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 or Deglutition. It is also called as Aadhan of food. Due to Aadhan 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. Amla Avasthapaka
3. Katu Avasthapaka

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. Then food is swallowed and it enters into Amashaya. Here food is mixed with Kledaka kapha in upper part of Amashaya. The food again becomes Madhura. During this Avasthapaka, Fenbhoot (Foam like) kapha is formed.

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 science—

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.

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

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 science**

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.

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

**Digestion of food in Large intestine according to modern science**

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 CO₂
2. **After digestion of Cellulose** — Formation of Methane
3. **After digestion of Protein** — Formation of Indole and Skotol

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

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

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

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

<table>
<thead>
<tr>
<th>Katu Avasthapaka according to Ayurved</th>
<th>Digestion in large intestine according to modern science</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In this phase, after absorption of water and other nutrients, Ahara becomes dry and Katu.</td>
<td>1. Food is digested by Bacteria. After absorption, feces are formed.</td>
</tr>
<tr>
<td>2. Vata Dosha is formed during Katu Avasthapaka.</td>
<td>2. During digestion by bacteria, various gases are formed. E.g. CO₂, Methane, Indole, Skatol etc.</td>
</tr>
</tbody>
</table>

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 quantity.
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 quantity.
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 quantity.
5. Hence it is important to have Shadrasatmaka Ahara i.e. Food which contains six Rasas.
6. According to acharya Chakrapani, 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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