

CONCEPT OF AVASTHAPAKA IN AYURVED IN RELATION WITH CONCEPT OF DIGESTION IN MODERN SCIENCE

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ABSTRACT

When the food is ingested, it comes into *Agnikshetra* and action of *Agni* is started on it. Food is transformed slowly and *Rasa* of food changes as per the place of digestion in Alimentary canal. This changing of *Rasa* of food is called as *Avasthapaka*. It is seen that the place where the *Rasa* of food changes – And the digestion of food in that place according to modern science - is exactly the same.

Keywords: *Agni, Agnikshetra, Aharapaka, Avasthapaka.*

INTRODUCTION: While eating, food is taken into mouth. It is chewed with teeth and then swallowed. The process is called as *Nigiran*¹ or Deglutition. It is also called as *Aadan* of food. Due to *Aadan* of food, food enters the field of *Agni*. Due to action of *Agni*, *Aharapaka* starts and food is transformed through three *Avasthapaka*.

1. *Madhura Avasthapaka*²
2. *Amla Avasthapaka*³
3. *Katu Avasthapaka*⁴

The processes that are explained under *Avasthapaka* can be correlated with the digestion of food according to modern science. For correlation, process of Digestion can be divided into three places of Alimentary canal.

1. Mouth and upper part of stomach
2. Lower part of stomach and small Intestine
3. Large intestine

AIMS AND OBJECTIVES:

1. To explain three *Avasthapakas* with respect to *Aharapaka kriya*.
2. To explain digestion of food according to Modern science in stomach, small intestine, and large intestine – with respect to *Avasthapaka*.

3. To establish conceptual similarities between *Avasthapaka* in Ayurved and Digestion of food in Modern science.

MATERIALS AND METHODS:

1. *Madhura Avasthapaka:*

Explanation according to Ayurved--

It is the first phase of *Aharapaka*. Food enters the oral cavity and process of chewing is started. During this process *Bodhaka kapha* is mixed with the food and the *Rasa* of this undigested food becomes *Madhura*.⁵ Then food is swallowed and it enters into *Amashaya*. Here food is mixed with *Kledaka kapha* in upper part of *Amashaya*.⁶ The food again becomes *Madhura*. During this *Avasthapaka*, *Fenbhoot* (Foam like) *kapha* is formed.⁷

To summarize:

1. Place of *Madhura Avasthapaka* - *Mukh, Amashaya*.
2. *Rasa* of food - *Madhura*.
3. Formation of *Dosha – Kapha*

Digestion in Mouth and Stomach according to Modern science⁸ —

When food enters the oral cavity, saliva is mixed with the food. Salivary amylase from saliva starts digestion of carbohydrates (i.e. Polysaccharides and Disaccharides). Action of Salivary Amylase is continued upto Fundus of

stomach i.e. upper part of stomach. Thus most of the carbohydrates are digested from Mouth to Fundus of stomach in digestive tract. After the digestion of carbohydrates, Glucose, Fructose and maltose are formed as end products. These end products are Sweet in nature (taste).

2. *Amla Avasthapaka*:

Explanation according to Ayurved-

It is the second phase of *Aharapaka*. After *Madhura Avasthapaka*, food becomes *Vidagdha* (acidic) and its *rasa* changes to *Amla*.

According to Acharya Charak, when *Ahara* is propelled into *amashaya* it is mixed with *Pachaka Pitta* and becomes *Vidagdha and Amla*⁹.

In *Ashtang Hridaya* it is stated that – in *Amla Avasthapaka*, complete food becomes *Amla* and *Pitta* is formed¹⁰.

To summarize:

1. Place of *Amla Avasthapaka* – Lower part of *Amashaya*, *Grahani*, *Laghwantra*
2. *Rasa* of food – *Amla*
3. Formation of *Dosha* – *Pitta*

Digestion of food in Lower part of Stomach and Small intestine according to modern science¹¹ —

In lower part of Stomach, HCl is secreted from Parietal cells. It is mixed with the food and food becomes acidic and sour.

Due to Acidic medium, salivary amylase becomes inactive in lower part of stomach. So Digestion of Carbohydrates stops for some time till pancreatic Amylase mixes with the food in small intestine.

Thus formation of end products of carbohydrates digestion is reduced. These end products are sweet in taste. Thus sweetness of food changes into sour taste because of acidic medium.

Moreover, in small intestine, Bile and pancreatic juices are mixed with the food and food remains acidic and sour in small intestine also.

4. *Katu Avasthapaka*:

Explanation according to Ayurved—

It is the third phase of *Aharapaka*. In small intestine, after digestion of food, nutrients are absorbed. The remaining part of food is pushed forward into large intestine. In large intestine, fats and watery content of food is absorbed and food is transformed into semisolid *malabhaga* (*Purisha*, Feces).

Due to this absorption, food becomes dry, semisolid and *Katu* in taste. Hence this phase is called as *katu Avasthapaka*¹².

Due to dryness and *katu rasa*, in this *Avasthapaka*, *Vata dosha* is formed¹³.

Digestion of food in Large intestine according to modern science¹⁴ —

Till food enters large intestine, HCl in the food has become inactive. Due to absence of HCl, growth of bacteria begins in the food. These bacteria digest remaining ingredients of carbohydrates, proteins and fats with the help of their enzymes.

During digestion process in large intestine, formation of gases can be noted as follows--

1. After digestion of Carbohydrates – Formation of CO_2 ¹⁵
2. After digestion of Cellulose — Formation of Methane¹⁶
3. After digestion of Protein — Formation of Indole and Skotol¹⁷

Thus after the completion of digestion in large intestine, gases are formed. These gases are excreted separately or along with feces.

Result:A: Comparison of *Madhura Avasthapaka* and digestion of food according to modern science Table 1

<i>Madhura Avasthapaka</i> according to Ayurved	Digestion in Oral cavity and Fundus of Stomach according to modern science
1. In <i>Mukha</i> , <i>Bodhaka Kapha</i> is mixed with the food.	1. In oral cavity, Saliva is mixed with the food.
2. In <i>Amashaya Kledaka Kapha</i> is mixed with the food.	2. In stomach, Mucine is mixed with the food.
3. <i>Rasa</i> of <i>ahara</i> becomes <i>Madhura</i> (Sweet).	3. Digestion of carbohydrates starts due to Salivary Amylase. End products formed are Glucose and Maltose which are sweet in nature.
4. <i>Kapha</i> is formed during <i>Madhura Avasthapaka</i> .	4. Symptoms like – Dizziness, Lethargy, and Heaviness in stomach are seen which are similar as symptoms of kapha.

B - Comparison of *Amla Avasthapaka* and digestion of food according to modern science – Table 2

<i>Amla Avasthapaka</i> according to Ayurved	Digestion in Pylorus of stomach and small intestine according to modern science
1. In <i>amashaya</i> , <i>Pachaka Pitta</i> is mixed with <i>ahara</i> .	1. In Pyloric end of stomach, HCl is mixed with food.
2. <i>Rasa</i> of <i>Ahara</i> becomes <i>Amla</i> .	2. Due to HCl, food becomes acidic and sour.

C - Comparison of *Katu Avasthapaka* and digestion of food according to modern science – Table 3

<i>Katu Avasthapaka</i> according to Ayurved	Digestion in large intestine according to modern science
1. In this phase, after absorption of water and other nutrients, <i>Ahara</i> becomes dry and <i>Katu</i> .	1. Food is digested by Bacteria. After absorption, feces are formed.
2. <i>Vata Dosha</i> is formed during <i>Katu Avasthapaka</i> .	2. During digestion by bacteria, various gases are formed. E.g. CO_2 , Methane, Indole, Skatol etc.

DISCUSSION:

1. “*Changing of Ahara rasa*” is the central idea to explain Digestion according to Ayurved.
2. During *Madhura Avasthapaka*, *Kapha* in the whole body increases. But if there is ample quantity of *Katu*, *Tikta* and *kashaya rasa* in *Ahara*, then *Kapha* rises in negligible quantity¹⁸.
3. During *Amla Avasthapaka*, *Pitta* in whole body increases. But if there is ample quantity of *Madhura*, *Tikta* and *kashaya rasa* in *Ahara*, then *Pitta* rises in negligible quantity¹⁹.
4. During *Katu Avasthapaka*, *Vata* in whole body increases. But if there is ample quantity of *Madhura*, *Amla* and *Lavana rasa* in *Ahara*, then *vata* rises in negligible quantity²⁰.
5. Hence it is important to have *Shadrasatmaka Ahara* i.e. Food which contains six *Rasas*.
6. According to acharya Chakrapani²¹, during *Avasthapaka* process, *Doshas* do

rasa in *Ahara*, then *Pitta* rises in negligible quantity¹⁹.

4. During *Katu Avasthapaka*, *Vata* in whole body increases. But if there is ample quantity of *Madhura*, *Amla* and *Lavana rasa* in *Ahara*, then *vata* rises in negligible quantity²⁰.
5. Hence it is important to have *Shadrasatmaka Ahara* i.e. Food which contains six *Rasas*.
6. According to acharya Chakrapani²¹, during *Avasthapaka* process, *Doshas* do

not raise up to remarkable level. So they cannot cause any discomfort to *Indriya*, *mana* and *Atma*. Hence they cannot cause diseases.

CONCLUSION:

From above tables, it can be concluded that –

1. In Ayurved, *Aharpaka* is explained in terms of three *Avasthapakas*.
2. There are distinct places in Alimentary canal where these *Avasthapakas* occur.
3. If the digestion process which takes place in these respective places of *Avasthapakas* is considered, it is seen that, there is similarity in Ayurvedic aspect of *Avasthapaka* and digestion according to modern science.

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