



**CRITICAL REVIEW OF *PITTADHARA KALA* AS A *MAJJADHARA KALA* W.S.R. TO
*DALHAN TIKAA***

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Article Received on 10/04/2020

Article Revised on 30/04/2020

Article Accepted on 20/05/2020

ABSTRACT

Kala sharir is an important part of *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. *Kala* is *Dhatwashyanter maryada* which is not explained in literature. *Kala* are seven in number which lies in between *dhatu* and *ashaya*. *Pittadhara kala* is sixth in number, present in between *aamashya* and *pakwashaya* that is *grahani* correlated as small intestine. *Pittadhara kala* is correlated with the lining membranes of small intestine which plays vital role in digestion and absorption of all nutritive substances like Vit B₁₂, Folic acid and iron which is the main source of development and maturation of RBC's. *Majja dhatu* is present in the cavity of long bones which is correlated with bone marrow, and major site of RBC's production and blood formation. Impaired *pittadhara kala* causes malabsorption of vitB₁₂ and iron. Hence this can be one of the reason that *Acharya Dalhan* had stated *pittadhara kala* as *majjadhara kala*.

KEYWORDS: Pittadhara kala, majjadhra kala, *Grahani*, Vit.B12, Folic acid, Bone marrow.

INTRODUCTION

Ayurveda is the science which is based on various concepts, one of them *kala* which is considered as an anatomical part only and remained neglected. *Kala* is '*dhatwashyanter maryada*'^[1] which separates *dhatu* and *ashaya*. The *ashaya* is cavity which gives *ashraya* to *dosha*, *dhatu* and *mala*. *Snayu*, *Jarayu* and *Shleshma* are the three basic principles in the formation of *kala*.^[2] These three structures can be compared with fiber, serous and mucous layers respectively. *Kalas* are the pith of stem in tissues. These *kalas* are extensively supplied with *snayu*, *Jarayu* and *Shleshma*.^[3] *Acharya vagbhatta* says the *kleda* which lies in the internal part of *ashaya* that becomes *pakwa* by *dhatwagni* and forms as *kala*.^[4] There are seven *kalas* explained in *samhita* where as *pittadhara kala* is on sixth^[5], which is present in between *pakwashya* and *amashaya* i.e. *Grahani*,^[6] and which is correlated as small intestine. *Grahani* not only store the *chaturviddhanna* but also promotes digestion, assimilation and absorption with the help of *pachaka pitta* which is produced by *pittadhara kala* with the help of *samanvayu*.^[7]

Small intestine is present in between stomach and large intestine, which is the major site of absorption of all nutritive substances like vitaminB12, folic acid, cobalt, calcium and proteins into peripheral blood circulation.^[8] *Majjadhara kala* is present in the cavity of long bones which is correlated with bone marrow. The function of

bone marrow is production and maturation of the RBC's i.e. erythropoiesis.

For production and maturation of RBC'S body needs Vitamin B12, Iron and folic acid which are absorbed from *grahani* which is nothing but *pittadhara kala*. through blood circulation these factors reaches to the bone marrow which is correlated with *majja dhatu* where they get utilized in the formation of RBC's and lack of these factors leads to defective erythropoiesis process which may leads to anemia.^[9]

AIM

To study the relation between *pittadhara kala* as *majjadhara kala* w.s.r.to *dalhan tikaa*.

OBJECTIVES

- 1) To study *kala* and *pittadhara kala*.
- 2) To study absorption of influencing factors for erythropoiesis from small intestine i.e. *pittadhara kala*.
- 3) To study utilization of these factors during erythropoiesis in bone marrow.

PITTADHARA KALA

Pittadhara kala is on sixth number which is said to be lies in between *aamashya* and *pakwashaya* i.e. *Grahani* which is correlated as small intestine. *Grahani* not only store of *chaturviddha Anna* but also promotes complete digestion, assimilation, and absorption with the help of

pachaka pitta which is secreted by *pittadhara kala*. *Grahan* is the *sthan* of *pachaka Agni* which helps in digestion of food. After digestion of food *ahar* is converted into *Aharasa* which is then absorbed by the *pittadhara kala* for the further nourishment of seven *dhatu*s.

Functions of *pittadhara kala*

As per *Ayurveda*

Aam- pakwashaya Madhya

Grahan i.e. *Pittadhara kala* (small intestine)

Grahan: Collection of food

Dharan: Holding the food particles

Pachan: Digestion

Shoshan: Absorption

Munchan: Separation and propelling action.

MAJJADHARA KALA(MAJJADHATU)

It is the sixth *dhatu* in *Ayurveda* which is correlated as tissue which corresponds to bone marrow. It is present in cavity of long bones. The *vayu* mahabhut creates spaces in the bone and these spaces are filled up with the *majjadhatu* which strengthen and nourish to *shukradhatu* and fills *asthi dhatu*.

SMALL INTESTINE

It is the part which is present in between stomach and large intestine having three parts i.e. Duodenum, ileum and jejunum. The intestinal wall has serous, muscular, sub mucus, and mucus layers. The sub mucus is a loose connective tissue carrying blood vessels, lymphocyte and nerves. The mucosa of small intestine is lined by a simple columnar epithelium which consists primarily of absorptive cells i.e. enterocytes. Small intestine is the major site of digestion and absorption from where all nutritive substances are absorbed like vit.B12, Folic acid, Iron, calcium and proteins.^[10]

PITTADHARA KALA AS MAJJADHARA KALA

Acharya dalhan stated that *pittadhara kala* as a *majjadhara kala* in *kalpsthana sarpadanshvissha adhyaya*. *Acharya sushrut* has mentioned *kala* lies in between *dhatu* and *ashaya*. After snake bite the *vish* (poison) enters one *dhatu* to another *dhatu* through *kala* and manifest in to *vega*. It vitiates *dhatu* and its respective *kalas*. When *vish* penetrates *majjadhatu* (bone marrow) through *majjadhara kala* it deranges the *grahani* giving rise to a sense of heaviness of the limbs, dysentery, and pain in heart and syncope.^[11]

CONCLUSION

Acharya Dalhan said in *kalpa sthana*, *pittadhara kala* as a *majjadhara kala*.^[12]

According to sequence of *dhatuposhana nyaya*, main site of *pittadhara kala* is *grahani* and main site of *majjadhara kala* is *asthi* i.e. bone marrow.

Pitta is generated as *mala* at the time of blood formation. Hence *Acharya dalhan* may have established the relation between *pittadhara kala* and *majjadhara kala*.^[13]

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