

**PHYSIOLOGICAL STUDY OF PITTADHARA KALA AND ITS APPLIED ASPECT-A
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ABSTRACT

There are many concepts in Ayurveda which are not much explained in detail and one of them is “KALA”. It is a unique and a very important concept explained by Acharya Sushruta in his Sushrut Samhita, in the 4th chapter named “Garbhavyakkarana Sharir” i.e Embryology. Even though Kalas are mentioned in the embryonic life, they are present and functioning in the body from the time of birth upto the end of life. Kalas are total seven in numbers and are situated at the extreme borders of *Dhatu* and *Ashaya*. Kalas are not arranged in the same order as *dhatu*s. They don't take part in *dhatuposhana*, they are meant for *dharan* only. Kalas are not the formative elements or mechanical support of *dhatu*s but these are the membranes with special functions. All *samhitakar*as have same opinion about number of *kalas* that these are seven in total. Among the *sapta kala* mentioned by various acharayas, *Pittadhara kala* stands sixth in order. It is the site of *Agni*(digestive fire) and thus plays a significant role in the physiology of our body by aiding in digestion and metabolism. It also has great clinical significance. Hence here it is reviewed in detail.

KEYWORDS: *Kala, Pittadhara Kala, Agni, Dhatu, Ashaya.***INTRODUCTION**

Kalas are total seven in numbers and are situated at the extreme borders of *Dhatu* and *Ashaya*. As duramen or core of a piece of wood or stem becomes exposed to view by cutting into it, so the *dhatu*s of the body may be seen by removing the successive layers. These *kalas* are extensively supplied with *snayu*s, bathed in *Jarayu* and encased in *Shleshma*. Thus, the three basic principles in the formation of *kala* are *Snayu*, *Jarayu* and *Shleshma*.^[1]

According to Ashtang Sangraha, the ‘*kleda*’ which lies between the *Dhatu* and *Ashaya* undergoes *pachana* due to its own heat and it forms *kala* which is like *kashtha-sara* i.e. core of a piece of wood and it is covered by *Shleshma*, *Snayu* and *Jarayu*.^[2] According to the teekakar Indu, *Kala* is the *kleda* of ‘*Dhatu*sara’, which is not in the form of *purvadhata* and doesn't get converted into *uttardhatu* but it remains as divider between these two *dhatu*s. ‘*Dhatu kleda vishesha*’ is named as *kala*, according to Gananahtsen. *Kalas* are not arranged in the same order as *dhatu*s. They don't take part in *dhatuposhana*, they are meant for *dharan* only. *Kalas* are not the formative elements or mechanical support of *dhatu*s but these are the membranes with special functions.

Among the *sapta kala* mentioned by various acharayas, *Pittadhara kala* stands sixth in order. It holds a

significant importance in the anatomy and physiology of our body. It also has great clinical significance. According to Acharya Sushruta, *Pittadhara kala* is placed between the *amashaya* and the *pakvashaya* and this sixth *kala* which holds the *pittam* is also known as “*Grahani*”.^[3] The entire strength of this ‘*Grahani*’ is in the digestive fire i.e *Agni* and the location of *Agni* in one's body is also at *Grahani*. Thus, *Grahani* and *Agni* are inter-dependant and hence the *dushti* of *Agni* causes *dushti* of *grahani*, leading to various diseases. Hence, we will study here in detail.

AIM AND OBJECTIVES

To study the physiology of *pittadhara kala* and its applied aspect.

MATERIAL AND METHODS

Review of literature on *pittadhara kala* is collected from the library of our college and from authentic research journals, websites and digital publications etc.

REVIEW OF LITERATURE**PHYSIOLOGY OF PITTADHARA KALA**

Pittadhara kala, 6th in order, holds four kinds of solids and liquid foods propelled from the *amashaya* and on its way to the *pakvashaya*. These four kinds of food are those that are chewed, swallowed, drunk or licked (*Ashit*, *Khadit*, *Peet*, *Leedh*) and brought into the *koshta* of man

and digested in proper time through the heating action of the *pittam*.^[4]

The site of *Agni*, the one which receives the food, is called as *grahani* as per Acharya Charaka. It is located above the *nabhi*. It holds the undigested food, digests it and propels the digested food downwards towards *pakvashaya*. Any imbalances in *Agni* also disturbs the *grahani* and many diseases are produced.

In the *Pachan karma* of *Pittadhara Kala*, specifically *Pachakagni* digests the food and then after digestion, digested food is absorbed. *Saman vayu* helps for this function. Absorbed food is propelled with the help of *Saman vayu* and also unabsorbed is propelled towards large intestine. This is called as *Munchan* or *Vimunchan karma*.

Grahani performs following physiological functions,

- Retention of food in the stomach
- Receive the food
- Help in the process of digestion
- Provide adequate time to digest the food
- Provide beneficial factors like *Ayu Varna*, *Bala* and *Swasthya* etc.

PITTADHARA KALA AS GRAHANI

According to Acharya Sushruta, *Pittadhara kala* is placed between the *amashaya* and the *pakvashaya* and this sixth *kala* which holds the *pittam* is also known as "*Grahani*".

The entire strength of this '*Grahani*' is in the digestive fire i.e *Agni* and the location of *Agni* in one's body is also at *Grahani*. Thus, *Grahani* and *Agni* are inter-dependant and hence the *dushti* of *Agni* causes *dushti* of *grahani*.

According to Ashtang Hridayakar, the part which harbours *Agni* and where four kind of food is held is called as *grahani*. According to Sushruta, this *grahani* is called as the "*Pittadhara kala*", which is the site of *pachak Agni*. Life, health, *virya*, *oja*, *panchmahabhuta-agni* and *saptdhatva-agni*, all these factors depend upon *grahani* which is situated at the beginning of *pakvashaya* like an obstruction. When it is normal it holds the food, digests it and propels it downward and when it turns out to be abnormal, it loses its property to hold the food there for sufficient time, digest it, and thus undigested food is propelled further quickly. Thus, the strength of *Grahani* lies in *Agni* and vice versa. Hence disorder of *Agni* causes abnormality in *grahani* leading to many diseases.

Acharya Charaka has not described *pittadhara kala* but he has described *grahani* in detail and has stated that *grahani* is the site of *pachak Agni*. According to Sushrutacharya, *pittadhara kala* is called as *grahani*. From the above two opinions, *grahani* described by

Charaka can be considered to be the same organ which is described as *pittadhara kala* by Sushrutacharya.

Acharya Sushrut has stated that *kalas* are related with *vishvegas*, in the 4th chp of *kalpa sthana*. In a snake-bitten human, different *vishvegas* comprising of different signs and symptoms occur, as the poison occupies *kala* one by one.

Dalhanacharya has stated that the *kala* which is *purish-pitta-anthashta* is the *pittadhara kala*. The snake venom crosses this sixth *kala* to produce symptoms of sixth *vishvega*. *Pittadhara kala* is also known as *majjadhara kala*.

APPLIED PHYSIOLOGY OF PITTADHARA KALA

The digestive system is a communication between external environment and internal environment of the body. *Pittadhara Kala* is part of digestive system. It is a substratum for the *Agni*. Charaka says that *Agni* is a life. Physiology and pathology of the body depends upon status of *Agni*. He further says that, other *Agnis* are also dependent on *Jatharagni*. So when such *Agni* (*Pitta-enzymatic system*) is disturbed, that time function of *Bhutagni* and *Dhatwagni* (metabolic activities) are also disturbed. Digestive system is frequently exposed to many pathogens and allergens because of food. Consequently many diseases are occurring in the *Pittadhara Kala*. It is said that.

"Rogah Sarveapi mandagnau"^[5]

All the diseases are manifested due to *Mandagni*. To correct these diseases we have to treat the *Agni* primarily. So *Pittadhara Kala*, the seat of *Agni* holds a special importance in pathological aspect and treatment aspect.

Regarding the pathogenesis of abnormal *Jatharagni*, Vagbhata states that functioning of *Jatharagni* depends upon *Saman vayu*, within its place. If this moves out from its place to other place then it disturbs the *Agni*. When it combines with *Pitta*, it creates *Tikshnagni*, but when it combines with *Kapha*, the *Agni* becomes *Manda* and when it is afflicted by *Vayu* then the irregular or erratic condition *Vishmagni* is created.

The most important disease caused due to anatomical and physiological changes in the *pittadhara kala* leading in vitiation of *Agni* mostly *mandagni* is '*Grahani vyadhi*'. Hence, *pittadhara kala* plays a significant role in the health of an individual.

DISCUSSION

Pittadhara kala, 6th in order, holds four kinds of solids and liquid foods propelled from the *amashaya* and on its way to the *pakvashaya*. These four kinds of food are those that are chewed, swallowed, drunk or licked (*Ashit*, *Khadit*, *Peet*, *Leedh*) and brought into the *koshta* of man and digested in proper time through the heating action of the *pittam*.

Pittadhara kala-the site of *Agni*, the one which receives the food, is called as *grahani* as per Acharya Charaka. It is located above the *nabhi*. It holds the undigested food, digests it and propels the digested food downwards towards *pakvashaya*. Any imbalances in *Agni* also disturbs the *grahani* and many diseases are produced.

As described in Ayurvedic context, food semi digested in *Aamashaya* is held by the action of *Pitta* and then propelled to the next part of *Grahani* for another function like *Shoshan* and *Munchan*. Thus functions of *Pittadhara Kala* are listed as below.

Grahan- Collection of food

Dharan- Holding the food particles.

Pachan- Digestion

Shoshan- Absorption

Munchan - Separation and propelling action.

In the *Pachan karma* of *Pittadhara Kala*, specifically *Pachakagni* digests the food and then after digestion, digested food is absorbed. *Saman vayu* helps for this function. Absorbed food is propelled with the help of *Saman vayu* and unabsorbed towards large intestine. This is called as *Munchan* or *Vimunchan karma*.

According to Ayurveda, healthy life depends upon “*Prakrut Agni*”. Root cause of all diseases is ‘*Mandagni*’, thus being the site of *Agni*; the *Pittadhara kala* is related with all diseases. Qualities of *Agni* and *Pitta* are similar; also the relation between *Grahani* and *Agni* is reciprocal and interdependent. Thus, *pittadhara kala* plays a significant role in physiology of the *Annavaha strotas*.

CONCLUSION

From the detailed physiological study of *Pittadhara Kala* from our ancient classics, it can be concluded that among the *sapta kalas*, *Pittadhara kala*, 6th in order is of great physiological importance. And as *pittadhara kala* i.e. *grahani* and *Agni* are inter dependant, any *dushti* of *Agni* causes *dushti* of the *pittadhara kala* i.e. *grahani avyaya* leading to various diseases.

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