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Review Article

DEEPANA AND PACHANA - AN EVALUATIVE ANALYSIS

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Ayurveda pays utmost importance to *Agni* as it is the inherent factor behind every change that occurs in the body. The persistent *Alpagni* is said to be the causative factor for all the diseases. This is why *Ama pachana* and *Agni deepana* became the basic line of treatment in many diseases. Detailed and in-depth analysis of various classical references and articles published in reliable web resources has been done on the topic *Deepana* and *Pachana* and got some inferences. *Pacana* has role in conditions of *Ama* while *Deepana* in *Agnimandya*. But in our day to day practice when we have different *Oushadha yoga*, we can't discriminate it in the formulations. The range of *Deepana* and *Pachana* may vary in each formulation. We may say at the *Koshta* level *Deepana karma* improves the *Abhyavaharana shakti* by stimulating the appetite and *Pachana karma* improves the *Jaranashakthi* by improving the digestion.

INTRODUCTION

Amapachana and *Agnideepana* are the basic line of treatment in almost all *Vyadhi*. It is quite common that we use the term *Deepanapachana* together. But in conditions of *Ama*, *Pacana* should be followed by *Deepana*. Hence knowledge about condition where *Pachana* and *Deepana* should be done is crucial.

Ayurveda pays utmost importance to *Agni* as it is the inherent factor behind every change that occurs in the body. To sustain life, change is inevitable, either anabolic or catabolic.

नयते परिणामयते इति अग्निः

कायो अग्निः[2]

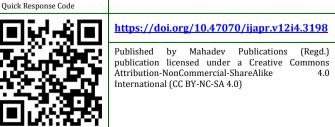
The body itself is termed as Agni.

Acarya Vagbhata says,

ऊष्मणो अल्पबलत्वेन धातुमाद्यमपचितं

दुष्टमामाशयगतं रसं आमं प्रचक्षते ॥ 🗷

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As we go through the classics, we can see that *Amaya* a synonym for *Roga* contains the word '*Ama*' as it is considered to be a potent factor that has the capacity to create a wide range of diseases ranging from *Jwara to Unmada*. The persistent *Alpagni* is said to be the causative factor for all the diseases. That is why Ayurveda says,

रोगा सर्वे अपि मन्दाग्नौष]

This may be the reason why *Ama pachana* and *Agni deepana* became the basic line of treatment in many diseases. It is quite common that we use the term *Deepanapachana* together. But in conditions of *Ama pacana* followed by *Deepana*. This article is an attempt to analyse such conditions.

Deepana

- पचेन्नामं वह्निकृच्च दीपनं तद्यता मिशिः 🗉
- अग्निगुणभूयिष्ठंछ
- दीपनं जठराग्नेः
- अन्ने भोक्तुं इच्छां उत्पादयति।
- दीपनं यथा,-घृतादि

Deepana is the Karma or Dravya which increases the Agni but is incapable of digesting Ama. As per the Gudartha Deepika commentary of Sharangdhara Samhita the Agni referred here is Jatharagni. Acharya Sharangadhara has considered Misi/ Satapushpa as Deepana dravya, whereas Acarya Arunadatta has considered Gritha. Ksharapani says that *Deepana dravya* is predominated by *Agni mahabuta*. As per Bhavaprakasha commentary *Deepana* enhances the appetite of the person. It is compared to a small lamp imparts light but incapable of cooking rice. Hence *Deepana dravya* can stimulate appetite, but unable to digest food.

The main physical parameter to assess this action is by increase in appetite. But on *Dhatu* level, the evidence is understood by increase in the need of energy for the functioning of the body tissues. As the definition clearly mentions that the substance with *Deepana* action will not have the ability to digest *Ama*, this implies that it can only increase the ability of the body/tissue/cell to ingest or accept nutrition but not result in transformation or metabolism.

Deepana karma mostly correlated to carminatives, stomachic and appetizers. Carminatives are defined as an agent that prevents or relieves flatulence. It exhibits the activity for expulsion of flatulence or gas from GI tract and thus relieves abdominal distention and stimulating the hunger neuron. Stomachic is defined as that class of substance that improves the functional activity of stomach by the increase of secretion and movements. This in turn results in the increase of appetite. Appetizer is defined as the class of substances that have the ability to improve the desire for more meal. This may be any food or drink.

Pacana

- पचत्यामं न वह्निं च कुर्यात् यत् तत् हि पाचनं। नागकेशरवत् । 🗈
- पाचनमिति सामानां दोष धातु मलानां विरूक्षणं 🖽
- पाचयतीति पाचनम्.... यथा,- लङ्घनं मुस्तादि वा। 🕫
- पाचनं तद्विपर्यस्तं यथा वक्ष्यामि लङ्घनम्।। 📧
- वाय्वाग्नि गुण भूयिष्ठं 🗉

Pacana is the *Dravya* or *karma* which digests *Ama* without increasing *Agni*.

As per the commentary of Sharangdhara Samhita, *Pacana* is the *Rookshana karma* happening on the *Sama dosha*, *Dhatu* and *Mala*. The example for *Pacana* is *Nagakeshara* by Sharandhara Samhita while *Langhana* and *Mustadi* were given as example by *Acarya* Arunadatta. *Pacana* is the *Karma* opposite to *Deepana* according to *Acarya Ksharapani*. *Vayu* and *Agni* are the predominant *Panchamahabhuta* in *Pacana dravya*. Bhavaprakasha commentary explains how hot charcoal without inflating the *Agni* cook rice like that *Pacana dravya* digest the *Ama* without increasing *Agni*.

The action *Pacana* is to be understood from the perspective of *Agni* because even in description of this action like *Deepana*, there is involvement of *Agni*. But the function that is more concerned here is with respect to the digestion or metabolic activity of *Agni*. Even though *Pacana dravya* increases the ability to

metabolize substance in the body, it will not increase the appetite of the individual.

The most common correlation given to this action is digestives. Digestives are defined as agents or substances that aid in the process of digestion or even promotes the digestion of food. The process of digestion involves a general breakdown of complex structures present in food to simpler absorbable ones (carbohydrate to monosaccharides, fat to fatty acids, proteins to amino acids). While the cellular metabolism is right its opposite namely consumption absorbable simpler ones in to complex of homogeneous ones resulting in energy functioning of the body, storage of energy and building of gross body.

The process of metabolism including digestion is dependent on various factors like age, individual variations, intestinal flora, nutrition, quality and quantity of enzymes etc. It also involves physical and chemical breakdown and resynthesise or reformation to result in a homogenous structure. Metabolism involves large complex sequence of controlled biochemical reactions which are commonly known as metabolic pathways. These processes bring about different changes like growth, adaptation, repair of body parts, degeneration etc.

Deepana & Pachana in terms of Aharashakti

 आहारशक्तितश्चेति आहारशक्तिरभ्यवहरणशक्त्या जरणशक्त या च परीक्ष्या; ।।¹⁷¹

In Charaka Samhita Vimanasthana, *Acarya* Charaka explained *Aharasakthi pareeksha*. It has two components. *Abhyavaharana shakti* and *Jarana* shakti. *Abhyavaharana shakti* means the capacity of food intake, *Jarana shakti* means the capacity to digest the food. *Deepana dravya* improves the *Abhyavaharana shakti* while *Pacana dravya* improves the *Jarana shakti*. **Action of** *Deepana* **and** *Pachana dravya* **on Hunger and satiety centre**

Food intake and energy expenditure must be balanced in order to maintain a healthy human body. This balance is maintained by central nervous system which controls feeding behaviour and energy consumption. Several parts of brain are involved including the brain stem which receives neuronal inputs from the digestive tract and the hypothalamus which picks up hormonal and nutritional signals from the circulation. These two systems collect information about the body's nutrient status and respond accordingly. They also interact with the reward and motivation pathways which drive food seeking behaviour. The arcuate nucleus (ARC) of the hypothalamus works as a major controlling centre. There are two groups of neurons with opposing functions in the ARC, the appetite stimulating neurons expressing NPY and AGRP peptides which are activated by hunger and the appetite suppressing

neurons producing POMC peptides stimulated by satiety or fulness.

Neurons of arcuate nucleus also communicate with other nuclei of the hypothalamus, of which the paraventricular nucleus (PVN) is most important. Paraventricular nucleus further processes the information and project to other circuits outside the hypothalamus, thus co-ordinating a response that controls energy intake and expenditure.

Short term regulation of feeding is also there based on how empty or how full the stomach is and whether there are nutrients in the intestine. In the fasting state an empty stomach sends information to the brainstem signalling hunger. It also produces a peptide called ghrelin, which act directly on the PVN to reduce energy expenditure. Upon food ingestion distension of the stomach is perceived by the brainstem as satiety.

Long term regulation on the other hand takes clues from the amount of body fat; low body fat content encourages feeding and energy preservation, while high body fat suppresses appetite and promotes energy expenditure. Leptin is a hormone secreted by adipose tissue, in a process dependent on insulin. The amount of circulating leptin in plasma is directly proportional to the body fat content. Increased leptin levels in the blood signals to the brain that body has enough energy storage and that it has to stop eating and burn more energy. While analysing this we can say that the *Deepana dravya* may stimulate hunger centre while *Pacana dravya* may stimulate the satiety centre.

Applied aspect of *Deepana* and *Pachana*

As a type of Langhana Chikitsa प्रवृत्तान् प्रागतो दोषानुपेक्षेत हिताशिनः ।। विबद्धान् पाचनैस्तैस्तैः पाचयेन्निहरित वा ।

Spontaneous expulsion of highly vitiated *Doshas* are allowed in patients who can withstand it and in case of any obstruction it should be digested and cleared. This principle can be well established in *Atisara chikitsa*.

प्रायेणातिसारो ह्यग्निं उपहत्य प्रागामाधिष्ठानो भवति। तस्मात् अनिलजं अपि आमपाचनार्थम् आदौ लङ्घनेन उपक्रमेत्। [10] With medications such as,

Hareetaki with hot water Hareetaki + Shunthi + Pippali + Marica Shunthi + Ativisha Musta + Parpataka

Shunthi + Dhanyaka

As a Samana chikitsa न शोधयति यद्दोषान् समान्नोद्दीरयत्यापि । समीकरोति विषमान् शमनं तच्च सप्तधा ।। पाचनम् दीपनं क्षुतृट्व्यायामातपमारुताः ।

पाचनादीनां दोषशमनत्वमुक्तम्। तच्च वाते वातपित्ते च न सम्भवतीत्याह (A.D) छ

Samana is that which neither eliminates the vitiated *Dosha* out of the body nor provokes the normally functioning *Dosha*, but brings the vitiated *Dosha* in to normalcy. *Acarya* included *Pachana* and *Deepana* in this seven *Samana chikitsa*.

As a Poorvakarma

तत्र संशोधनैः स्थौल्यबलपित्तकफाधिकान्। आमदोषज्वरच्छर्दिरतीसारहृदामयैः।।१२।। विबन्धगौरवोद्गारहृल्लासादिभिरातुरान्। मध्यस्थौल्यादिकान् प्रायः पूर्वं पाचनदीपनैः।।[11]

In those who are moderately obese, of moderate strength, and with moderate vitiation of *Pitta* and *Kapha* having the *Ama dosha* etc conditions, medicines which are *Pachana* and *Deepana* should be employed in advance before *Shodhana chikitsa*.

When there is Leena dosha पाचनैर्दीपनैः स्नेहैस्तान् स्वेदैश्च परिष्कृतान् ।। शोधयेत् शोधनैः काले यथासन्नं यथाबलम् ।[12] पान्न्रै पानन्नं

पाचनैः पक्वत्वं

दीपनैर्धतुभ्यः पृथक्त्वं (Ayurveda rasayanam)

In this commentary, we can see the clear difference of action between *Pachana* and *Deepana karma. Pacana* brings about the *Paaka* of *Leena* dosha in *Dhatu* and *Deepana* separates this Pakwa dosha from *Dhatu* and the following *Snehapana* makes the *Utkleshana* of this separated *Dosha* and Swedana makes liquification of this *Dosha* which in turn drains to *Koshta* to get eliminated by *Shodhana* procedures. In a clinical study entitled Clinical evaluation of Patoladi *Kashaya* in *Ama pachana* showed significant result of *Patoladi kashaya* which is a *Pachana kashaya* in *Ama avastha* when compared to *Panchakola Kashaya* which is said to be a *Deepana kashaya*. It shows that *Pachana aushadha* will act more significant in *Amaavastha* than a *Deepanaushadha*^[13].

DISCUSSION

After analysing various literatures on Deepana pachana it is clear that both Deepana and Pacana are two diffferent Karma. Pacana has role in conditions of Ama while Deepana in Agnimandya. It is clear that Deepana dravva will not do Amapachana and the Pachanaushadha will not do Agni deepana. Likewise, once Nirama avastha is attained the Pachanaushadha will not have much role and in order to get rid of Agnimandya deepanaushadha should be given. It may be easy to find a single drug on *Deepana* and *Pachana*. But in our day to day practice when we have different Oushadha yoga, we can't discriminate it in the formulations. Because most of the Yoga contains both Deepana and Pachana aushadha. That may be the reason why we may get both results from the same yoga on long-term intake. Even Acarya Charaka

mentioned only *Deepaneeya mahakashaya* which contains many *Pachana dravya*. So, we may say that *Deepana* and *Pachana* are like the 2 sides of a same coin where the action of *Deepana* is first and *Pachana* is later. The range of *Deepana* and *Pachana* may vary in each formulation. We may say at the *Koshta* level, *Deepana karma* improves the *Abhyavaharana shakti* by stimulating the appetite and *Pachana karma* improves the *Jaranashakthi* by improving the digestion. At the *Dhatu* level *Deepana dravya* may do the *Dhatu vriddhi* while *Pachana dravya* will do the *Dhatu shodhana*.

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