally situated at three different levels of mahasrotas are enriched and supported by the above avasthapaka respectively as follows.

a) Madhura avasthapaka

b) Amla Avasthapaka

c) Katu Avasthapaka.

If we observe the whole process of Digestion; it is seen that these processes occurs in a sequence one after the another and also as the resultant of the other. It is important to study and discuss the changes occurs during the process.

## AIMS & OBJECTIVES

1. To emphasize the concept of Amla Avasthapaka in ayurvedic classical literature.
2. To evaluate the process of digestion & metabolism in modern literature

## MATERIALS & METHODS

This article is based on a review of Ayurvedic texts. Materials related to Agni, Aharpachana, Avasthapaka have been collected. The main Ayurvedic texts used in this study are Bruhatrayis with their available commentaries. Also the modern texts and various websites to collect information on the relevant topics.

## REVIEW & DISCUSSION

The changes take place in mahasrotas during digestion at different levels as follows:

Avasthapaka	Place	Dosha	Nature of food substances (swarup)
Madhura	Amashaya	Kapha	Phenbhuta
Amla	Pachyamanashaya	Pitta	Vidagdhata
Katu	Pakvashaya	Vata	Paripindit pakvata

Amla avasthapaka in the second stage of digestion and at this stage, maximum metabolic activities take place.

<p>“ परन्तु पच्यमानस्य विदग्धस्याम्लभावात् । आशयाच्च्यवमानस्य पित्तमच्छमुदीर्यते ॥” .....च.चि.१५/१०</p>	
विदग्धस्य इति पक्वापक्वस्य ।	अम्लभावत इति जातम्लस्वरूपतः ।
आशयात्- आमाशयात्।	च्यवमानस्य - अधोभागम वायुना नीयमानस्य ।
अच्छपित्त- अधनम् ।	उदीर्यते - पित्तमुत्सृजते ।

After the Madhura Avasthapaka is completed, the semidigested food descends to Pachyamanashaya & due to its admixture with amlabhava's it becomes vidagdhata (also called as 'vidahyati' by some i.e. *vidahyati* – *vishesh dahan kartutwat*) and attains the acidic nature. Therefore it is said that the acidic nature of food will increase the

vidagdhata. The Pitta which is originally situated at this site gets nourishment & support from this avasthapaka.

In this stage; the digestion of the proteins is said to be occurred. This digestion is brought about by the secretion of HCl. It can be said that here is the commencement of the second stage of Avasthapaka as the food stated to undergo

amlabhava corresponding to conversion of insoluble proteins into soluble proteins under the influence of pepsin in the presence of HCl. i.e. Amla bhava corresponds to the peptic digestion of proteins & it does not have anything to do with the digestion of madhura substances.

At this stage, the food substances remain partly digested & partly undigested i.e digestion is still incomplete. The final outcome of the digestion is acidified chyme which has been characterised as vidagdhā . It is explained as pakvapakva or kinchit pakva (i.e. partly digested) by Chakrapanidatta. It has to go for further digestion into the adhoamashaya & discharge of Acchāpitta into it. The description of Acchāpitta is 'Aghana' which resembles the pancreatic secretion. It can be said that the concept of Acchāpitta includes the bile and pancreatic secretions responsible for the digestion of the food components.

### SUMMARY

The whole process of Amla Avasthapaka takes place can be summarised as follows:

digestion at this stage starts with the action of HCl

Acid pH of Stomach

Activation of Pepsin & Gastric lipase

Digestion of Protein

production of Acidified chyme

- i. Leads to secretion of Acchāpitta
- ii. Influence metabolism & production of heat

This aids in further digestion of the food in the intestines & separation of sara ( food nutrients) from the kitta in further digestion process.

These transformations takes place with the following :

Avayava – Grahani / Agnyashaya

Vatavyapara – Samana vayu

- Sympathetic from coeliac ganglion
- Parasympathetic from vagus
- Intrinsic nerves

Activated by – Humoral

Neural

Medium for work – 6 pH

Srava- Pachaka pitta.

- Trypsin , Chymotrypsin
- Amylase, Lipase
- Bile
- Enterokinase, Maltase , Lipase.

### CONCLUSION

From the above discussion it is seen that Agni is responsible for the whole transformation of food and energy production which is required for the vital

functions. This process of digestion takes place in a sequential manner one after the OTHER. In the Amla avasthapaka; the nature of substances or the composition of the food as explained can be interpreted by the process of Digestion. Amla bhava is manifested by release of Acchappitta i.e bile, pancreatic secretions and also the formation of the acidified chyme. In parallel to modern physiology; the digestion of Proteins & Fats occurs at this stage resulting into simpler form i.e. Amino Acids & free fatty acids. Ayurveda signifies the relevance with modern physiology of Digestion & metabolism. Yet more work has to be done on the metabolic transformations. It provides an extensive field of research.

## REFERENCES

1. Charaksamhita (Chakrapanidatta-Ayurved Deepika's Hindi translation) by Harishchandra Singh Kushvaha. Publication: Chaukhamba Orientalia Varanasi.
2. Ashtanga Hridya Sutrasthana by Dr. Ravi Datta Tripathi published by Chaukhamba Sanskrit Sansthana, Varanasi year.1992.
3. Sharir Kriya Vidnyana by Prof. Ranade. Dr.Swati Chaubhe, published by Anmol Prakashan ,Pune-2008.
4. Digestion & Metabolism in Ayurveda by Dwarkanath C. Krishnadas Academy, Varanasi, 2<sup>nd</sup> 1997
5. Ayurvediya Sharirkriya Vijnana by Vd. Y.G.Joshi translated by Vd.Priya Nene (Chaukhamba Vishvabharati),Varanasi.
6. Essentials of Medical Physiology by K.Sembulingum Forth edition (Jaypee)
7. Ayurvediya Kriyasharir by Vd. Ranjeetrai Desai, Shri Baidyanath Ayurved Bhavanli.edition 2010.
8. Dosha-Dhatu-Mala vidnyana by Dr.Vartak 1962.
9. Sharir Kriya Vidnyana By Dr.NAndini Dhargalkar, Published by Chaukhamba Sanskrit Sansthana Varanasi edition third,2011.
10. A textbook of Physiology , Sharira kriya Vijnan by Dr. Chitta Ranjana Das. volume-1Chaukhamba Sanskrita Pratisthana.
11. Review article- Exploring novel concepts of Agni & its clinical relevance. By Vidya etal (alt Int. Med.2013).