

A CRITICAL APPRAISAL ON PACHAKA PITTA IN AYURVEDA & MODERN
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ABSTRACT

Pachaka Pitta is accountable for digestion of food, Vibhajan of Sara and Kitta and it nurtures the Agneya part of Pitta situated in dissimilar fragments of body. Ancient texts deliver a clear narrative about its Sthan, Swaroop and Karma. It is also named as jatharagni. This agni form Pitta assistances in digestion of food, and afterwards splits the Sara and Kitta bhaga. Being in its site it nurtures and deliver forte to rest Pitta. Pachaka Pitta is accountable for Aahar Pachan and this is well evidenced in our text. On the additional hand, contemporary or the contemporary science after so many studies proves this that various digestive juices are accountable for digestion of food. As the functions of pachaka pitta recommend, all enzymes accountable for digestion comparable amyolytic, proteolytic and lipolytic enzymes, might be compared with pachaka pitta. The functions of Pachaka Pitta can be correlated to the purposes of digestive enzymes, Gastro-intestinal hormones and local hormones.

KEYWORDS: Pachaka Pitta, Digestive juices.

INTRODUCTION

In Ayurveda a healthy existence is he whose humours and metabolic phase are in equilibrium, whose Biological actions of the tissues and excretory products (i.e. physical stage) are in balance the soul, senses and mind (i.e. mental state of the body) fell well.^[1]

Concept of tri dosha is chiefly a conception and any solitary substance or construction cannot indicate a dosha.^[2] The five basic elements be in all matter. Water carries the classic example: the solids of iced water are pointer of the Prithvi Mahabhuta (earth opinion). Latent heat in the ice (Agni) liquefies it, beginning into Jala Mahabhuta (water opinion) And then eventually it goes into haze venting the Vayu Mahabhuta (air principle) the steam vanishes into Akasha or space.^[3] When we say Bhuta we malicious that subtle level of existence, whereas Mahabhuta refers to gross level of existence.^[4] Dosha, Dathu, Mala composed form the basis of the body.^[5] The equilibrium of these things signifies the healthy state and inequity will cause innumerable diseases.^[6] There are five kinds of Pitta specifically Pachaka, Ranjaka, Sadhaka, Alochaka, Bhrajaka. The Vissha Sthana of Pachaka Pitta is said to between Pakwashaya and Amashaya near Jatharagni. The chief role of Pachaka Pitta is said to be digestion of the ingested food.^[7] Brief Physio- anatomical understanding of the Gastrointestinal tract with reference to chemical

and corporal digestion is necessary to understand physiology of Pachaka Pitta. The food after ingestion through oral cavity passes along the several parts of the digestive tract, where it is changed into modest absorbable constituents.^[8] The digestive tract or alimentary canal as it is too called entails of the mouth, the pharynx, the oesophagus, the stomach and the intestine. The human alimentary canal, from lips to anus, is from 30 to 32 feet extended. Throughout maximum of its length, the work of the alimentary canal is directed toward the splitting of the molecules of the food into humbler compounds that being absorbed into blood are carried to the tissues. Here they are oxidized to furnish energy, stored as fat or starch or built into living tissue.^[9] Role of local hormones plays an important role in mechanical chemical digestion. Gastrin: Stimulates gastric glands to secrete gastric juice with more pepsin and hydrochloric acid; Accelerates gastric motility; Promotes growth of gastric mucosa; Stimulates secretion of pancreatic juice, which is rich in enzymes; Stimulates islets of Langerhans in pancreas to release pancreatic hormones. Secretin: Inhibits secretion of gastric juice; Inhibits motility of stomach; Causes constriction of pyloric sphincter; Increases the potency of action of cholecystokinin on pancreatic secretion.

Cholecystokinin: Accelerates the activity of secretin to produce alkaline pancreatic juice, with large amount of

bicarbonate ions; Increases the secretion of enterokinase; Inhibits the gastric motility; Increases the motility of intestine; Augments contraction of pyloric sphincter; Plays an important role in satiety by suppressing hunger; Induces drug tolerance to opioids. Gastric inhibitory peptide (GIP): Stimulates the beta cells in the islets of Langerhans in pancreas to release insulin. It causes insulin secretion, whenever chime with glucose enters the small intestine. Hence it is called glucose-dependent

insulinotropic hormone; Inhibits the secretion of gastric juice; Inhibits gastric motility. Somatostatin: Inhibits the secretion of growth hormone (GH) and thyroidstimulating hormone (TSH) from anterior pituitary; Inhibits gastric secretion and motility; Inhibits secretion of pancreatic juice; Inhibits secretion of GI hormones such as: Gastrin, Cholecystokinin (CCK), Vasoactive intestinal polypeptide (VIP), Gastric inhibitory peptide (GIP).^[10]

Table 1: Location and utility of pachaka pitta by different acharya.

	Sushruta Samhita ^[11]	Astanga Hridaya ^[12]	Astanga Samgraha ^[13]
Location	Resides in between the amashaya and pakvashaya	Located in the interior of pakvashaya and aamashaya	Located in between pakvashaya and aamashaya
Utility	Digests the food, separate the essence and wastes from it; it supports the other pitas located in different places	Cooks the food, divides it into essence and waste separately, it bestows grace (help) to other pitta present there also the others by giving them strength.	Digestion, separation of doshas, rasa, mutra, and purisha, it helps the other sites of pitta dosha elsewhere in the body by bestowing properties of fire.

Pachakagni and Pachakapitta

The discussion on Pachakagni cannot be completed without comparative discussion with Pachakapitta. As we see the properties and functions of Pachakagni and Pachakapitta, it seems similar to each other. There is no area exist of Pachakagni without Pachakapitta, because there is increased digestion and combustion in the body due to Ushna guna of Pachakapitta, the treatment of Pachakagni is also using Aahara & Vihara opposite to Pachakapitta.^[14] Caraka has said that it is only Pachakagni which is located in Pachakapitta, that gives rise to benecial or adverse consequences as it is in normal or abnormal state of functioning. Acharya Sushruta has said that Pachakapitta is the same as Pachakagni, since it performs Dahana (Burning or oxidation), Pacana (Digestion) and similar actions as performed by re, hence Pitta is known as Antaragni. Acharaya Maarich has also emphasized that Pachakagni present in the Pachakapitta give good or bad result when it is normal.^[15]

General & Physiological description of Pachakagni and Pachakapitta

Agni is a Sanskrit word, derived from "Ang" dhatu means everywhere present or Aag. dhatu means motion, thus it meaning become, it is present everywhere or it is in motion.^[16] In shabdkalpdram, there are 61 synonyms compiled which help in explaining nature and function of Agni e.g Vaishyanara, Tanoonpat, Sarvapak etc. Agni is present in dhatu, updhatu, malas, sira, manspesi even in the paramanu in the body. The number of Agni varies in different ayurvedic texts. Charak has mentioned 13 Agni in three groups.^[17]

Jath ragn i-1, Bh utagn i-5, Dh atwagn i-7 (ch a .ch i i 1 5 /3 8). In description of type of Pitta Acharya Shushruta mentions Pita with special reference to Agni as Pachakagni, Ranjakagni, Alochakagni, Sadhakagni and Bhrajakagni. The seat of Pachakagni is Ampakyashya madhyasthan (between th e Amashaya and Pakvashaya)

which means organ which comes between Amashaya and Pakvashaya is Grahani i.e - Pittadhara kala. Grahani is the seat of Jathragni or Pachakagni, because it withholds food for a certain time, to facilitate the digestion or metabolism as it is responsible to life span, health, color, ojas, strength of all bhutagni and dhatvagni. The strength of grahani and agni is mutually interlinked with each other. If one gets vitiated another also gets vitiated and produces diseases. Pachakagni is the pradhan of all agni is: - Bhutagnis and Dhatavagnis. If Pachakagni gets vridhi, other Agnis lget increased and of Kshay of the Pachakagni occurs, others also get Kshay. When Agni becomes shaant, causes death of the person. If Pachakagni is working normally, the person remains nirogi and healthy but if Pachakagni is not disturbed, the person becomes unhealthy.

In Ayurveda, Pitta has been described as Agni (re) since it performs re-like actions i.e. Paka, which refers to Pacana (Digestion); Dahana (Burning) including Bhinna Samghata (splitting), Tapan (Heat production) Parinamana (Conversion), Paravritti (Transformation) Prakasana (Illumination), Ranjana or Varnakara (Colouration) and Prabhakara (to cause luster). Chakrapani has said that the term "Pittantargata" does not mean that the Pitta of the body is amingre and it only refers to the phenomenon of heat which is associated with re. By implication, heat is seen to be associated with the function of Pitta. The concept of Agni of Ayurveda, which refers to the manifold functions ascribed to Pitta is at once comprehensive. It not only includes chemical agencies responsible for Aaharapacana.^[18] in the Kostha (corresponding to gastro-intestinal digestion), which leads to separation of Sarabhaga (Nutrient fraction) of the Aahara from the Kittabhaga (the indigestible or undigested residue of the food) but also metabolic events, energy, synthesis and maintenance of metabolism. According to Sushruta pitta which is located in an area between Amasaya and Pakvasaya, is responsible for the digestion of four kinds of food

ingested by living beings and the elimination of the residue in the form of urine and faeces after the completion of the process. Located in its own place (between Amasaya and Pakvasaya) it contributes to and augments the functions of other locations of pittas, in the performance of actions. This pitta, is therefore, spoken of as "Pachakagni". In addition, it is seen to comprehend photo and chemo synthetic processes, Pacakapitta known variously as Jatharagni, Kosthagni, Antaragni, Pachakagni, Dehagni etc., while being located in its own place in an area between Amasaya and Pakvasaya. Directly participates in the digestion of food and at the same time, leads support to and augments the functions of the remaining pittas, present elsewhere in the body.

Ahara pachana and ahara rasa formation

Agni is responsible for aahara pachana. There are 13 types of agni described in ancient literature. These are jatharagni, bhutagni and dhatavagni. After the intake of panchabhoutika ahara agni act upon it and leads to formation and nourishment of dhaatus. The ingested food is carried to koshta by prana vata.^[19] The food disintegrates because of the liquids, and further it

becomes soft because of the mucous substances. This action is performed by kledaka kapha. The samana vata, intensifies the pachakagni (digestive enzymes) and properly digests the food.^[20] Here the agni is meant for jatharagni or pachakagni or pachaka pitta. Seat of Pachaka Pitta is the site between Pakwashaya and Amashaya. In this region various srotas secrete various pachaka srava. Grahani Pradesh where Anna Pachana occurs also called as Pittadhara Kala is stated as the main Sthana of Pachaka Pitta. Digestion is a process which is responsible to breakdown complex part of food particles into simpler form. The process of digestion begins from the mouth itself but as food stays for shorter duration so complete digestion do not occur. Similarly in stomach complete digestion do not occur. Digestion continues up to small intestine. Maximum absorption of digested food products takes place in small intestine. In Ayurveda Grahani may be compared with duodenum where most of the digestion occurs. Various digestive enzyme and hormones help in the digestion of protein, carbohydrate and fat.

Table-2: Various digestive enzymes and their action.^[21]

Sr. Nu.	Digestive enzyme	Action
1.	Trypsin, Chymotrypsin	Breaks down protein into peptides
2.	Carboxypolypeptidase	Splits some peptides into individual amino acids
3.	Pancreatic amylase	Hydrolyzes starches, glycogen, and other carbohydrates to disaccharides and a few trisaccharides
4.	Pancreatic lipase	Hydrolyses neutral fat into fatty acids and monoglycerides
5.	Cholesterol esterase	Hydrolysis of cholesterol esters Phospholipase Splits fatty acids from phospholipids
6.	Salivary amylase	Convert starch into maltose
7.	Maltase	Covert maltose into glucose
8.	Lingual lipase	Converts triglyceride of milk fat into fatty acids and diacylglycerol
9.	Pepsin	Convert protein to proteoses, peptone and polypeptide
10.	Gastric lipase	Converts triglyceride of butter to fatty acids and glycerol
11.	Gastric amylase	Convert starch to dextrin and maltose
12.	Gelatinase	Concert gelatin and collagen of meat to peptide
13.	Urase	Convert Urea to ammonia

CONCLUSION

After a comprehensive discussion of *Pachaka Pitta*, it has been perceived that, all the concept regarding *Pachaka Pitta* has its individual significant and it is very tough to accomplish on a single point. In automated digestion the teeth cut and grind food before it is swallowed, and then smooth muscles of the stomach and small intestine churn the food. As a outcome, food molecules converted softened and thoroughly mixed with digestive enzymes. In chemical digestion the bulky carbohydrate, lipid, protein, and nucleic acid molecules in food are riven into smaller molecules by hydrolysis. The purposes of *Pachaka Pitta* can be related to the functions of digestive enzymes as well as Gastro-intestinal hormones. *Sthana* of *Pachaka Pitta* is *Pakva-amashaya Madhya* and *Grahani* is correlate with the duodenum.

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