



Review Article

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KALA SHARIR: A REVIEW OF AYURVEDIC ANATOMICAL PRINCIPLES***Dr. Rani Rajoriya, Dr. Prakash Joshi, Dr. Yogesh Wane**

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Abstract-

Anatomy is the branch of science that deals with the study of the structure of the human body, including bones, joints, sensory organs, skin and other bodily components. A thorough understanding of anatomy is essential for comprehending the nature of diseases as well as the medical and surgical procedures used in their diagnosis and treatment. In *Ayurveda*, the concept of *Kala* holds a unique and significant place in understanding the structural and functional organization of the body. This concept was elaborately described by *Acharya Sushruta* in the *Sushruta Samhita*, where *Kala* is explained as the membrane-like structure that separates and supports different bodily tissues and organs. These structures serve as protective coverings, support physiological functions and maintain the integrity of bodily systems. Understanding *Kala* is essential for comprehending *Ayurvedic* anatomy and its correlation with modern anatomical structures. *Ayurveda* and helps bridge traditional concepts with modern anatomical understanding. *KalaSharir* is an important anatomical and physiological concept in *Ayurveda*. These *Kalas* are more than just simple anatomical structures; they also have a purpose and have certain characteristics. We learn about the significant bodily membranes and layers from *KalaSharir* with respect to disease. The proper conceptual understanding of these concepts is very essential. So here an attempt is being made to analyze the concept of *Kala* for its better understanding

INTRODUCTION –

KalaSharir is an important concept in Ayurvedic anatomy that describes the membranous structures present within the human body. *Acharya Sushruta* has described about *Kala* in *Garbhavyakaran* chapter of *Sharirsthana*. The term *Kala* refers to a thin layer or membrane situated between the *Dhatu* and *Ashaya*. These structures serve as protective coverings, support tissues, and facilitate various physiological functions. The concept of *Kala* provides a detailed understanding of the internal organization of the body and highlights the relationship between different tissues and organs.

According to *Acharya Sushruta*, *Kala* is formed from the essence of the *Dhatu* and acts as a boundary that separates one tissue or cavity from another. He described seven types of *Kala* in the *Sushruta Samhita*, namely *Mamsadhara Kala*, *Raktadhara Kala*, *Medodhara Kala*, *Shleshmadhara Kala*, *Purishadhara Kala*, *Pittadhara Kala* and *Shukradhara Kala*. Each *Kala* has a specific location and function, contributing to the maintenance of normal bodily activities.

ACCORDING ACHARYA SHUSHRUT-

कलाः खल्वपि सप्त भवन्ति धात्वाशयान्तर मर्यादाः ॥ (सु.शा . 4/5)

Kala is a membranous structure situated between a *Dhatu* and an *Ashaya*, forming a boundary and performing protective and functional roles.

MATERIAL AND METHOD-

A. This being a literary research the materials were used –

1. *Brihattarayee* and their commentaries.
2. Other texts of *Ayurveda*.
3. Research journals and magazines from internet sources.

B. Methodology adopted for this work is collection, exploration and interpretation of subject matter from different resources.

AIMS AND OBJECTIVE-

- To study *Kalasharir*
- To study the concept of *Kala* as described by *Acharya Sushruta* and other *Ayurvedic* classics.

- To understand the definition, formation, and location of *Kala* in the human body.
- To study the classification of *Sapta Kala* and their individual characteristics.
- To analyze the anatomical and physiological functions of each *Kala*.
- To correlate the Ayurvedic concept of *Kala* with modern anatomical membranes, layers, and tissues.

REVIEW OF LITRATURE-

यथा हि सारः काष्ठेषु छिद्यमानेषु दृश्यते ।

तथा हि धातुर्मासेषु छिद्यमानेषु दृश्यते ॥ ६ ॥

स्नायुभिश्च प्रतिच्छन्नान् सन्ततांश्च जरायुणा ।

श्लेष्मणा वेष्टितांश्चापि कलाभागांस्तु तान् विदुः ॥७॥ (सु .शा . 4/ 6-7)

Acharya Sushruta explains the concept of *Kala* through a simple analogy. When a piece of wood is cut, its inner core or essence can be seen. In the same way, when the body is dissected, the deeper tissues become visible beneath the layers of *Mamsa* .

S.NO.	NAME OF <i>KALA</i>	LOCATION	FUNCTION	MODERN CORELATION	PRAMAN
1	<i>MANS DHRA</i>	In <i>Mamsa Dhatu</i>	<i>Dharana</i> and nourishment of muscles.	Deep fascia, intermuscular septa,connective tissue coverings of muscles.	<i>Vrihi</i> 1/18
2	<i>RAKT DHARA</i>	<i>Yakrit , Pleeha</i> and blood vessels	Formation, storage, and circulation of blood.	Vascular endothelium, liver and spleen sinusoids.	<i>Vrihi</i> 1/16
3	<i>MEDA DHARA</i>	Abdomen, omentum, around bones	Storage and nourishment of fat tissue.	Adipose tissue membranes, omentum, fatty	<i>Vrihi</i> 1/12

		and adipose tissues		connective tissue.	
4	<i>SHLESHM DHARA</i>	<i>Sandhi</i>	Lubrication and smooth movement of joints.	Synovial membrane and articular capsule.	<i>Vrihi 1/8</i>
5	<i>PURISH DHARA</i>	<i>Pakwashaya</i>	Formation, retention, and excretion of <i>Purisha</i> .	Mucosal lining of colon and large intestine.	<i>Vrihi 1/5</i>
6	<i>PITTA DHARA</i>	<i>Grahani</i>	Digestion, absorption, and metabolism of food.	Duodenal and intestinal mucosa, digestive glandular lining.	<i>Vrihi sambhag</i>
7	<i>SHUKRA DHARA</i>	Reproductive organs and throughout the body	Reproduction, fertility, and vitality.	Seminiferous epithelium, reproductive glandular tissue.	<i>Vrihi dwigud</i>

1. MODERN REVIEW

Mamsadhara Kala:

Mamsadhara Kala is functionally correlated with the connective tissue framework of muscles, including the deep fascia, epimysium, perimysium and endomysium. These structures envelop individual muscle fibers, muscle fascicles and entire muscles.

Raktadhara Kala:

Raktadhara Kala is correlated with the endothelium of blood vessels and the hematopoietic tissue of the bone marrow. The vascular endothelium forms the inner lining of arteries,

veins, and capillaries, facilitating blood circulation and maintaining vascular homeostasis, while the bone marrow is the primary site of blood cell formation

Medodhara Kala:

Medodhara Kala is correlated with adipose tissue, superficial fascia, omentum and mesentery, where fat is stored and distributed throughout the body.

Shleshmadhara Kala:

Shleshmadhara Kala is best correlated with the synovial membrane of synovial joints. The synovial membrane secretes synovial fluid, which lubricates the joint surfaces, reduces friction during movement, nourishes the articular cartilage, and facilitates smooth joint function.

Purishadhara Kala:

Purishadhara Kala is correlated with the mucous membrane of the large intestine (colon). The colonic mucosa plays a vital role in the absorption of water and electrolytes, secretion of mucus, and formation and storage of feces before defecation.

Pittadhara Kala:

Pittadhara Kala is correlated with the mucosa of the duodenum and small intestine, particularly the duodenum where bile and pancreatic secretions mix with ingested food.

Shukradhara Kala:

Shukradhara Kala is correlated with the seminiferous tubules of the testes in males, where spermatozoa are produced and mature. In females, it is functionally correlated with the ovaries and associated reproductive tissues, which are responsible for ovum formation and reproductive function.

DISCUSSION-

Modern anatomical studies suggest that the concept of *Kala* may be correlated with various anatomical and biological structure, fascial layers, mucosal linings, synovial membranes and epithelial tissues. Although an exact one-to-one correlation is difficult, the functional similarities between *Kalas* and modern anatomical structures indicate the scientific relevance of this Ayurvedic concept.

From a functional perspective, each *Kala* is associated with a particular *Dhatu* or physiological activity. *Mamsadhara Kala* provides support to muscular tissue and serves as a framework for blood vessels, nerves and ligaments. *Raktadhara Kala* is related to the

formation and maintenance of blood, while *Medodhara Kala* supports and stores adipose tissue. *Shleshmadhara Kala* ensures smooth movement of joints by retaining *Shleshaka Kapha*. *Purishadhara Kala* is responsible for the formation and retention of fecal matter, whereas *Pittadhara Kala* regulates digestion and absorption through the action of *Pachaka Pitta*. *Shukradhara Kala* maintains reproductive functions and supports the formation and nourishment of *Shukra Dhatu*.

CONCLUSION -

Kala Sharir is a unique and significant concept described in *Ayurveda*, particularly by Acharya *Sushruta*. *Kala* refers to the specialized membranous layers situated between *Dhatu* and *Ashaya*, serving as protective coverings and supporting the structural and functional integrity of the body. The seven *Kalas* described in *Ayurvedic* literature play a vital role in maintaining physiological balance, nourishing tissues and facilitating various bodily functions. The study of *Kala Sharir* helps in understanding the anatomical and functional organization of the human body from an *Ayurvedic* perspective. These *Kalas* act as interfaces that support the formation, protection and nourishment of different *Dhatus* and organs.

Modern anatomists and *Ayurvedic* scholars have attempted to correlate the concept of *Kala* with various anatomical structures such as mucous membranes, serous membranes, synovial membranes, fascial layers, epithelial linings and other tissue coverings. Although an exact one-to-one correlation is not always possible, these comparisons demonstrate the practical and scientific relevance of *Kala* in understanding human anatomy. Such correlations help bridge the gap between classical *Ayurvedic* concepts and contemporary biomedical sciences.

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