



## EVALUATION & INTERPRETATION OF THE CONTROVERSIAL TERM “KLOMA” FROM SHARIR ASPECT

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**Abstract** - Identification of *Kloma*, its function, site and relation with *Srotas* is still a debated issue and no unanimous opinion has been emerged so far. In our *Samhitas* there are many references about the *Kloma*. In *Samhita* the *Moolasthanas* of *Udakavha Srotas* is mentioned as *Talu* and *Kloma*. *Kloma* is the organ situated on the right lateral side of the Abdomen below the Liver and also called as *Tila*. Some scholars correlate the *Kloma* with right Phuppusa or Mediastinum or *Kloma nalika* or Pancreas. But by justification, it can be correlated with Right Suprarenal gland.

**Keywords** - *Kloma*, *Udakavha Srotas*, *Pipasa*, *Talu*, Right Suprarenal gland.

**Introduction** - Knowledge of *Sharir* is mandatory for the student of any system of Medicine. Our Sages have deliberated the detail description about many organs of the body. But there are some conflict-ridden entities. *Kloma* is one of such type. Identification of *Kloma*, its function, site and relation with *Srotas* is still a debated issue and no unanimous opinion has been emerged so far.

In our *Samhitas* there are many references about the *Kloma*.

*Acharya Charaka* has mentioned fifteen *Koshtanga*<sup>1</sup> (visceral organs) such as:-

*Nabhi*(Navel),*Hridaya*(Heart),*Kloma*(?),*Yakrut*(Liver),*Pleeha*(Spleen),*Vrikka*(Kidney),*Basti*(Urinary bladder),*Purishaadhar*,*Amashaya*(Stomach),*Pkvasaya*,*Uttarguda*(Rectum),*Adharguda*(Anal canal),*Kshudrantra*(Small intestine),*Sthulantra* (Large intestine), *Vapaavahan* (Omentum).

While explaining the relation of *Kloma* with the *Udakavha Srotas* our *Acharaya* mentioned<sup>2</sup>

In *Samhita* the *Moolasthanas* of *Udakavha Srotas* is mentioned as *Talu* and *Kloma*. So one should know that if *Udakavha Srotas* is affected it may cause *pipasaa* (thirst) and may lead to death also.

The *Moolsthana* of *Udakavha Srotas*<sup>3</sup> is *Talu* and *Kloma* and if the *Udakavha Srotas* is affected then symptoms observed are : dryness of Tongue, Palate, Lips, Throat, *Kloma* and excessive thirst.

*Abhyantara vidradhi*<sup>4</sup> ( Internal abscess) - Abscess in the Liver produces dyspnoea, and that in the *Kloma* produces profound thirst.

While explaining the site of *Kloma* it is mentioned in *samhita*<sup>5</sup>

*Kloma* is the organ situated on the right lateral side of the Abdomen below the Liver and also called as *Tila*.

In other reference it is mentioned that<sup>6</sup>

*Hridaya* and *Pranvaha dhamani* (arteries sustaining respiration and life) attached to it are produced by essence of *Shonita* and *Kapha*. Below it (Heart) to the left are situated *Pleeha* (Spleen) and *Phuffusa* (left Lung) and to the right are situated *Yakrut* (Liver) and *Kloma*.

So by this reference we can understand that *Kloma* is *koshtang* and it is situated below the Heart on the right side near the *Yakrut*.

From the reference of *Garbhasharir the Utpatti of Kloma* <sup>7</sup>

So this indicates that *Kloma* is developed from *Kitta* of *Shonit*.

### **Conceptual analysis and Discussion**

- Some interpret *Kloma* as *Kloma nalika* (Trachea). But, there is no reference of inclusion of *Kloma nalika* (Trachea) in *Koshthanga*.

The role of *Kloma nalika* or Trachea in the mechanism and control of thirst still not proved. Position of Trachea is also not as position of *Kloma* as stated in the text. In the reference of *Udakvaha Srotas dushti* Acharaya *Charaka* mentioned the terms as *Jihva, Talu, Oashth, Kanth* (Neck), *Kloma shosha*.

- *Some scholars correlate the right Phuppusa with Kloma*. The relation behind its correlation can be Angiotensin converting Enzyme (ACE).

When fluid level in the body decreases and blood pressure falls, then Kidney secrete Renin. Renin convert Angiotensinogen into Angiotensin 1 & this is converted into Angiotensin 2 by Angiotensin converting Enzyme. It causes constriction of arterioles in the body so that peripheral resistance increases and blood pressure is rised. It also decrease the GFR (Glomerular filtration rate) so, it result in retention of water and salt. This increases the volume of ECF (Extra cellular fluid) to normal level. Injury to *right Phuppusa* will disturb this mechanism and lead to thirst.

But ACE (Angiotensin converting Enzyme) is also secreted from left Lung along with other body tissue like Epithelial cells of the Kidney, Vascular endothelial cells, cells of Adrenal cortex, Testicular Leydig cells and tissue of the brain which also takes part in Renin Angiotensin Aldosterone System. So it is difficult to decide *Kloma* as right Phuppusa.

- Vd. Vilas Nanal is a proponent of *Kloma* to be considered as Mediastinum. As, Mediastinum comprises of Heart, Oesophagus, Trachea & great vessels. *Moolsthan* of *Udakvaha srotas* is *Talu* and *Kloma*.

We cannot assume *Kloma* as Mediastinum. The reason being, according to position, Mediastinum is placed between two Lungs above the Liver. Structure of *Kloma* is resembles like *Tila* but not any of these organ which is placed in the Mediastinum is resemble like *Tila*. Functionally also it cannot be correlated with thirst because no one of these organ directly related to thirst.

- Vd. Damodar Sharma Gaud assume *Kloma* as Pancreas, because structure of Pancreas resemble with multiple aggregation of *Tila*. Pancreas extend from 2nd part Duodenum (Second Lumber Vertebrae) up to Spleen, & according to 9/18 *Dalhan* commentary, it lies below the Liver. *Viddha lakshana* of *Udakvaha srotas* result in thirst and death.

If we think so, that it can be correlated with *Kloma* due to excessive thirst in the diseases of Pancreas. Then there are also many other organs related diseases which have also found excessive thirst. For example - Alcoholic Liver disease, Diabetes insipidus, Cushing syndrome, Sarcoidosis etc. So it cannot be correlated with Pancreas as per this analysis.

Genesis of *Phuffusa* from *Shonita Phena* <sup>8</sup>

By above description it is explained by *Arundatta* while commenting on *Ashtang Hridaya* that *Phuppusa* is also present on the right side of the body.

**Conclusion** - It can be concluded that *Kloma* can be right Suprarenal gland. From the structural point of view, right and left suprarenal gland are different. Right suprarenal gland is pyramidal in shape and its apex related to bare area of Liver. Right suprarenal vein drain directly in to Inferior Vena Cava (IVC). On the left side the gland is semi lunar in shape and apex close to the Spleen. Left suprarenal vein drain into left renal vein.

- Acharya *Shri Kanthdatt* said <sup>9</sup>

Kloma is organ that present above kidney and it is the site of thirst.

Functionally Suprarenal gland by secreting Aldosterone is also responsible for the fluid and electrolyte balance in the body which may be correlated with mechanism of thirst in the body. When Aldosterone fails to secrete, it leads to Addison disease and symptom are excessive thirst, dehydration, weakness, hypotension etc.

So from all above points Kloma can be considered as right Suprarenal gland, which has immense importance in the body and trauma to it may cause severe hormonal changes , that leads to disturbance in homeostasis of the body.

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