

COMPARATIVE STUDY OF DEVELOPMENTAL STAGES OF KALA SHARIR

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ABSTRACT

As per Ashtang Sangraha Sharirasthan, kleda present between dhatu and aashay gets paak (solid) due to heat and called as kala. There are 7 kala. Kala is innermost limiting lining of Dhatus and Aashayas. Kala is the structure between Dhatu and Aashay or it is the structure inside the dhatu itself. According to Sushrutacharya, kala is that limiting layer of body organs and tissues which keep them in normal position. Here the word is used for organs also. Kala can be correlated with Membrane, Fascia, Covering etc. structures as per Anatomy. The term Kala is used for, Membrane – This may be fibrous, mucous and serous, One of the Sharir Ghatak (Part of the body), Sheath, Septum, Guna (Qualities). Just as pith (centre of the wood) when the wood (stem of tree) is cut / split, similarly when the dhatus such as mansa (muscles) are cut kala becomes visible. Kalas are differentiated as, Snayupratichanna Kala (Covered from ligaments / Fibrous membrane), Jarayusantat Kala

(Expansion or Continuation of foetal coverings / Serous membrane) and Shleshmavesthit Kala (Coated with Kapha / Mucous membrane). Also Kala is classified under 7 categories as Mansadhara, Raktadhara, Medodhara, Pittadhara, Purishdhara, Shukradhara and Shleshmadhara kala.

KEYWORDS: Kala, Membrane, 3 developmental stages of kala.

INTRODUCTION

Kala Sharir

According to Ashtang sangraha sharirasthan, kleda present between dhatu and aashay gets paak (solid) due to heat and called as kala. There are 7 kala. Kala is innermost limiting lining of

Dhatu and Aashayas. Kala is the structure between Dhatu and Aashay or it is the structure inside the dhatu itself. According to Sushrutacharya, kala is that limiting layer of body organs and tissues which keep them in normal position. Here the word is used for organs also. Kala can be correlated with Membrane, Fascia, Covering etc. structures as per Anatomy. The term Kala is used for, Membrane – This may be fibrous, mucous and serous. One of the Sharir Ghatak (Part of the body), Sheath, Septum and Guna (Qualities).

Definition and Basic Types (Developmental Stages) of Kala

Just as pith (centre of the wood) when the wood (stem of tree) is cut / split, similarly when the dhatus such as mansa (muscles) are cut kala becomes visible. Kalas are differentiated as,

- **SNAYUPRATICCHANNA KALA – (Covered from ligaments / Fibrous membrane)**
Membranes of connective tissues such as, fascia, apponeurosis, ligaments, tendons, external layer wall of the organs related to Digestive, Respiratory, Circulatory, Reproductive, Urinary etc. systems. Membranes are formed in embryonic period itself mainly from 3 kinds of primary tissues as epithelial, connective and adipose.

E.g. - Deep fascia, intermuscular septa, obturator membrane, fibrous membrane, duramater, perinial membrane.

- **JARAYUSANTAT KALA – (Expansion or Continuation of foetal coverings / Serous membrane)**

Membranes formed from fibrous connective tissues making for superficial and deep fascia forming the part of muscles etc. separating them into functional units or even uniting the parts together also forms the body cavities. E.g. – Piamater, arachnoidmater, serous pericardium, pleura, peritoneum, Tunica vaginalis.

- **SHLESHMAVESTHIT KALA – Coated with Kapha / Mucous membrane**

Membranes formed from epithelial tissues which secretes fluids. Mucous and Serous membranes. E.g. - Endothelial blood vessels and walls, synovial joint cavities of movable joints, sinusoids of liver and spleen.

Types of Kala

Also Kala is classified under 7 categories as Mansadhara, Raktadhara, Medodhara, Pittadhara, Purishdhara, Shukradhara and Shleshmadhara kala.

General Functions of Kala

- Shoshan – Absorption
- Sravan – Secretion
- Vivechan – Selection – Selectivity
- Sanrakshan - Protection

DISCUSSION

Going through all the classical information which is available, one can conclude that, kala is basically derived from 3 membranes as, Snayupratichanna kala – Fibrous membrane, Jarayusantat kala – Serous membrane, Shleshmavesthit kala – Mucous membrane.

Snayupratichanna Kala can be compared with Mansadhara kala – Deep fascia, Duramater Fibrous pericardium and Perineal and Obturator membrane. Jarayusantat Kala as Pia mater and Arachnoid mater, Serous pericardium, Pleura, Peritoneum and Tunica vaginalis. Shleshmavesthit Kala with Endothelium of blood vessels and walls of liver and spleen, Shleshmadhara kala – Synovial membrane of movable joint, Pureeshdhara kala – Mucous membrane of caecum, Mucous membrane of colon, Mucous membrane of rectum and Mucous membrane of upper 2/3rd of anal canal.

CONCLUSION

Kala is innermost limiting lining of Dhatus and Aashayas. Kala is the structure between Dhatu and Aashay or it is the structure inside the dhatu itself. Here the word is used for organs also. Kala can be correlated with Membrane, Fascia, Covering etc. structures as per Anatomy. The types of Kala as per developmental stages are Snayupratichanna, Jarayusantat and Shleshmavesthit kala which can be compared with, Membrane – This may be fibrous, mucous and serous.

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