IJAYUSH
International Journal of AYUSH
AYURVEDA, YOGA, UNANI, SIDDHA AND HOMEOPATHY
http://internationaljournal.org.in/journal/index.php/ijayush/

International Journal
Panacea
Research library
ISSN: 2349 7025

Review Article | Volume 14 Issue 07 | July 2025

ROLE OF PACHAK PITTA IN DIGESTION AND ENZYME SECRETION

***Neelam Dangi[1], Dr Apeksha Panwar[2], Dr Neeraj Srivastava[3], Monika[4]**

[1]Scholar. Himalayiya Ayurvedic Medical College and Hospital, Dehradun

[2]Associate Professor, Department of Kriya Sharir, Himalayiya Ayurvedic Medical College and Hospital, Dehradun

[3]Professor & HOD, Department of Bal Rog, Himalayiya Ayurvedic Medical College and Hospital, Dehradun

[4]P.G.Scholar, Department of Kriya Sharir, Himalayiya Ayurvedic Medical College and Hospital, Dehradun, Uttrakhand

*Corresponding Author's Email ID: neelamdangi2020@gmail.com

ABSTRACT :

Ayurveda, the ancient Indian system of medicine, describes digestion as a process governed by *Agni* (digestive fire), which is essential for the transformation of food into energy and nourishment. Among the five types of *Pitta, Pachak Pitta* plays the most vital role in digestion and metabolism. It is primarily located in the stomach and small intestine and corresponds closely with the functions of gastric juices and digestive enzymes in modern physiology.

Keywords : *Agni, Pachak Pitta,* Digestive Enzymes, Metabolism.

INTRODUCTION :

According to *Ayurveda*, a healthy person is one whose *Dosha* and digestive fire (*agni*) are in equilibrium, whose functional activities of the tissues and excretory processes are in balance, and whose soul, senses, and mind are in pleasant state. Dosha, *Dathu*, Mala together form the

basis of the body. The balance of these entities represents the healthy state and imbalance will cause various diseases. In normalcy, *Dosha* will be performing their own functions and individual *Dosha* will be having their own specific site. By mentioning the various Sthana of the each Dosha the different functions performed by individual *Dosha* in different sites has been emphasised. The subtypes of Dosha, its location and function have also been mentioned. Regarding the *Sthana* of various Dosha authors have different opinion. Later authors have added some more *Sthana* of *Dosha*. There are five types of *Pitta* namely *Pachaka, Ranjaka, Sadhaka, Alochaka, Bhrajaka*. The Visesha Sthana of *Pachaka Pitta* is said to between *Pakwashaya* and *Amashaya* near *Jatharagni*. The main function of *Pachaka Pitta* is said to be digestion of the ingested food. *Pitta* is one of the three *Dosha* and is in charge of digestion, metabolism, heat production, and other types of energy. Because of this, it refers to as Agni. On the basis of location, the five types of *Pitta Dosha Paachak, Ranjak, Saadhak, Alochaka,* and *Bhrajaka Pitta* have been identified. Each of these five types of Pitta, *Pachak Pitta* is unique. The *Visesha Sthana* of *Pachaka Pitta* is supposed to be near *Jatharagni*, between Pakwashaya and *Amashaya*,. It is believed that the main function of *Pachaka Pitta* is to digest the food that has been consumed. Not only digests the food but also converts complex food substances into finer substances which can be absorbed and assimilated. When these simpler substances of food go into circulation they reach to the tissues. The tissue fire (*dhatwagni*) and elemental fire (*bhootagni*) further act on these food substances and convert them into a form which is assimilated by the tissues. This further helps in formation of tissues and other components of the body. Following oral consumption, food travels through various sections of the digestive tract where it is converted into small, absorbable components. The mouth, Pharynx, Esophagus, stomach, and intestine make up the digestive system, or alimentary canal. *Pachak Pitta* is responsible for Digestion of ingested food, breakdown and assimilation of nutrients, regulation of digestive secretions and maintenance of body temperature through metabolic activity. *Pachak Pitta* resides mainly in the *Amashaya* (stomach) and *Grahani* (duodenum/small intestine). It is closely related to J*atharagni*, the central digestive fire. In the digestion of food, the *pachak pitta* is helped by *saman vata* and *kledaka kapha*. *Vata* is responsible for movement of the food taken in, in the normal downward direction – from oral cavity to anal canal. It is also responsible for division and further assorting of useful part of food called *sara* and waste part called *kitta* . Kapha helps in lubricating the food. It helps to break down the food particles into small pieces. Duodenum is the first part of intestine where

digestion of food takes place, so that food becomes compatible and conductive for entire body and its components. After digesting all forms of consumed foods, *pachak pitta* differentiates and bifurcates food into useful products and waste products. The useful part separated from digested food is calles *rasa* or nutritive juice. This is put into circulation and nourishes all tissues. The waste products are produced in the form of *doshas*, urine and feces. While the *doshas* take care of body and participate in carrying on normal functioning of different tissues and organs, the feces and urine are excreted out of body. *Doshas* when vitiated will produce diseases. If this happens, they should be eliminated from body by administering suitable treatments.

Location of *Pachak Pitta*

Tat cha adrishta hetuken visheshena pakvaamashay madhyashtham pittam chaturvidham annapanam pachati, vivechyati, cha dosha ras mutra purishaani, tatrasthameva cha aatmashaktya sheshanam pittasthananam sharirasya cha agnikarmana anugraham karoti |

tasmin pitte paachakoagniriti sangya || (Su.Su.21/10)

+	**Location**
Sushruta Samhita	Between *Amashaya* and *Pakvashaya*.
Ashtanga Hridaya	Interior of *Pakvashaya* and *Aamashaya*.
Ashtang Samgraha	Between *Pakvashaya* and *Aamashaya*.

Functions of normal *Pachak Pitta* :

Pitta panchatmakam tatra pakvaamashaya madhyagam |

Panchbhutatmkatve api yat taijas gunodayat ||

Tyaktdravatvam paakadikarmana anal shabditam |

pachati annam vibhajate saarkitto prithag tatha ||

tatrasthameva pittanam sheshanam api anugraham |

karoti baldaanen paachakam naam tat smritam || (A.H.Su.12/12).

Pitta is said to be *panch bhutatmaka* i.e. madeup of all five elements of nature but predominant in fire element. *Pachak Pitta* is located in between *pakwashaya* (colon) and *amashaya* (stomach and small intestine) is alo made up of five elements of nature and is predominant in fire component. Being fiery in nature, this *Pitta* is devoid of liquid component (the water component of this *Pitta* is less in comparison to the water component of other *Pitta* sub-types).since it renders functions like digestion and segregation of food, this dry form of Pitta is called anala (synonym of fire) and is named as *Pachaka Pitta* i.e. *Pitta* which digests food. Being located in small intestine (duodenum to be precise), *pachaka pitta* supports the functions of other *pitta* subtypes located in other places of body by the virtue of its inherent power. Stimulation of *Jatharagni - Pachak Pitta* supports the strength and function of *Jatharagni*, enabling the initial and primary digestion of food.Breakdown of Food - It helps in liquefying and breaking. Absorption of Nutrients - By assisting the metabolic fire, *Pachak Pitta* allows for proper absorption and assimilation of essential nutrients, vitamins, and minerals. Secretion of Digestive Enzymes - the function of *Pachak Pitta* aligns with the secretion of substances like: Hydrochloric acid (HCl) , Pepsin , Amylase , Bile (from associated *ranjak pitta* in the liver). These enzymes play crucial roles in the chemical digestion of carbohydrates, proteins, and fats. Breaks down complex food particles into simpler forms that can be absorbed by the body. The digestive system performs six basic processes:

1. Ingestion – Ingestion is the first step in digestive process. This process involves taking foods and liquids into the mouth (eating).
2. 2. Propulsion – Once food is ingested, it must move along the digestive tract and this is achieved through propulsion. This includes two main movements: A.Deglutition (swallowing); B.Peristalsis. Alternating contractions and relaxations of smooth muscle in the walls of the GI tract mix food and secretions and propel them toward the anus in a unidirectional movement. This capability of the GI tract to mix and move material towards the site of absorption is called peristalsis.
3. Secretion - Each day, cells within the walls of the GI tract and accessory digestive organs secrete a total of about 7 liters of water, acid, buffers, and enzymes into the lumen (interior space) of the tract.
4. Digestion - Mechanical and chemical processes break down ingested food into small molecules. In mechanical 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 result, food molecules become dissolved and thoroughly mixed with digestive enzymes. In chemical digestion the large carbohydrate, lipid, protein, and nucleic acid molecules in food are split into smaller molecules by hydrolysis.

5. Absorption – Absorption mainly occurs in the small intestine, particularly the jejunum and ileum.The entrance of ingested and secreted fluids, ions, and the products of digestion into the epithelial cells lining the lumen of the GI tract is called absorption. The absorbed substances pass into blood or lymph and circulate to cells throughout the body.
6. Defecation – final step of digestive process, which involves elimination of wastes, indigestible substances, bacteria, cells sloughed from the lining of the GI tract, and digested materials that were not absorbed in their journey through the digestive tract, in the form of feces.

Ahara Pachana

The cause of *Aahara Pachana* is *Agn*i. Agni plays a central role in converting food into ahara rasa. Ancient literature describes 13 different varieties of Agni. These are 1 *Jatharagni, 5 Bhutagni,* and *7 Dhatavagni* . Following the ingestion of *Panchabhoutika Ahara Agni* reacts with it. The food consumed is transported to the *Koshtha* by the *Prana Vata.*The liquids cause the meal to break down, while the mucous substances cause it to become soft. *Kledaka Kapha* carries out this action. The *Pachakagni (*digestive enzymes) are intensified by the *Samana Vata,* which also ensures adequate food digestion. The *Agni* is intended for *Jatharagni, Pachakagni,* or *Pachakapitta* in this instance. Between *Pakwashaya* and *Amashaya* where *Pachaka Pitta's* seat is located. *Grahani* Pradesh where *Anna Pachana* occurs also called *Pittadhara Kala* is stated as the main *Sthana* of *Pachaka* Pitta.The process of digestion breaks down complicated food particles into simpler form. The digestive process starts in the mouth, but because food stays there for a shorter period of time, complete digestion does not happen. In the stomach, complete digestion also does not take place. The small intestine is the part of GIT where complete digestion takes place. The duodenum, where the majority of digestion takes place, can be linked to the *Grahani* in Ayurveda. The digestion of protein, carbohydrates, and fat is aided by a variety of hormones and digestive enzymes.

AIMS AND OBJECTIVES: To understand the concept of *pachak pitta*, its role in digestion and enzyme secretion.

MATERIALS & METHODS :

1. The *Bruhat Trayi* scrutinized regarding the references for *Guna* and *karma* of *Pachak Pitta*. Later, physiologicoanatomical aspects of Gastrointestinal tract with reference to chemical and physical digestion were studied from modern physiology books. Later, supportive correlation was done between *Ayurvedic* and modern views to build valid and reliable hypothesis regarding *Pachak Pitta.*

2. Journals, research papers and articles.

Modern Correlation

Gastric secretion	**Produced by**	**Functions**
1. Gastrin (hormone)	G – cells (antrum of stomach)	Stimulates secretion of HCl, pepsinogen & increases gastric mlotility.
2. Pepsinogen	Chief cells (stomach)	In the presence of HCl converted to pepsin; pepsin digests proteins into peptides.
3. Intrinsic factor	Parietal cells (stomach)	Essential for the absorption of Vit.B12
4. Mucin	Mucus neck cells(stomach lining)	Protects the stomach lining from HCl
5. Hydrochloric acid(HCl)	Parietal cells	Activates pepsinogen to pepsin; denatures proteins; kills ingested microbes.

In modern terms, *Pachak Pitta* can be compared with: Gastric acid secretion process by parietal cells in the lining of stomach that produce HCL, Pancreatic enzymes, Bile secretion for fat emulsification, Hormonal control of digestive secretions via secretin and cholecystokinin.

The Gastric Juice: The HCl converts pepsinogen to pepsin and also has bacteriolytic actions. Provides acidic medium, which is necessary for the action of hormones. This pepsin digests the protein. The bicarbonates along with the mucus protect the GIT epithelium. The intrinsic factor helps for absorption of VitB12.

The Pancreatic Juice: consists of inorganic matters and organic matters (enzymes) like trypsin, chymotrypsin, carboxypeptidases, nuclease, elastase, and collagenases. The pancreatic enzymes breakdown the protein to form polypeptides. Digests the starch to form maltose, malt triose & α-limit dextrin. Hydrolyses the triglycerides into monoglycerides &

fatty acids. Separates phospholipids (like lecithin), cholesterol esters, DNA & RNA to produce nucleotides.

Imbalance of *Pachak Pitta* - An imbalance in *Pachak Pitta* leads to various digestive disorders:

Excess *Pachak Pitta*	**Deficient *Pachak Pitta***
Hyperacidity (*Amlapitta).*	Indigestion (*Agnimandya*).
Acid reflux, gastritis.	Loss of appetite, heaviness.
Loose stools, burning sensation.	Constipation, bloating.

Management of *Pachak pitta* Disorders

1.Nidan parivarjana

This means avoidance of etiological factors (*dushti hetu)* of disease. *Nidan parivarjana* plays key role in *Ayurvedic* treatment. It emphasizes mainly on improving dietary and lifestyle modifications causing the disease. One should always take wholesome food with a view to preventing the occurrence of such diseases.

2.Dietary Recommendations Favor cooling and light foods (e.g., rice, ghee, milk) for aggravated Pitta.Include digestive spices like jeera, saunf, and ginger for low Pitta.

3.Herbal Support: - Excess Pachak Pitta : *chandan, Shatavari, Yashtimadhu, Nagarmotha.*

Deficient *Pachak Pitta* : *Trikatu, Pippali, Hingu*, Shunthi.

4.*Panchakarma* therapy - *Panchakarma* therapy is used to expel out increased *doshas* out of the body. It is recommended when the disease and the strength of patient both are strong *(bahudoshavastha).*

- *Virechan* – purgation treatment.
- *Raktamokshan* – blood letting.

5.Lifestyle Tips: Avoid excessive spicy, oily, and acidic food.

Eat meals on time and practice mindful eating.

Use of pearl, jewels and garlands which are kept In excessively cold water.

Avoid emotional stress, which aggravates *Pitta dosha.*

DISCUSSION

Dosha dhatu mala mulam hi shariram (Su.Su.15/3)

As acharyas has mentioned that *dosha, dhatu* and *mala* together form the basis of the body. The balance of these entities represents the healthy state and imbalance will cause various

diseases. In normalcy, *Dosha* will be performing their own functions and individual *Dosha* will be having their own specific site. There are five types of *Pitta* namely *Pachaka, Ranjaka, Sadhaka, Alochaka, Brajaka.* The Visesha Sthana of *Pachaka Pitta* is said to between *Pakwashaya* and *Amashaya* near Jatharagni. The main function of *Pachaka Pitta* is said to be digestion of the ingested food. Digestion: Mechanical and chemical processes for the break down of ingested food into small molecules. Mechanical digestion involves the physical breakdown of food (such as chewing and churning), 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 result, food molecules become dissolved and thoroughly mixed with digestive enzymes. Chemical digestion refers to the enzymatic and biochemical breakdown of complex molecules into simpler and absorbable units. In chemical digestion, the large carbohydrate, lipid, protein, and nucleic acid molecules in food are split into smaller molecules by hydrolysis. In the mouth, saliva contains salivary amylase (ptylin), which converts starch (a polysaccharide) into maltose (a disaccharide), maltotriose (a trisaccharide) and dextrins (short-chain, branched fragments of starch with 5–10 glucose units). In the stomach, pepsin converts proteins to peptides (small fragments of proteins), and lingual and gastric lipases convert some triglycerides into fatty acids, diglycerides, and monoglycerides. Thus, chyme entering the small intestine contains partially digested carbohydrates, proteins, and lipids. The completion of the digestion of carbohydrates, proteins, and lipids is a collective effort of pancreatic juice, bile, and intestinal juice in the small intestine. Role of local hormones plays an important role in mechanical chemical digestion. Such as 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.

Conclusion

Pachak Pitta is the foundation of digestion. Its role in activating Agni, promoting enzyme-like functions, and enabling nutrient absorption makes it equivalent to many functions of the digestive system described in modern science. All digestive juices and enzymes secreted by stomach, small intestine, liver and pancreas can be collectively considered as *Pachak Pitta*, because they serve the same purpose and functions of *Pachak pitta* . Balancing *Pachak Pitta* through proper diet, herbs, and lifestyle is essential for maintaining optimal digestive health and overall well-being.

List of References

1. Acharya JT. Charaka Samhita with Ayurveda Dipika commentary of Chakrapani Datta. Reprint ed. Varanasi (India): Chaukambha Orientalia; 2007. p. 325.
2. Acharya JT. Charaka Samhita with Ayurveda Dipika commentary of Chakrapani Datta. Reprint ed. Varanasi (India): Chaukambha Orientalia; 2007. p. 326.
3. Acharya JT. Charaka Samhita with Ayurveda Dipika commentary of Chakrapani Datta. Reprint ed. Varanasi (India): Chaukambha Orientalia; 2007. p. 325.
4. Acharya JT. Charaka Samhita with Ayurveda Dipika commentary of Chakrapani Datta. Reprint ed. Varanasi (India): Chaukambha Orientalia; 2007. p. 326.
5. Acharya JT, editor, Reprint ed. Susrutha Samhita with Nibandhasangraha commentary of Dalhana, sootrasthana; Dosha datu mala ksaya vridhi vignaniyam adhyayam: chapter 15, verse
7. Varanasi (India): Chaukambha Orientalia,2010;67.
6. Acharya JT, editor, Reprint ed. Charaka Samhita with Ayurveda Dipika commentary of Chakrapani Datta,sootrasthana; kuddaka chatuspadam adyayam:chapter 9, verse 4. Varanasi (India): Chaukambha Prakashan,2007;62.
7. Paradakara HSS, editor, 9th ed. Ashtanga Hrudaya with Sarvangasundara commentary of Arunadatta and Ayurvedarasayana commentary of Hemadri.sootrasthana; dosadivignaniyam adhyayam:chapter 11,verse 4-18. Varanasi (India): Chaukambha Orientalia; 2005;192.
8. Paradakara HSS, editor, 9th ed. Ashtanga Hrudaya with Sarvangasundara commentary of Arunadatta and Ayurvedarasayana commentary of Hemadri.sootrasthana; dosa divignaniyam adhyayam:chapter 11,verse 1-3. Varanasi (India): Chaukambha Orientalia; 2005;192.
9. Paradakara HSS, editor, 9th ed. Ashtanga Hrudaya with Sarvangasundara commentary of Arunadatta and Ayurvedarasayana commentary of Hemadri.sootrasthana; dosabediya vignaniyam adhyayam: chapter 12,verse 7-8. Varanasi (India): Chaukambha Orientalia; 2005;192.
10. Toratora GJ, Derickson B. Principles of anatomy and physiology.11th edi. United States of America: John wiley & sons.Inc;2007,925.