Critical study of Kala Shareera w.s.r. to Pittadhara Kala with its Modern Anatomy

Anil Patange¹, M. R. Patil², Jyoti R. Ankalagi³

¹Post Graduate Scholar, Dept. of PG studies in Rachana Shareera, Shri Shivayogeeshwara Rural Ayurvedic Medical College, Hospital and Research Centre, Inchal, Karnataka, India.
²HOD, Dept. of PG studies in Rachana Shareera, Shri Shivayogeeshwara Rural Ayurvedic Medical College, Hospital and Research Centre, Inchal, Karnataka, India.
³Reader, Dept. of PG studies in Panchakarma, Shri Shivayogeeshwara Rural Ayurvedic Medical College, Hospital and Research Centre, Inchal, Karnataka, India.

ABSTRACT

In various classical texts of Ayurveda, Kala is described as an anatomical structure, which separates the Dhatu and Aashaya i.e., it provides boundary between Dhatu and Aashaya. Also called as Dhatwashayantararmaryada. As per Acharya Sushruta, the numbers of Kala are Seven. Acharya Sushruta said as the core of a piece of wood become exposed to view by cutting into it, so the Dhatu of the body may be seen by removing the successive layers. These Kala are extensively supplied with Snayus, bathed in mucus and encased in membranous covering. By sequential order, Pittadhara Kala is the sixth Kala mentioned by Acharya Sushruta. According to modern anatomy the mucus membrane presents many villi, the intestinal villi are finger like projection of mucous membrane. They give the surface of the intestinal mucosa a velvety appearance. Each villus is covered by a layer of absorptive columnar cells. This article lays emphasis on the types of Kala according to Ayurvedic perspective w.s.r. to Pittadhara Kala and its correlation with modern anatomy. This article describes the various aspects of Kala mainly Pittadhara Kala in all respects to types, structure etc. Since description of Kala and its types is present in both the sciences, so an attempt is made in this article to correlate and compare Kala with Membrane.

Key words: Aashaya, Dhatu, Kala, Membrane, Pittadhara Kala.

INTRODUCTION

The meaning of the Kala is the boundary which separates Dhatu and Aashaya. In the fourth chapter of Shareera Sthana, Acharya Sushruta has described definition of Kala and the nature of Kala. The number of Kala are seven and are situated at the extreme borders of the different Dhatus.[III] Acharya Sushruta said as the core of a piece of wood become exposed to view by cutting into it, so the Dhatu of the body may be seen by removing the successive layers.[II] These Kala are extensively supplied with Snayus, bathed in mucus and encased in membranous covering.[III] As per Ashtanga Sangraha, the moisture that remains inside the space in the Dhatu get cooked by the heat present in them, forms into structure similar to which found in the wood and become covered with Snayu, Shleshma and Jarayu. It is called as Kala because it is formed from very little quantity of Rasa and absence of Dhatu. These are seven and found inside the Dhatu.[IV] There are Seven Kala in human body whereas Pittadhara Kala is sixth one and is present in between Pakwashaya and Amashaya i.e. Grahani. Grahani has utmost importance in Agni, Agni has role in causation of every disease.[VI] Grahani also promotes complete digestion, assimilation and absorption with the help of
Pachak Pitta which is produced by Pittadhara Kala. It holds the four kinds of food i.e., Aashita, Khadita, Peeta, Lidha\[^7\] in the Pitta Sthana, propelled from the stomach and on its way to the intestine. Grahani can also be correlated with the small intestine and which is present in between stomach and large intestine and is the major site of digestion and absorption of all nutritive substances, vitamins, micronutrients into the peripheral blood circulation.

According to modern view, Kala is in the form of membrane, Fascia, Septum. The mucus membrane presents many villi. The lamina propria of mucosa presents plenty of intestinal glands (Crypts of lieberkuhn). The muscular mucosa is responsible for local contraction of the mucus membrane.\[^8\] If we see the nature of Mahasrotas i.e., gastrointestinal tract, it is found to be made up of four layers -

1. Mucous layer
2. Sub-mucous layer
3. Muscular layer
4. Serous or fibrous layer.

The nature of Mahasrotas i.e., G.I. tract according to modern view and the nature of Pittadhara Kala described by Acharya Sushruta both are similar, hence to study Pittadhara Kala can be attributed with the clinical knowledge for gastro-intestinal tract. Grahani described by Acharya Charaka can be considered to be the same organ which is described as Pittadhara Kala by Acharya Sushruta.

**AIMS AND OBJECTIVES**

1. To study the concept of Kala Shareera.
2. To study the concept of Pittadhara Kala.
3. To study the clinical aspects of anatomical structures involved in Kala Shareera and Pittadhara Kala.

**MATERIALS AND METHODS**

a) Bruhattarayee (Charaka Samhita, Sushruta Samhita, Astanga Hrudaya, Ashtanga Sangraha) along with their commentaries by different Authors will be referred for the study.


c) Published article in international or national journals, Internet, PubMed etc.

**Methodology**

a) Literary data regarding Kala Shareera has been collected from Brihattrayee, Laghuttrayee and other classical texts including journals, presented papers, and text books of contemporary science.

b) While studying about Kala through Sushruta Samhita the commentaries of different authors and some texts will be critically studied to interpret the concept about Kala.

**REVIEW OF LITERATURE**

In Ayurveda, there are seven numbers of Kala are mentioned. Out of these Pittadhara Kala is the sixth one mentioned. Pittadhara Kala is located in between Amashaya and Pakwashaya. Being the abode of internal fire (digestive activity), It withholds by force, the movement of food material passing from the Amashaya (Stomach) into the Pakwashaya. Digests the food by the heat of Pitta, absorbs it and allows the digested food to move further, under the influence of decreased activity of the Doshas present therein. It allows even undigested food to move further. Hence this is also known as Grahani, in view of its function of holding the food. Its strength is from Pitta itself known as Agni. This activated by fire, it maintains the welfare of the body.\[^9\]

There are seven Kala described by Acharyas, they are as follow\[^10\]

1. Mamsadhara Kala involves Sira, Snayu, Dhamani, Srotas
2. Raktadhara Kala involves Sira of Ykruta and Pleeha
3. Medodhara Kala involves Abdomen and Small bones
4. **Shleshmadhara Kala** involves all Joints
5. **Purishdhara Kala** involves Pakwashaya
6. **Pittadhara Kala** involves Stomach and Intestine
7. **Shukradhara Kala** is Sarva Shareera Vyapini

As per Acharya Sharangadhara, there are seven Kala mentioned as\(^1\)
1. Mamsa
2. Asruka (Rakta)
3. Meda
4. Yakruta and Pleeha
5. Antra
6. Pitta
7. Shukra (Retas)

In the modern terminology, Kala is in the form of membrane.

Anatomically, it may be considered as

- **Snayaviya** - Fibrous membrane
- **Jarayuja** - Serous membrane
- **Shleshal** - Mucus membrane

The seven Kala can be correlated with following structure described in modern anatomy:

1. **Mamsadhara Kala**: Deep fascia, intermuscular septa
2. **Raktadhara Kala**: Endothelial lining of the blood vessels and sinus in the liver and spleen
3. **Medodhara Kala**: Omentum, deep fascia
4. **Shleshadhara Kala**: Synovial membrane
5. **Purishdхаra Kala**: Mucus membrane of colon and rectum
6. **Pittadhara Kala**: Mucus membrane of small intestine
7. **Shukradhara Kala**: Mucus membrane of the vasiculae seminalis, vas deferens.

**DISCUSSION**

Kala is the boundary which separates the *Dhatu* and *Aashaya*. There are various types of *Kala* mentioned in Ayurvedic texts. There are seven number of *Kala* are mentioned, out of these *Pittadhara Kala* is the sixth *Kala* mentioned. Any deformity or disorder may affect the normal functioning of *Kala*. Description of *Kala* in ancient Ayurvedic texts have very much similarity between these two regarding types and composition.

**CONCLUSION**

This study of *Kala Shareera* w.s.r. to *Pittadhara Kala* in both ancient and modern science provided a well-established concept of *Kala*. If one aims to know about the *Vikruti of Kala* by means of anatomy or physiology, one must have to know the *Prakruti* of the *Kala* first. Thus, in medical science for the betterment of diagnosis, critical study of *Kala Shareera* as per Ayurveda in Rachanatmaka and Kriyatmaka aspects as well as modern aspect are very important.

**REFERENCES**


Source of Support: Nil, Conflict of Interest: None declared.

Copyright © 2024 The Author(s); Published by Maharshi Charaka Ayurveda Organization, Vijayapur (Regd). This is an open-access article distributed under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by-nc-sa/4.0), which permits unrestricted use, distribution, and perform the work and make derivative works based on it only for non-commercial purposes, provided the original work is properly cited.