



Concept of Kala shareera in different samhitas and its Clinical importance in modern era

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Abstract

Kala means layers or Membranes of our body. There are many layers or membranes in the body which form an envelope over the organs. They provide support and protections to the organs. The fluid between layers provides lubrication to the organs and helps them to function easily. Example, the pleurae are the membranes or layers covering the lungs. The fluid in between the layers of the pleura is called pleural fluid. This helps in lubrication of the organ and helps the lungs to expand and contract easily during breathing process. Similarly, the pericardium covers the heart, pericardial fluid is present between its layers. The meningies covers the brain, the cerebrospinal fluid (CSF) is filled between its layers. The peritoneum covers the abdominal viscera. All these layers or membranes can be considered as Kala.

Keywords - Kala , Aashya ,membrane , kala sharir.

Introduction

Kala Shareera is an important part of Rachana sharir (Ayurvedic anatomy) . Kala means layers or Membranes of our body. There are many layers or membranes in the body which form an envelope Over the organs. They provide support and protections to the organs. The fluid between their layers provides lubrication to the organs and helps them to function easily. Example, the pleurae are the membranes or layers covering the lungs. The fluid in between the layers of the pleura is called pleural fluid. This helps in lubrication of the organ and helps the lungs to expand and contract easily during breathing process. Similarly, the pericardium covers the heart, pericardial fluid is present between its layers. The meningies covers the brain, the cerebrospinal fluid (CSF) is filled between its layers. The peritoneum covers the abdominal viscera. All these layers or membranes can be considered as Kala. Thus they act as shock absorbers in the body. The cell membranes separating each and every cell are also considered as Kala.

Definition of Kala

कला: खल्वपि सप्त भवन्ति धात्वाशयान्तरमर्यादाः (सु.शा. ४/५)

यथा हि सारः काष्ठेषु छिद्यमानेषु दृश्यते ।

तथा हि धातुर्मासेषु छिद्यमानेषु दृश्यते ॥ (सु.शा ४ /६)

Kala is defined as a separator between Dhatu (Tissue) and its Ashaya (organ or viscera).They are principally of 7 types. It is clear that the Kalas are the layers or membranes present at the junction of the Dhatus and their Aashayas. They form a screen or partition between the tissue and the organ which is made by that tissue. According to Ayurveda, the Ashaya's or visceral organs are made up of Dhatus.

Example, Amashaya is a site of ama (improperly digested food or Ama. Ama is the product of first part of digestion of food in the stomach, when the food has been partially digested). Amashaya is made up of mamsa dhatu or muscle tissue. The layers or membranes which separate the muscle tissue from the cavity of the organ are called Kala.

Kala swaroopa

Kala swarupa (structure and appearance of Kala) -

When we cut a wood, some liquid flows out of it. This can be considered as the essence of tree or wood. Similarly, when we cut a muscle, we can see the tissues flowing through it or oozing through it in the form of Rasa (plasma) and Rakta (blood). The portions of the body which are covered by Snayus (ligaments and tendons), enveloped by Jarayu (membrane) and smeared with Kapha (mucous) are called Kalas.

धातु आशय अन्तरस्थः तु यः क्लेदः तु अधितिष्ठति

देह ऊष्मणा विपक्वो यः सा कला इत्यभिधीयते ॥ (शा.प्र.५)

(Ref - Shaarangdhara Prathama5)

Sharangadharas explanation of Kala also gives the same meaning and anatomical definition of Kala. According to him - The kleda or moisture or liquid portion present in between dhatu and ashaya is processed by the heat of the body and converts it into kala'.

यः तु धातु आशय अन्तरेषु क्लेदो अवतिष्ठते स यथा स्व ऊष्मभिः विपक्वः स्नायु श्लेष्म जरायुच्छन्न काष्ठ इव सारो धातु | सारः रस शेषो अल्पत्वात् कला संज्ञः। (अ. सं)

(Ref Ashtaanga Sangraha)

According to Vagbhata -

The kleda or moisture present in between the Dhatu and its Aashaya, reacting to its own heat gets converted into Kala. It is called Kala because it is made up of small quantity of the essence of Dhatu or Dhatu rasa which oozes from the Dhatu just like the liquid oozes when a fresh wood is cut. It is enveloped by Snayyu (muscle fibers, ligaments and tendons) and Jarayu (membrane). It separates the hollow or lumen of an organ from its lining tissue. In this sense, the mucous layer or membrane of all the hollow organs are called as Kala.

Importance of kalas

Kalas are the important physical and functional components of the body. They form a protective coating for the Ashayas and also form a boundary between the Ashayas and Dhatus. They are formed from elements of the tissues related to them and also produce Dhatu rasa (essences of tissues). In many diseases, the Kalas will suffer the earliest damage. Example – mucous membrane of stomach or intestines will first be eroded causing gastritis. The conditions before the disease goes deeper and damage the muscular tissue or before ulcers are formed. The synovial membranes are damaged before the bones involved in a joint are damaged, cause arthritis. If the damage to Kala is diagnosed earlier, the diseases can be prevented.

Types of Kala -

The Kala's are of 7 types.

1. Mamsadhara Kala
2. Raktadhara Kala
3. Medodhara Kala
4. Shleshmadhara kala
5. Pureeshadhara kala
6. Pittadhara kala
7. Shukradhara kala

Kala and its relation

1. Mamsadhara Kala - Deep fascia, intermuscular septa.
2. Raktadhara Kala - Endothelial lining of the blood vessels and sinuses
In the liver and spleen.
3. Medodhara Kala - Omentum- Greater to lesser omentum.
Mesentary - fold of peritoneum.
4. Shleshmadhara kala - Synovial membrane of joints.
5. Pureeshadhara kala - Mucous membrane of the colon and rectum.
6. Pittadhara kala - Mucous membrane of the small intestine.
7. Shukradhara kala – Mucous membrane of the seminal vesicle, vas deference etc. and tunic vaginalis in scrotum.

Clinical importance of Kala sharir (As per Ayurveda and Modern aspect)

According to Ayurveda, the diseases are formed only when the tissues are contaminated or vitiated by the Doshas and the proximal relation of Dhatu with their Kala and Ashayas. Even before the disease gets manifested in the Ashaya or Dhatu, they would have damaged the Kalas. These kalas give the early signals of an impending disease. By knowing the Kala sharir we can correlate it with Physical as well as functional membrane of the body. Also according to unique Ayurvedic principles of its relation with various Dhatu and its origin, we can get insight for its applied aspect. In treatment part the knowledge of Kala Sharir proves to be of utmost importance as the site beholds the specific organ and also reflects its effect on the Dhatu which has its roots at that site.

Sr.no.	Kala	Dhatu	Applied Aspect
1.	Mamsadhara Kala		As described first, it is more of physical holding membrane which confers the tone, elasticity and functional normalcy of all Dhatu
2.	Raktadhara Kala		It is described inside the Mamsadhara Kala, in liver and circulating vessels, it optimum function may be responsible for normal circulation of body fluids
3.	Medodhara Kala		It is situated in abdomen and small bones, so can be correlated to disorders in fat accumulating areas and soft tissues in the body
4.	Shleshmadhara kala		All joints have Synovial fluid for its proper functioning, this can be correlated with this Kala

5.	Pureeshadhara kala	Asthi Dhatu	The origin of Asthi - bones is said at the site of this Kala, hence the diseases of Asthi will require medication which have effect on this Kala
6.	Pittadhara kala	Majja Dhatu	The origin of Majja is said to be at the site of this Kala, hence the disorders of Majja Dhatu will need medication which will act at this site
7.	Shukradhara kala	Rasa , Rakta , Shukra and Oja	It can be correlated to nutrient supply to all body parts at cellular level, hence to increase the vitality and endurance one has to act on this Kala

Discussion

'Kala' is the term stated by Acharya Sushruta in relevance of sheath or beholding membrane of internal organs and which is functional in nature. It also forms the structural support of underlying bodily organs. Its anatomical places as per mentioning of Ayurveda classics and its functional peculiarities can enable us to gain an insight over basic physiology of organs - Strotas which can guide in deciding treatment protocol of the affected organs in a disease. The topic of Kala is not much explored by most the Acharya apart from Acharya Sushruta and Vagbhata. Thus will help to throw light on the topic and will be ease to understand its utility.

Conclusions

Kala shareera (anatomy and physiology of Kala) gives us information about the important membranes and layers of the body which take part in many important functions of the body. They also produce and hold the important components of the body like blood, mucous, stools, etc. Thus a precise knowledge of Kala is important for the physicians to make a diagnosis at the right time and also to know if the disease is at the level of kala. Since the Kalas are the sites of production or holding many important body elements, the diseases also should logically have origin from them or at least show their initial manifestation in the kalas.

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